TM 9-1005-249-12
TM 05538A-12
T.O. 11W3-5-5-11

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING BASIC ISSUE ITEMS LIST AND REPAIR PARTS AND SPECIAL TOOLS LIST

RIFLE, 5.56-MM, M16 (USAF) (1005-856-6885)
RIFLE, 5.56-MM, M16A1, W/E (1005-073-9421)
BIPOD, RIFLE, M3, W/ CARRYING CASE (1005-890-2609)

HEADQUARTERS, DEPARTMENT OF THE ARMY
AUGUST 1968

WARNING
DANGEROUS SOLUTIONS

such as PC 111 and dry cleaning solvent are used with this materiel, and if vapors are inhaled, for extended periods, could be very harmful. These materials should be used sparingly, and in a well ventilated location.

WARNING
DANGEROUS PROCEDURES

such as the selector lever not positioned in "safe" position, when loading, or if not ready to fire, and the rifle is loaded, could result in death or injury to personnel if the rifle would accidentally fire. Also if bolt cam pin is missing this will result in a blown-up rifle.

WARNING
DANGEROUS CONDITIONS

water in the barrel could result in a blown-up rifle.

If a noticeable difference in sound or recoil is experienced, further firing should be suspended. This could indicate that the bullet has not been propelled with sufficient force to clear the bore. If firing is continued, it could result in a blown-up rifle.

WARNING
AMMUNITION DESTRUCTION

by any type of mechanical means could result in injury or death.

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TECHNICAL MANUAL
No. 9-1005-249-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *2 August 1968*

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING BASIC ISSUE ITEMS LIST AND REPAIR PARTS AND SPECIAL TOOLS LIST RIFLE, 5.56-MM, M16 RIFLE, 5.56-MM, M16A1 BIPOD, RIFLE, M3

This manual is current as of 15 May 1968.

***This manual supersedes that portion that pertains to operator and organizational maintenance TM 9-1005-249-14, 1 Aug 1966 and changes.**

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1–1. Scope

This manual contains instructions for the operation and organizational maintenance of Rifle, 5.56–MM, M16, Rifle, 5.56–MM, M16A1, and Bipod Rifle M3, allocated to the operator/crew by the MAC. (Refer to appendix C).

1–2. Forms and Records

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

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

Section II. DESCRIPTION AND DATA

1–3. Description

a. *Rifles M16 and M16A1.* The rifles (fig. 1–1 and fig. 1–2) are lightweight, air-cooled, gas operated, magazine fed, shoulder or hip fired weapons, designed for either automatic or semiautomatic fire through the use of selector lever. The rifles accommodate the Bayonet–Knife, M7. A brief description of the components is as follows:

(1) The barrel is air-cooled. The barrel assembly includes an adjustable front sight, flash suppressor, and two handguards, made of heat resisting material, with a heat reflecting inner shield.

(2) The butt stock is made of durable synthetic material of high impact strength.

(3) The rifles are easily opened. This shows the working parts, and makes it easy for cleaning and inspection.

(4) The bolt locking action is one of the mechanical features of the rifles. The bolt and barrel extension contain locking lugs, which engage and lock the bolt firmly in the barrel extension. The initial force of the explosion of the cartridge is absorbed by the barrel, barrel extension, and bolt.

(5) A lightweight aluminum alloy receiver provides durability while reducing the overall weight of the rifle.

b. *Bipod, Rifle, M3.* The bipod, rifle (fig. 1–3) is a lightweight, non-adjusting mount which clamps on the barrel of the rifle (fig. 3–9).

1–4. Tabulated Data

a. *Rifles M16 and M16A1.*

Weight:

Rifle, M16, without magazine and sling	6.3 lb
Rifle, M16A1, without magazine and sling	6.5 lb
Sling, M1	0.4 lb
Empty magazine	0.2 lb
Loaded magazine	0.7 lb

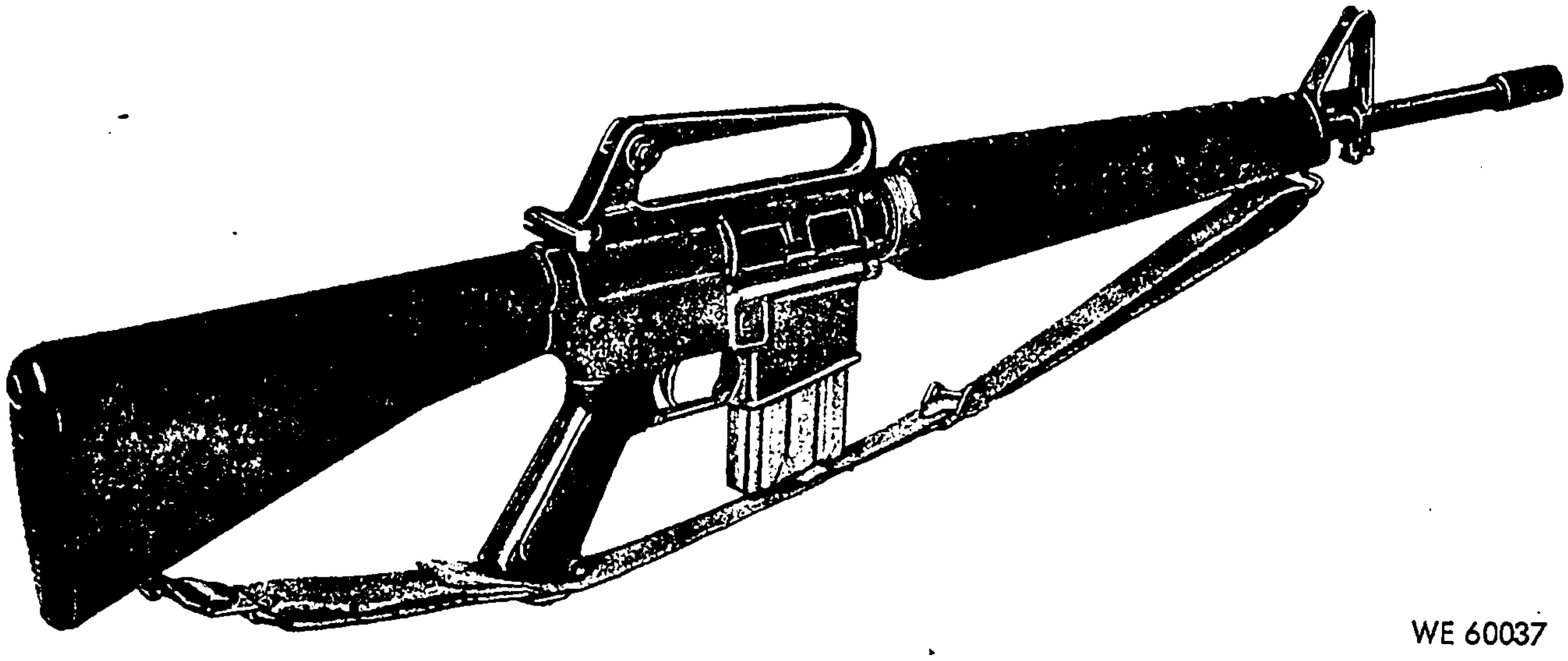


Figure 1–1. Rifle, 5.56–MM, M16—right rear view.

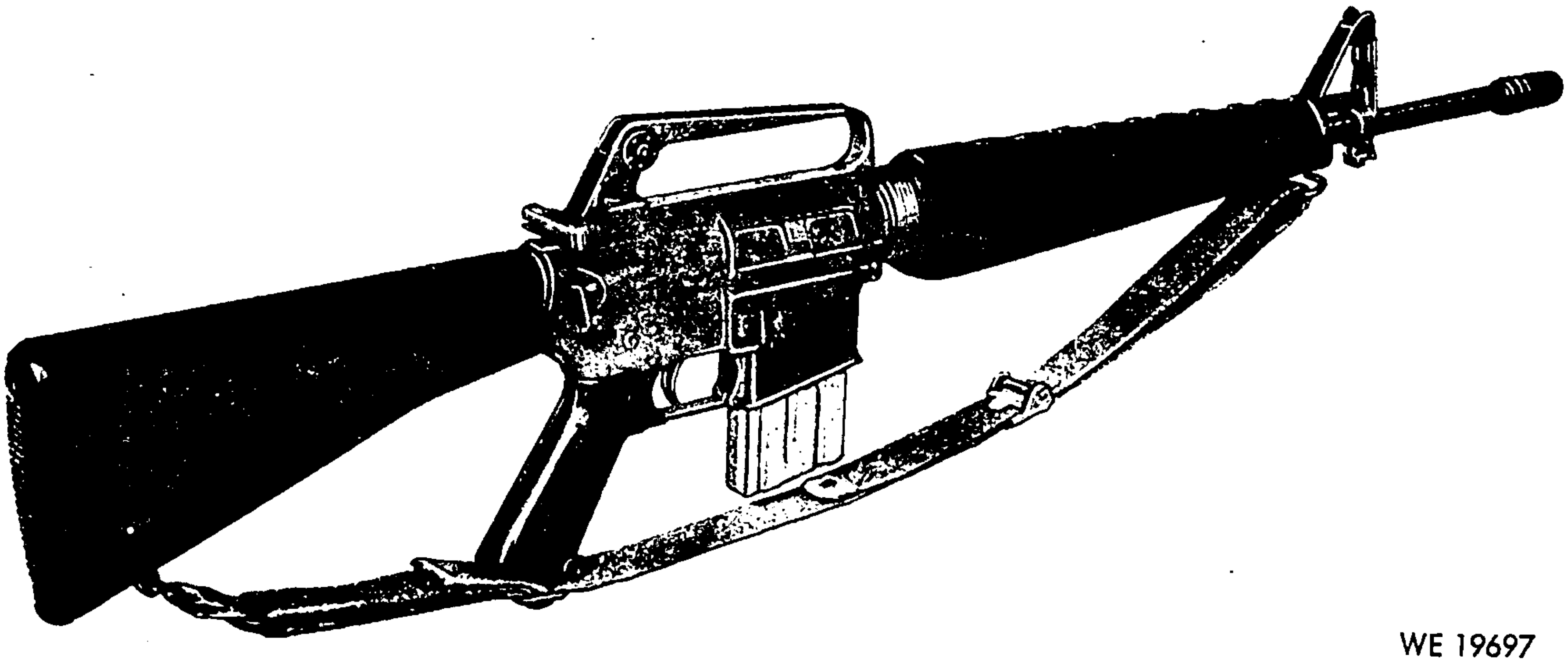


Figure 1–2. Rifle, 5.56–MM, M16A1—right rear view.

Rifle, M16, w/sling and loaded magazine .... 7.4 lb
Rifle, M16A1, w/sling and loaded magazine .... 7.6 lb
Bayonet–Knife, M7 .... 0.6 lb
Scabbard, M8A1 .... 0.3 lb

Length:
Rifle w/flash suppressor .... 39 in
Rifle w/bayonet–knife .... 44.25 in
Barrel .... 20 in
Barrel with flash suppressor .... 21 in

Mechanical features:
Rifling, R.H. 6 grooves–1 turn in 12 inches:
Method of operation .... gas
Type of breech mechanism .... rotating bolt
Method of feeding .... magazine
Cooling .... air

Ammunition:
Caliber 5.56–MM
Type .... Ball, blank, dummy and tracer

Firing characteristics:
Muzzle velocity (approximate) .... 3,250 fps

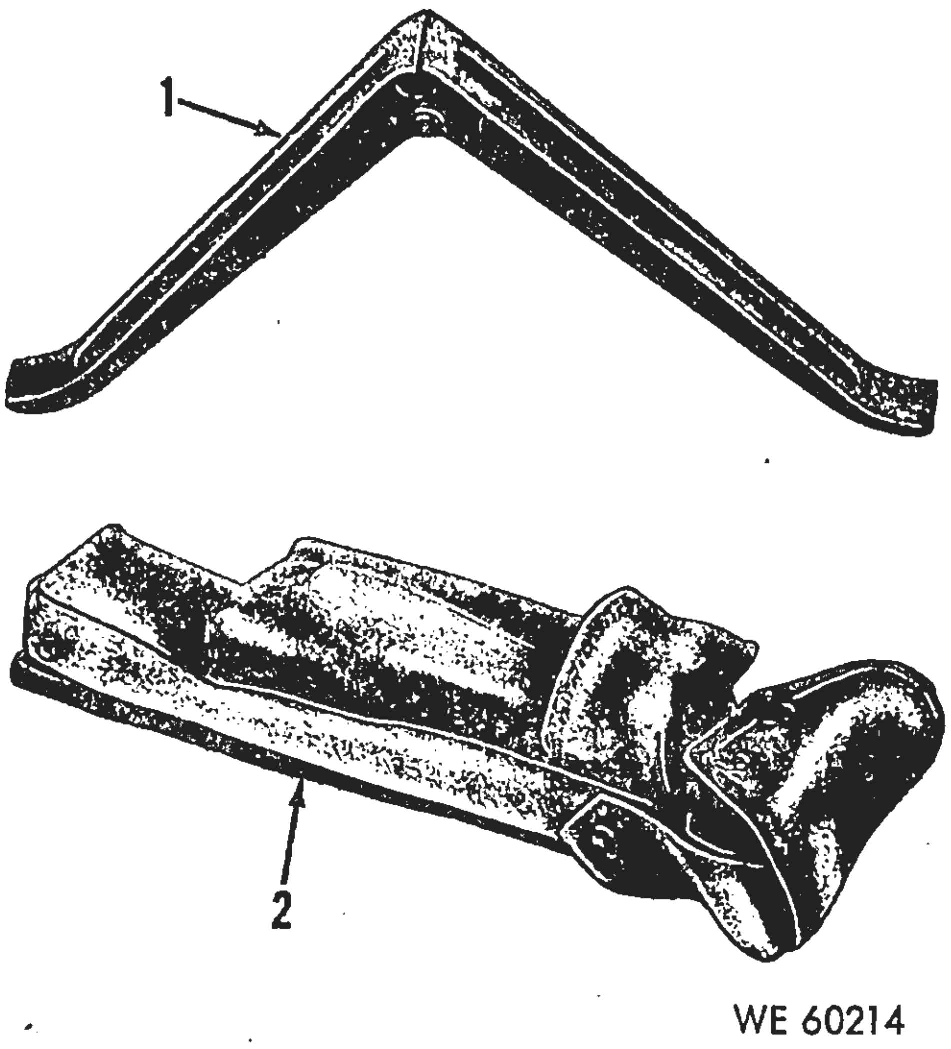


Figure 1–3. Bipod, Rifle, M3 and Case.

Muzzle energy	1,300 ft–lb
Chamber-pressure	52,000 psi
Cyclic rate of fire	700/800 rds/m
Maximum rate of fire:	
Semiautomatic	45/65 rds/m
Automatic	150/200 rds/mc
Sustained rate of fire	12/15 rds/m
Maximum range	2,653 meters
Maximum effective range	460 meters

b. *Bipod, Rifle, M3.*

Weight:	
Bipod	0.6 lb
Bipod case	0.2 lb

1–5. Difference in Models

Rifle M16A1 (fig. 1–2) differs from Rifle M16 (fig. 1–1) as it contains a forward assist assembly. The forward assist assembly (fig. 2–1) when pressed forward forces the bolt into the locked position.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

2–1. General

a. When new or reconditioned rifles or bipods are received, it is the responsibility of the officer in charge to determine whether the materiel has been properly prepared for service by the supplying organization and to be sure it is in condition to perform its function.

b. A record will be made of all missing parts, tools and equipment, and any malfunctions will be reported through appropriate channels. Corrective action will be initiated as quickly as possible.

2–2. Services

Refer to table 2–1.

Table 2–1. Service Upon Receipt of Materiel

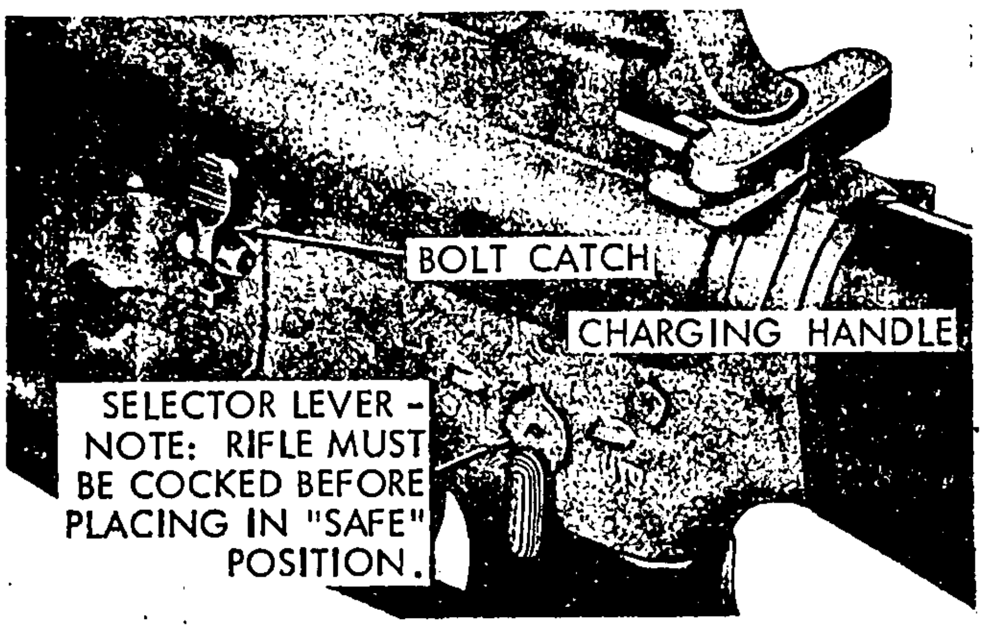
Step	Action	Reference
1	Check to determine that all Basic Issue Items have been furnished.	App B, Sect II
2	Clear rifle	Fig. 2–2
3	Remove bolt carrier group from rifle and visually inspect for proper assembly, damaged or missing parts.	Fig. 3–11
4	Clean and lubricate (rifle and bipod). *Note.* Wipe excess oil from bore and chamber. Particular attention should be given to cleaning the bolt carrier key.	Table 3–1
5	Reassemble the weapon	Fig. 3–11
6	Hand function to assure proper operation. *Note.* When retracting the bolt, give special attention to assure free movement between bolt carrier and gas tube.	Par. 3–2
7	Check magazine for positive retention and functioning of bolt catch.	Par. 2–6b

Section II. CONTROLS

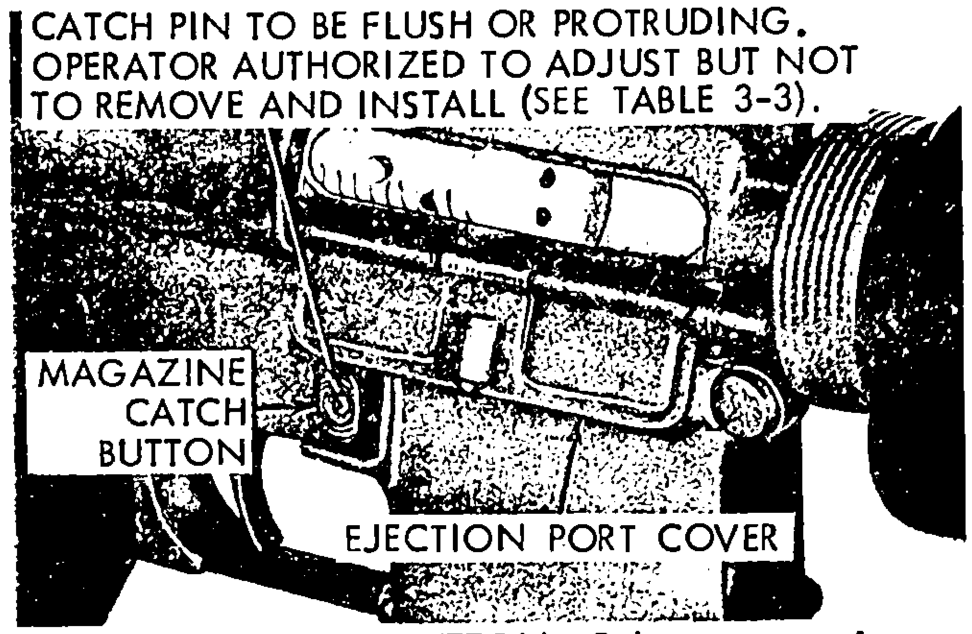
2–3. General

a. This section describes, locates, illustrates, and furnishes the operator essential information pertaining to the various controls provided for the proper operation of the materiel.

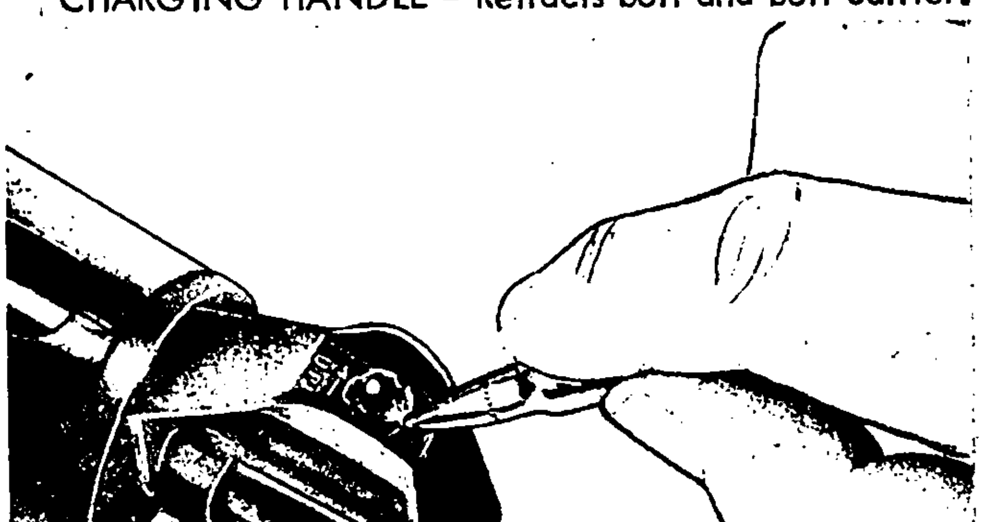
b. Refer to figure 2–1 for controls and their functions.



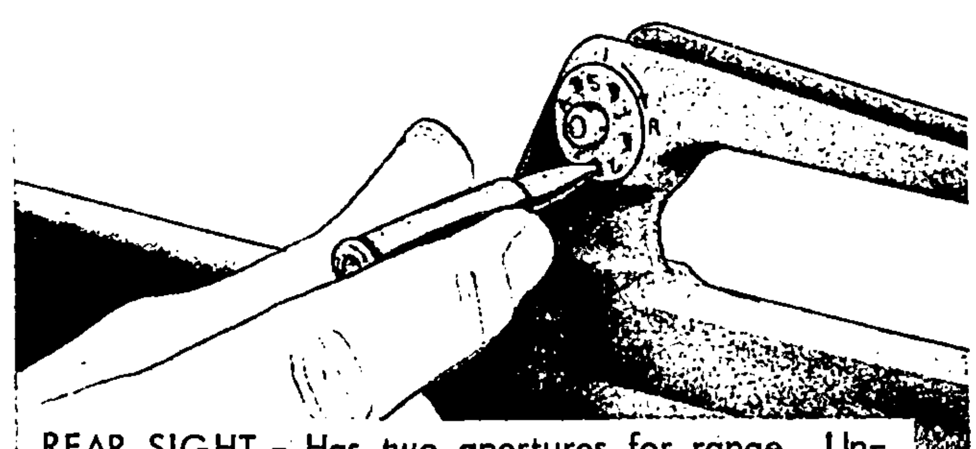
SELECTOR LEVER - Selects "SAFE" position or type of firing.
BOLT CATCH - Holds bolt and bolt carrier in open position. To engage bolt press lower tang of bolt catch. To release bolt press upper tang of bolt catch.
CHARGING HANDLE - Retracts bolt and bolt carrier.



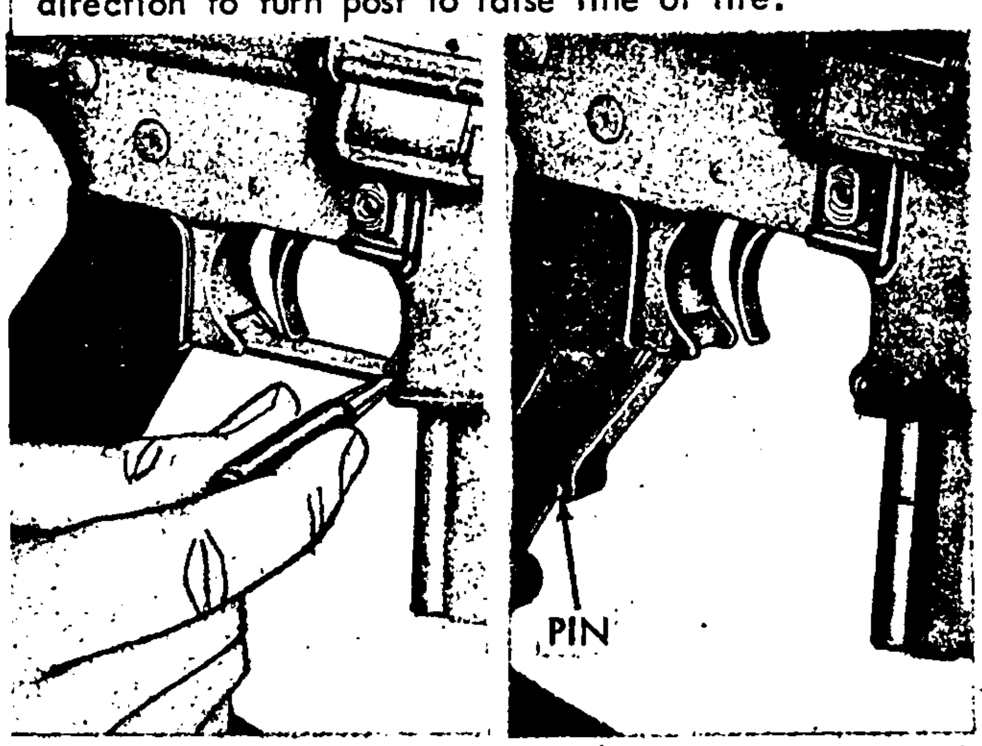
MAGAZINE CATCH BUTTON - Releases magazine when pressed.
EJECTION PORT COVER - Remains closed to keep dust out and opens automatically when bolt carrier moves rearward or forward.



FRONT SIGHT - To adjust elevation; depress detent and rotate post. Each graduation (notch) moves the point of impact of the bullet 0.7 cm (17/64 in.) at 25 meters (27 yards), 2.8 cm (1-3/32 in.) at 100 meters (109 yds), 5.6 cm (2-13/64 in.) at 200 meters (218 yds), etc. UP marked on sight is direction to turn post to raise line of fire.



REAR SIGHT - Has two apertures for range. Unmarked aperture - short 0-300 meters (328 yds) range. L under aperture - long 300-500 meters (546 yds) range. To adjust windage - depress detent and rotate drum to desired direction. To move point of impact to right, turn drum clockwise in direction of arrow and letter R. To move left, move drum counterclockwise. Amount of correction same as front sight.



WINTER FIRING - Depress pin and open trigger guard.

FORWARD ASSIST ASSEMBLY - When bolt (M16A1) fails to close and lock, press forward assist assembly until bolt is moved into closed position.

WE 16087A

Figure 2-1. Controls.

Section III. OPERATION UNDER USUAL CONDITIONS

2-4. General

This section contains instructions for the operation of rifles under moderate temperatures and humidity. Instructions for operation under unusual conditions are covered in Section IV.

2-5. Preparation for Firing

a. Refer to table 2-2 for cleaning and lubrication materials and stock numbers for requisitioning purposes.

Table 2-2. Materials Required for Maintenance

Federal stock number	Item	Maintenance level
	Note. The letter in the maintenance level column indicates the lowest level of maintenance at which these materials can be used. Letter C indicates operator and letter O organizational.	
8020-244-0153	BRUSH, ARTISTS: metal ferrule, flat, chisel edges, 7/6 w, 1-1/8 lg, exposed bristle.	C
7920-205-2401	BRUSH, CLEANING, TOOLS AND PARTS:	C
6850-965-2332	CARBON REMOVING COMPOUND: (P-C-111) (5 gal pail)	O
9920-292-9946	CLEANER, TOBACCO PIPE: cotton tuft, wire core (Dills) (36 per pkg)	C
	CLEANING COMPOUND, RIFLE BORE: small arms bore cleaner, solution (CR).	C
6850-224-6656	2 oz plastic bottle	
6850-224-6657	6 oz can	
6850-224-6663	1 gal can	
5350-221-0872	CLOTH, ABRASIVE: crocus, ferric oxide and quartz, jean-cloth-backing, closed coating, 9 w, 11 lg, 50-sh-sleeve (CA).	O
	COATING COMPOUND, BITUMINOUS, SOLVENT TYPE: polyvinyl butyrol resin and phosphoric acid (touch up). MIL-C-15328.	O
8030-535-9780	1 oz kit	
8030-850-7076	1 qt kit	
6850-281-1985	DRY CLEANING SOLVENT: (SD) (1 gal can)	O
8010-527-2884	LACQUER: black (jet) lusterless, acrylic nitrocellulose type, (touch up) MIL-L-19538 (1 gal can).	O
	LUBRICATING OIL, SEMI-FLUID: MIL-L-46000A (LSA)	C
9150-935-6597	2 oz plastic bottle	
9150-889-3522	4 oz plastic bottle	
9150-687-4241	1 qt can	
9150-753-4686	1 gal can	
9150-292-9689	LUBRICATING OIL, WEAPONS: (LAW) (1 qt can)	C
	PENETRATING OIL: Spec, Fed, VV-P-216	O
9150-261-7899	1 pt can	
9150-262-8990	1 qt can	
	PRIMER COATING: yellow, cellulose-nitrate, corrosion-inhibiting (touch up) MIL-P-7962.	O
8010-526-2523	5 gal can	
8010-584-2426	12 oz aerosol can	
7920-205-1711	RAG, WIPING: cotton (50 lb bag)	C
1005-912-4248	SWAB, SMALL ARMS CLEANING:	C

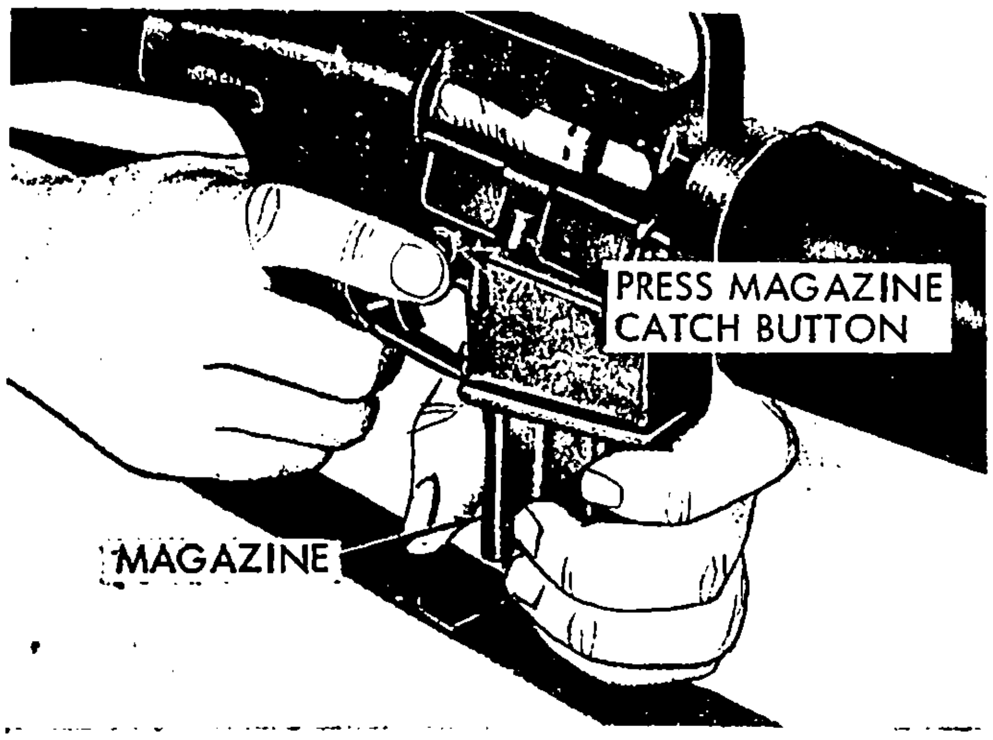
b. Clear rifle as shown in figure 2-2.

Note. Before performing step 1 of figure 2-2, attempt to point the selector lever toward SAFE (fig. 2-2). If the rifle is not cocked the selector lever cannot be pointed toward SAFE. If this is the case, do not cock the rifle at this time.

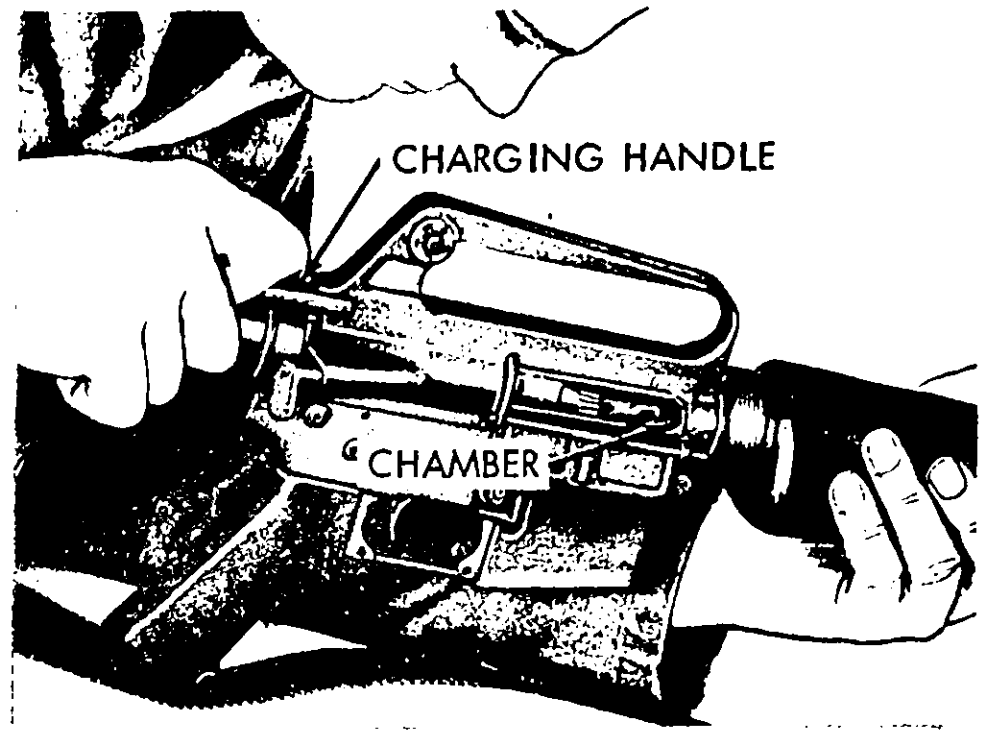
c. Clean and lubricate as indicated in table 3-1.

2-6. Loading

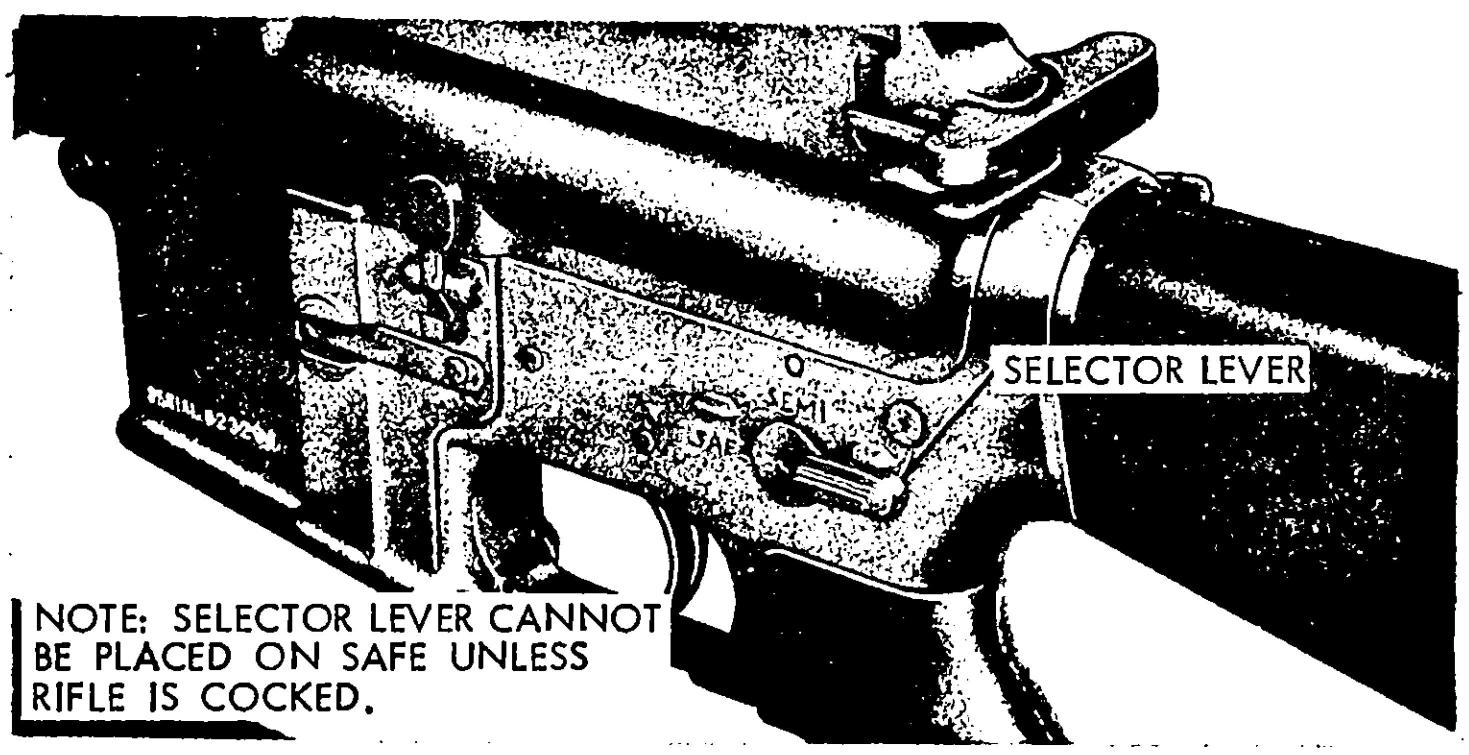
a. *Loading the Magazine.* The magazine has



Step 1 - Remove magazine.



Step 2 - Inspect chamber.



Step 3 - Place selector lever in SAFE position.

WE 13613B

Figure 2–2. •Clearing rifle.

a capacity of twenty rounds and may be loaded with any amount up to that capacity. The magazine follower has a raised portion resembling the outline of a cartridge. Cartridges are loaded into the magazine so that the tips of the bullet point in the same direction as the smaller end of the raised portion of the follower.

***Warning:* Prior to loading the rifle make certain selector lever is in "safe" position.**

b. *Loading the Rifle.* The magazine may be inserted with the bolt and bolt carrier opened or closed. Grasp the pistol grip, point the muzzle in a safe direction and insert loaded magazine into magazine housing. Push upward until the magazine catch engages and holds the magazine. If the bolt carrier is locked to the rear, push in the upper portion of bolt catch (fig. 2–1) allowing the action to close, chambering a round. If the bolt carrier is in the forward position when the magazine is inserted, pull the charging handle fully to the rear and release it.

Note. **Do not "ride" the charging handle forward with the right hand. If the charging handle is eased forward from the open position, the bolt may fail to lock. If bolt fails to lock, use the forward assist assembly, M16A1 Rifle only (fig. 2–1). For M16 Rifle, recharge.**

The rifle is now loaded and can be fired when the selector lever is placed in the automatic or semi-automatic position.

Warning: **If not ready to fire, be sure the selector lever is placed in the "safe" position.**

2-7. Precautions in Firing Ammunition

a. The general precautions concerning the firing and handling of ammunition in the field, as described is TM 9-1300-206, will be observed. In addition, the precautions given in the following paragraphs should be closely observed in order to prevent injury to personnel or damage to materiel.

b. Ammunition which is seriously corroded should not be fired.

c. Cartridge cases are easily dented and should be protected from hard knocks and blows. Dented cartridge cases may jam in the chamber, and cause difficulty in extraction.

d. Cartridges which have been seriously damaged, or those having loose bullets, should not be used.

e. The cartridges should be kept clean and free of foreign matter.

f. Cartridges which have been elevated to temperatures of 135° F., (uncomfortable to hold) or more, due to exposure to direct radiation from the sun, or other sources of heat, should not be fired while at these temperatures or dangerously high chamber pressures may result. When returned to lower temperatures, these cartridges are safe to fire.

g. If a cartridge remains in the chamber of a very hot weapon at any time firing is interrupted, the cartridge should be removed immediately or there should be a 15-minute wait to prevent the possibility of injury to personnel in the event of a cartridge cook-off.

Warning: **If a noticeable difference in sound or recoil is experienced, further firing should be suspended. Either of these conditions could indicate an incomplete propellant combustion and present the possibility that the bullet has not been propelled with sufficient force, to clear the bore. In such instances, the bolt should be retracted slowly to remove and identify the fired cartridge case. The weapon should be cleared and examined for the presence of unburned propellant grains in the receiver, or possible presence of a bullet remaining in the bore. Any unburned propellant or obstruction in the bore should be removed, before further firing.**

Note. If bullet is lodged in bore, turn in rifle to direct support maintenance.

2-8. Firing

a. *Selector Lever.* The rifle may be fired semi-automatically or automatically by moving the selector lever (fig. 2-1) to the desired position as indicated in paragraphs b, and c, below.

b. *Semi-Automatic Position.* With the selector lever in this position, the rifle will fire one round each time the trigger is pulled.

c. *Automatic Position.* With the selector lever in this position, the rifle will continue to fire until the magazine is empty or the trigger is released. When the rifle is fired in either SEMI or AUTO, the bolt will lock in open position when the last round from a magazine has been fired.

2-9. Stoppage and Immediate Action

a. *Stoppage.* A stoppage is any unintentional interruption in the cycle of functioning. Immediate or remedial action must be taken to clear stoppage.

b. *Immediate Action.* Immediate action is the action taken to correct the stoppage without analyzing the cause. Immediate action to clear a stoppage in the rifle is as follows:

(1) Strike the forward assist assembly to insure that the extractor has engaged the round (M16A1 Rifle only). Tap upward on the bottom of the magazine to insure that it is fully seated. Pull charging handle fully to the rear. Watch for ejection of a complete cartridge or cartridge case.

(2) If a cartridge or case is ejected, release charging handle to feed a new round (do not ride charging handle forward). Strike the forward assist assembly to assure bolt closure (M16A1 Rifle only). Attempt to fire the weapon. If weapon fails to fire, inspect to de-

termine cause of malfunction and take appropriate action. (See troubleshooting, table 3–3.)

(3) If a cartridge or case is not ejected, check for a round in the chamber. If chamber is clear release charging handle to feed a round, strike the forward assist assembly, and attempt to fire. If weapon still fails to fire, inspect to determine cause of malfunction and take appropriate action. (See troubleshooting, table 3–3.)

(4) If a cartridge or case is noted in chamber it must be removed before attempting to reload or recycle the rifle. A stuck cartridge or case can be removed by inserting the cleaning rod into the bore from the muzzle end and tapping the cartridge.

2–10. Misfires and Cook-Offs

a. *General.* Although these malfunctions, described in the following paragraphs, are rarely encountered when authorized and properly maintained ammunition is fired in properly maintained and operated weapons, it is important that all personnel concerned understand the nature of each kind of malfunction, as well as the proper preventive and corrective procedures, in order to avoid injury to personnel or damage to materiel. General precautions for removing chambered cartridges associated with these malfunctions are described in paragraph b, below.

(1) *Misfire.* A misfire is a complete failure to fire which may be due to a faulty firing mechanism or a faulty element in the propelling charge explosive train.

(2) *Cook–Off.* A cook–off is a functioning of any or all of the explosive components of a cartridge chambered in a very hot weapon due to heat from the weapon. To prevent injury from a cook-off, observe the time limit prescribed in b, below.

b. *Precautions.* After a failure to fire, the following general precautions, as applicable, will be observed:

***Warning:* A cook-off will occur after ten seconds of contact with the chamber in a hot barrel.**

(1) Attempt to remove the cartridge before ten seconds has elapsed.

(2) In case of a cartridge chambered in a very hot rifle which can neither be fired nor removed, all personnel except the operator will remain clear of the rifle for a minimum of 15 minutes.

(3) The operator will keep the rifle trained in a safe direction.

2–11. Operation after Fording

***Warning:* Do NOT attempt to FIRE weapon if water is present in barrel. Fording, heavy rain, or fog can cause water to be present in the barrel.**

Observe the following procedures to empty water from the barrel:

Note. Make certain the muzzle cap is removed before performing the following procedures.

a. Point the muzzle down.

b. Pull charging handle slightly rearward to allow water to drain from muzzle.

c. Press forward assist to make sure the round is seated in the chamber and the bolt is locked. The weapon can now be fired.

Note. Clean and lubricate in accordance with table 3–1, as soon as possible.

2–12. Unloading

Repeat operation in figure 2–2.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2–13. General Conditions

a. See paragraph 2–14 through 2–17 for instructions on lubrication under unusual conditions and table 3–2 for preventive maintenance checks and services to be made when the materiel is subjected to usual conditions.

b. Report any chronic failure of materiel resulting from subjection to extreme condition on a DA Form 2407 in accordance with TM 38–750.

2-14. Operation in Extreme Cold

a. In climates where the temperature is consistently below 0° F., it is necessary to prepare the materiel for cold-weather operation. The rifles should be cleaned and lubricated as indicated in table 3-1.

b. Exercise the various controls through their entire range at intervals as required. This aids in keeping them from freezing in place and reduces the effort required to operate them.

c. Materiel not in use and stored outside must be protected with a proper cover.

d. See FM 31-70 for further information on operations in the Arctic.

2-15. Operation in Extreme Heat

a. *Hot Climates.*

(1) When operating in hot climates, the coating of oil necessary for operation and preservation will dissipate quickly. Inspect the rifles and bipod frequently, paying particular attention to all hidden surfaces of bolt carrier group, forward assist assembly (M16A1 Rifle) and lower receiver components.

(2) Perspiration, contributes to corrosion because it contains acids and salts. After handling rifle, clean, wipe dry and oil using semi-fluid lubricating oil (LSA).

b. *Hot, Dry Climates.* Clean and oil the bore of the rifles more frequently, when operating in hot, dry climates.

2-16. Operation in Dusty and Sandy Areas

a. Clean and lubricate the rifle more frequently. Exercise particular care to keep sand out of mechanisms when inspecting and lubricating weapon. Shield parts, from flying sand or dust, with paulins during disassembly and assembly operations. Clean and lubricate the rifle after action is over.

b. The rifle cover, magazine bag and the protective cap for the muzzle of the rifle are designed to protect the rifle against excessive dust, sand and water. These items are reusable provided they are not damaged. They should not be used on rifles or magazines which are to be stored in excess of 24 hours, as condensation may develop.

Note. Use of the rifle cover, magazine bag and protective cap does not change the maintenance requirements for the rifle.

(1) *Rifle cover features.*

(a) A rubber band is used to seal the cover. Removing the rubber band is the normal method of opening the cover.

(b) A tear line along the length of the cover provides for quick entry. (Use of the tear line destroys the cover.)

(c) In *emergency conditions* the selector lever and trigger can be operated through the cover. However, the ejected cartridge cases will be trapped and destroy the cover and may cause the rifle to malfunction.

(2) *Magazine bag features.*

(a) A tear line across the bag provides quick access to the magazine.

(b) Packaged magazines should not be left in direct sunlight as high temperatures can cause the bags to become tacky and stick together.

(c) Do not attempt to insert a packaged magazine into the magazine well of the rifle. This will cause the rifle to become inoperative and removal of the magazine can be difficult.

(3) *Protective cap features.*

(a) The cap should be removed before firing the rifle. However, the cap is designed so that a bullet will pass through the end without affecting accuracy and without causing a safety hazard to the user.

(b) Do not place a cap on a hot rifle. The plastic will become soft and form into the grooves of the flash suppressor making it difficult to remove.

2-17. Operations Under Rainy, Humid Conditions and Salt Water Areas

a. Inspect the materiel more frequently when operating in hot, moist areas.

b. When materiel is in use, clean and lubricate the bore and chamber and exposed metal surfaces more frequently than prescribed for normal service.

c. Moist and salty atmospheres have a tendency to mix with oil and grease and destroy their rust preventive qualities. Inspect all parts frequently for rust or corrosion.

d. Then materiel is not in use, cover all metal surfaces with a film of semi–fluid lubricating oil (LSA).

CHAPTER 3

OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. TOOLS AND EQUIPMENT AND REPAIR PARTS

3–1. Tools and Equipment

Tools and equipment issued with or authorized for the operator and organizational maintenance are listed in appendix B.

3–2. Repair Parts

Repair parts for the operator and organizational maintenance are listed in appendix B.

Section II. CLEANING AND LUBRICATION INSTRUCTIONS

3–3. General

This section contains pertinent cleaning and lubricating instructions for operator and organizational maintenance.

3–4. Cleaning and Lubrication

Refer to table 3–1.

Note. The letters in the maintenance level column indicate the lowest level of maintenance at which corrective action can be performed.

3–5. Definition for the Application of LSA

Definition for the amount of LSA specified in table 3–1 are listed in a through c below.

a. *One Drop.* Dip the end of the swab holder section into lubricant and allow one drop to fall from the tip.

b. *Light Coat.* Apply lubricant to a cloth until it becomes just damp enough so the oil can not be squeezed from the cloth. When applied, the part will have a film of lubricant, which is barely visible.

c. *Generous Coat.* Apply lubricant to a cloth until it becomes saturated enough so the oil can be squeezed from the cloth. When applied, the part will have a film of lubricant heavy enough so that it can be spread with the finger.

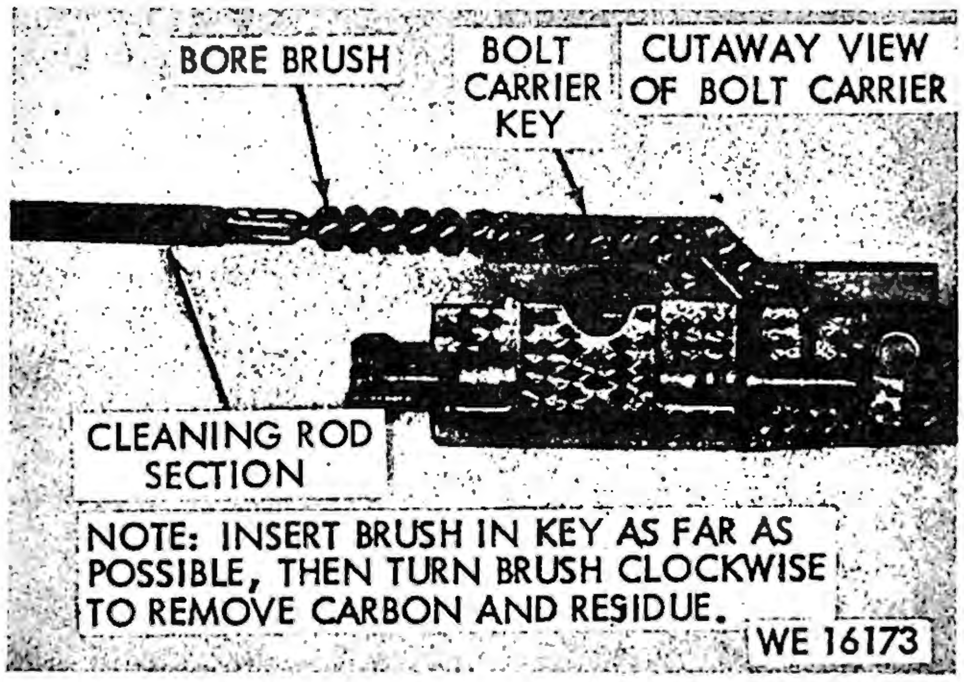


Figure 3–1. Cleaning carrier key.

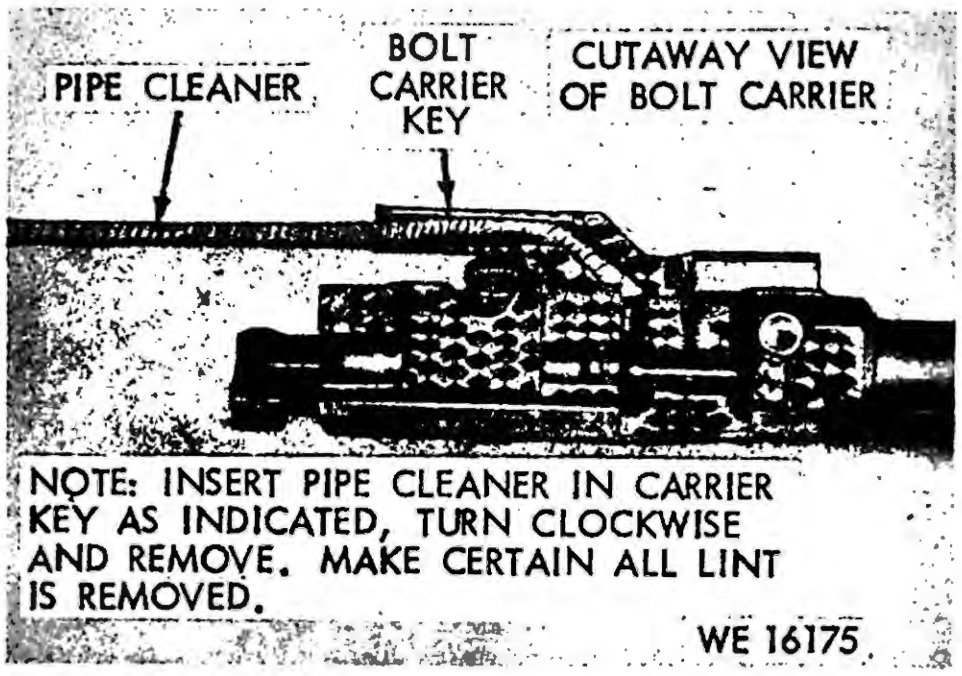


Figure 3–2. Drying carrier key.

Table 3-1. Cleaning and Lubricating Instructions

Item	After firing	As required	Maintenance level	Action required
				Note. Lubricants listed below and specified within this table will be utilized. Do not use any commercial products for cleaning and lubricating purposes. Semi-fluid lubricating oil (LSA) for temperature ranges of -35 degrees Fahrenheit and above. Weapons oil lubricating (LAW) for temperature ranges below zero degrees. *Note.* Either lubricant can be used at temperatures ranging from zero to −35 degrees Fahrenheit.
Rifle	---	---	---	BEFORE OPERATION
			C	1. Prior to firing, visually inspect the bore and chamber for condition and obstruction. Clean by pushing swabs through the bore (from chamber to muzzle) until the swabs protrude through the flash suppressor. ***Caution:* When inserting rod, into bore, hold at joints to prevent flexing or damage to rod.**
			C	2. After cleaning, apply a light coat of oil to the bore and chamber, with a swab, to prevent corrosion and pitting. Lightly lubricate the lugs in the barrel extension.
			C	3. The bolt carrier group may be removed as shown in figure 3-13. Remove dirt and oil from firing pin, outer and inner surfaces of the bolt and bolt carrier with clean dry swabs or rags. Also clean firing pin hole using a pipe cleaner. Lubricate the bolt and bolt (piston) rings. Make certain rings are well lubricated. Apply a coating of lubricating oil to the inner surfaces of the bolt carrier. Give special attention to the slide and cam pin area. ***Warning:* Most cleaning solutions are toxic and if the vapors from them are inhaled, for extended periods, could be very harmful. These materials should be used sparingly and in a well ventilated location.** *Note.* The use of the rifle cover does not take the place of normal cleaning and lubrication.
Magazine assembly	X	X	C	Disassemble and wipe dirt from the magazine tube, spring, and follower. Apply a light coat of lubricant to the magazine spring. *Note.* Because moisture will collect in the plastic magazine bag, from condensation, the magazine must be removed, unloaded, and dried every 24 hours to prevent corrosion. After the cartridges and magazine have been dried, apply a light coat of lubricating oil to the magazine spring.
Bolt carrier group	X	X	C	1. Disassemble the bolt carrier group and wash all components and outer surfaces with a swab saturated in rifle bore cleaner.
	X	X	C	2. Clean bolt carrier key with a worn bore brush dipped in rifle bore cleaner (fig. 3-1).
	X	X	C	3. Dry bolt carrier key using pipe cleaners (fig. 3-2).
	X	X	C	4. Using a small brush dipped in rifle bore cleaner, scrub carbon deposits and dirt from the locking lugs of the bolt. ***Caution:* Brush the outer surface of the bolt, paying particular attention to area behind the bolt rings and under lip of the extractor. Do NOT attempt to remove discoloration caused by heat.**
	X	X	C	5. Remove extractor from bolt. Using a small brush dipped in rifle bore cleaner scrub extractor to remove carbon. Also clean firing pin recess and firing pin. Do not remove the spring from extractor unless it is damaged.
	X	X	O	6. Clean ejector and spring by scrubbing with brush using rifle bore cleaner.
	X	X	C	7. When dry and before final assembly, apply a generous coat of lubricant to the outside bolt body, rings, and a drop in bolt carrier key (fig. 3-3).

Table 3–1. Cleaning and Lubricating Instructions—Continued.

Item	After firing	As required	Maintenance level	Action required
Bolt carrier group–cont'd				***Caution:* The firing pin and firing pin recess in the bolt should only have a light coat of lubricant.**
	X	X	C	8. During cleaning and lubricating, inspect the bolt for cracks especially in the bolt cam pin hole area.
Upper receiver	X	X	C	1. Clean the upper receiver of powder fouling with rifle bore cleaner.
				***Caution:* Do NOT use wire brush on aluminum surface.**
	X	X	C	2. Clean the outside surface of the protruding gas tube in the receiver with a worn bore brush attached to a section of the cleaning rod (fig. 3–4). Clean top of the gas tube by inserting rod and brush thru the back of the receiver. Clean sides and bottom of gas tube from the bottom of the receiver.
	X	X	C	3. After cleaning, coat the inner surfaces of the upper receiver with lubricant and apply a light coat to the outer surfaces.
				***Caution:* Do NOT use any type of abrasive material to clean the gas tube.**
Barrel	X	X	C	1. Attach the wire bore brush to rod, dip in rifle bore cleaner, and brush the bore from chamber to muzzle (fig. 3–5). Push the brush through the bore until it extends beyond the muzzle. Do NOT reverse direction of brush while in the bore. Continue until the bore is well covered with compound.
	X	X	C	2. Attach the chamber brush to the cleaning rod, dip in rifle bore cleaner, and insert in chamber (fig. 3–6). Use a minimum of five plunge strokes and three rotational (360°) motions.
	X	X	C	3. Remove brush from chamber and cleaning rod. Dry the bore and chamber with clean swabs. Do not reverse direction of swabs while in the bore. Continue until swabs come out clean and dry.
	X	X	C	4. After cleaning, lightly lubricate the bore and chamber with a swab to prevent corrosion and pitting. Lightly lubricate the lugs in the barrel extension.
	X	X	C	5. Lightly lubricate all the outer surfaces of the barrel and sight (including surfaces under the handguard).
	X	X	C	6. Apply lubricant generously to the front sight post screw, detent, and spring. Depress detent several times to work the lubricant into the spring. *Note.* Moisture from condensation, will collect in the bore of the rifle when the protective cap is used on the muzzle. The cap must be removed and the bore cleaned and lubricated every 24 hours.
Lower receiver group	X	X	C	1. Wipe dirt from trigger mechanism with a clean swab or brush.
				***Caution:* Do NOT use wire brush on aluminum surface.**
	X	X	C	2. Components which are coated with carbon will be cleaned with rifle bore cleaner and an artist brush or similar brush. Use a scrubbing action to remove all carbon and foreign material. Drain rifle bore cleaner from lower receiver cavity and wipe dry. Use the opposite end of the brush with a piece of rag or cloth wrapped around it to get into the hard to get at places.
	X	X	C	3. Clean drain holes in butt cap screw using a pipe cleaner.
	X	X	C	4. After the lower receiver has been cleaned and dried, apply a light coat of lubricant to the buffer, action spring, inner surface of lower receiver extension. Also apply a generous coating inside the lower receiver and all components including the take-down and pivot pins.
	X	X	O	5. Apply a generous amount of lubricant in the detent well, to the detents and springs for the take-down pins, pivot pin, selector lever, and outer surfaces of lower receiver extension.

Table 3-1. Cleaning and Lubricating Instructions—Continued.

Item	After firing	As required	Maintenance level	Action required
Lower receiver group–cont'd	X	X	O	6. If the detents and springs are frozen the following procedures should be accomplished. a. Attempt to depress the detent by inserting a small punch into the slot of the pivot pin, thus forcing the detent into the recess. (Later production rifles have a hole in the pivot pin for this purpose). Only limited movement is required to permit removal of the pivot pin. b. If the detent cannot be depressed enough to permit removal of the pivot pin, disassemble the rifle. Place the forward portion of the lower receiver in a container of penetrating oil, bore cleaner, or PC–111, carbon removing compound, and allow to soak for a period of 24 hours. Then attempt to remove the compnents as described in a, above. ***Warning:* Avoid skin contact. The compound should be washed off thoroughly with running water if it comes in contact with the skin. A good lanolin base cream, after exposure to compound, is helpful. The use of gloves and protective equipment is recommended.** c. After disassembly, the spring, detent, and detent well should be thoroughly cleaned, then generously lubricated with (LSA) before assembly to the rifle. d. If the rifle cannot be disassembled by trying the methods described above, turn the weapon in to direct support maintenance for repair.
Inactive weapons	---	X	C	Inactive weapons will be preserved with a generous coat of (LSA) lubricating oil. Inspect these weapons on a weekly basis to determine condition of preservation. Weapons having corrosion or rust will be cleaned immediately and preserved in accordance with above instructions. All inactive weapons will be thoroughly cleaned and preserved every 90 days. *Note.* Do not use the rifle cover or protective cap on rifles which are to be stored over 24 hours.
Bipod rifle	---	X	C	1. Remove dirt or grease, using rifle bore cleaner.
		X	C	2. Apply a generous amount of lubricant to all surfaces, making certain the tension spring is well lubricated.
Bayonet-knife M7	---	X	C	1. Clean dirt and grease from bayonet-knife. Apply a light coat of lubricant to the blade and generously lubricate the release. The release should work freely and return to lock position.
			O	2. Minor nicks and dents will be removed with file or stone.
			O	3. Remove grips to clean shank of blade assembly and apply a light coat of lubricant.
Scabbard M8A1 and Sling	---	X	C	1. To prevent mildew, shake out and air the scabbard and sling at frequent intervals. Mildewed canvas is cleaned by scrubbing with a dry brush.
		X	C	2. Examine mildewed fabric carefully for evidence of rotting or weakening by stretching and pulling the fabric. If fabric shows indication of loss of tensile strength, turn in for replacement.
		X	C	3. Make certain all mildew is removed, before water is used to remove dirt. Oil and grease may be removed by scrubbing with issue soap and water. Rinse well with water and dry thoroughly. ***Caution:* Do not use gasoline or any solvent to remove oil or grease from canvas.**

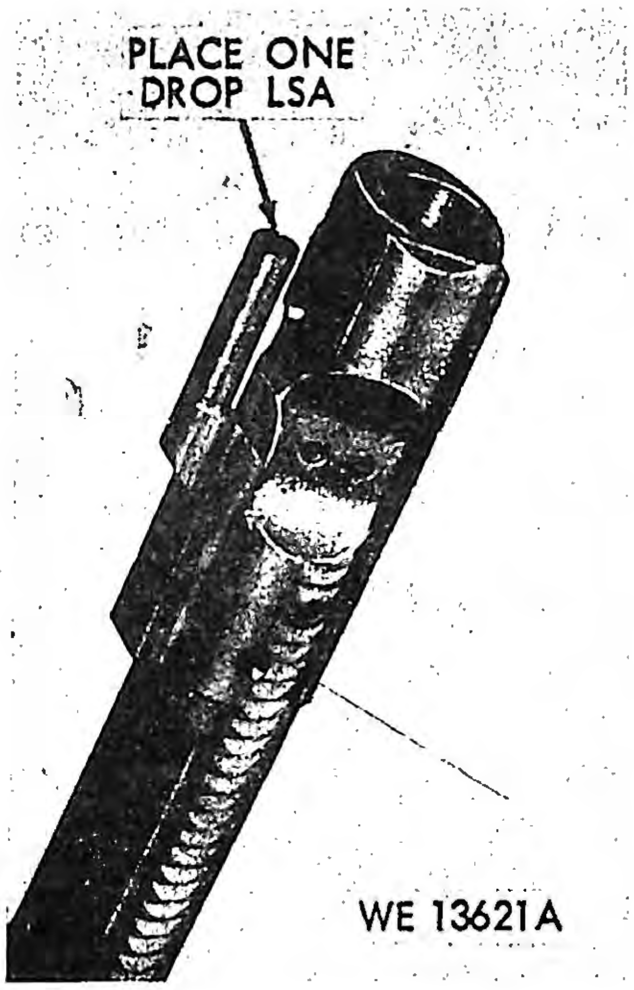


Figure 3–3. Oiling carrier key.

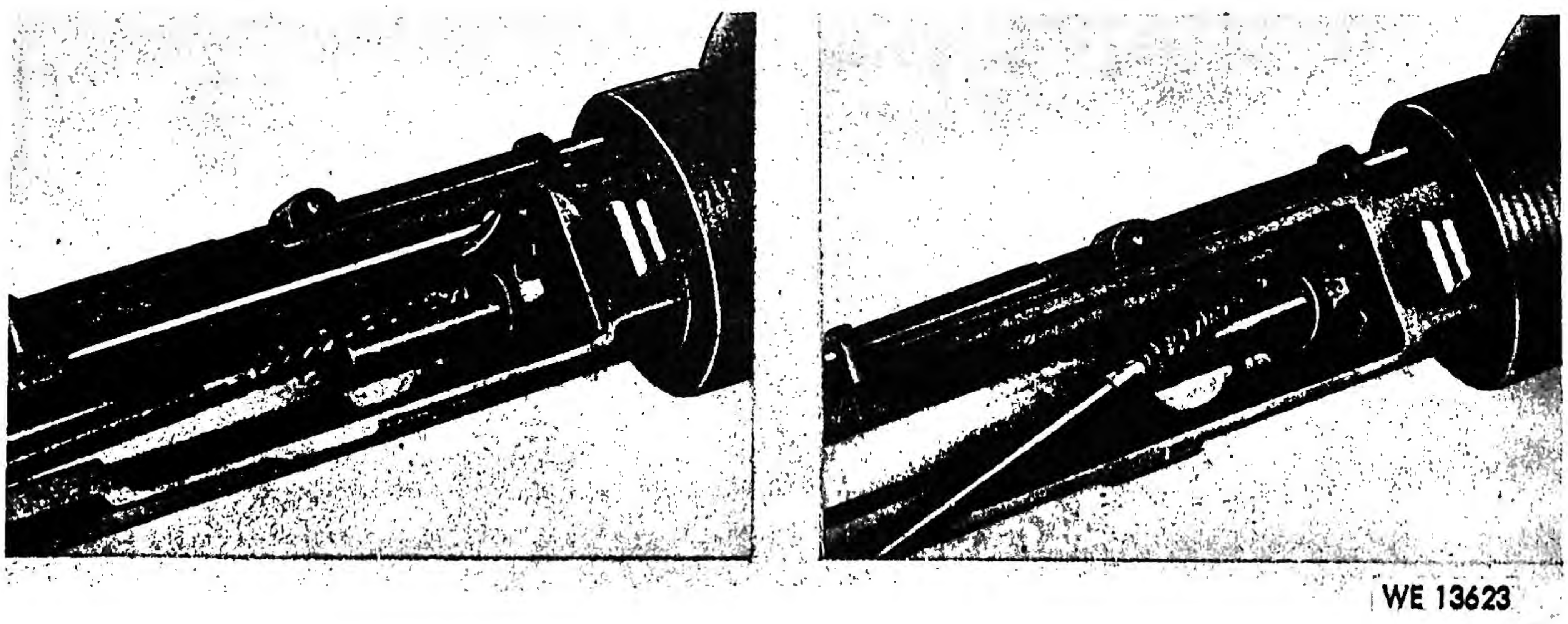


Figure 3–4. Cleaning gas tube in receiver.

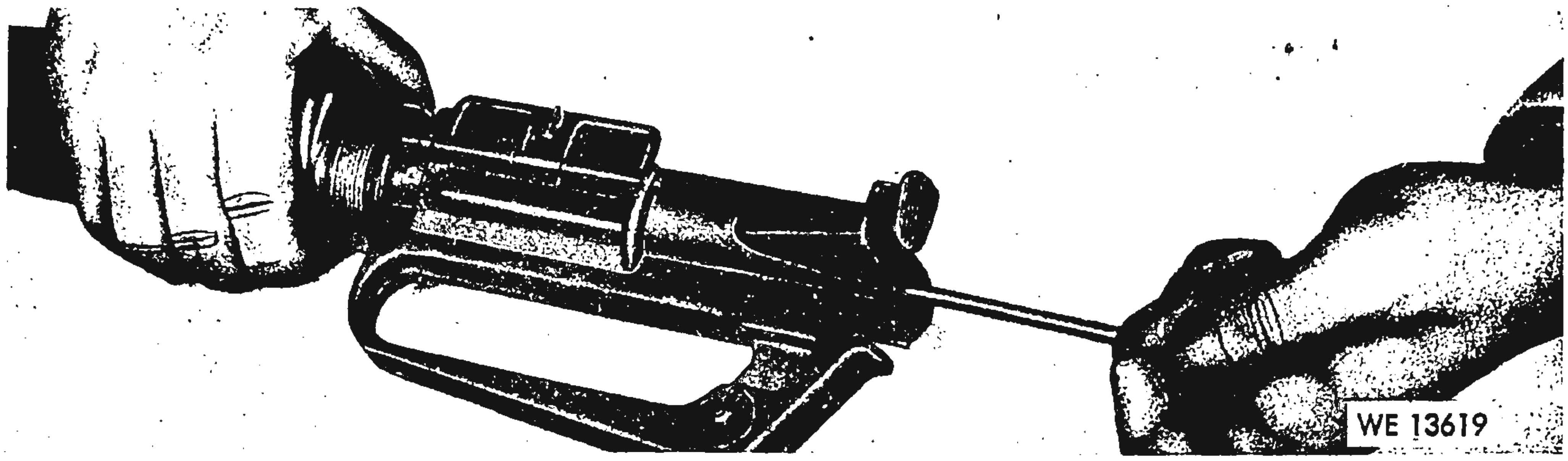


Figure 3–5. Cleaning the bore.

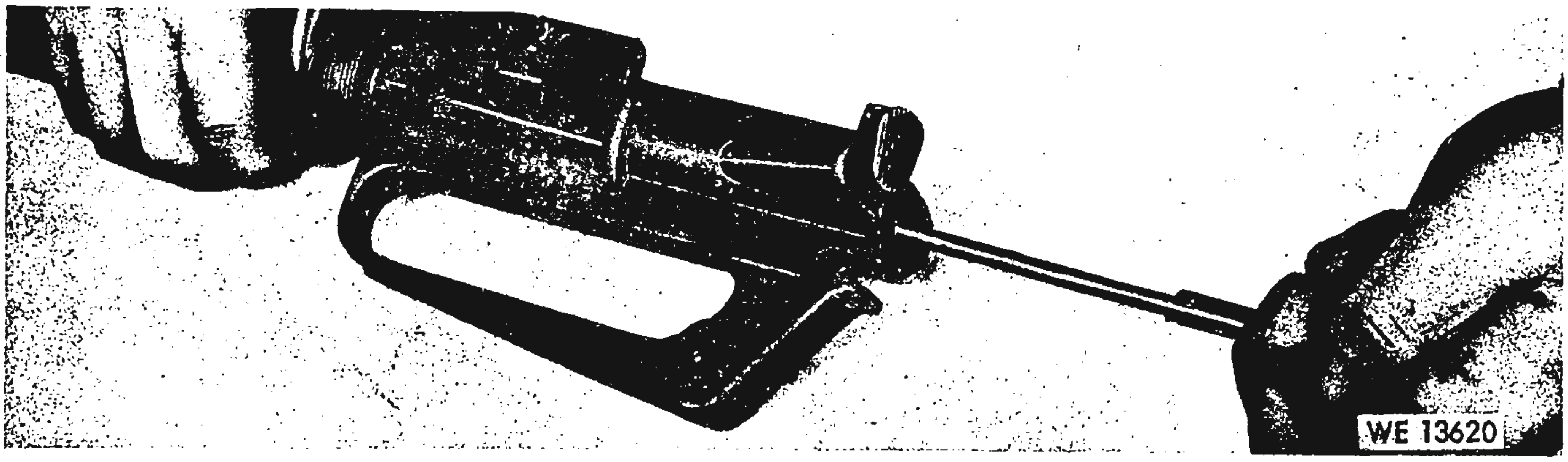


Figure 3–6. Cleaning the chamber.

Section III. PREVENTIVE MAINTENANCE SERVICES

3–6. General

a. Preventive maintenance is a systematic care, inspection, and servicing of equipment to keep it in serviceable condition, prevent breakdowns and assure maximum operational readiness. The operator's role in the performance of preventive maintenance service is:

(1) To perform daily service each day the rifle is operated.

(2) To help the organizational unit armorer perform any scheduled periodic services which are authorized to them.

3–7. Specific Procedures

a. Table 3–2 gives the specific procedures to be performed by operator and organizational unit armorer.

b. In addition to procedures outlined in table 3–2, perform the following: Remove rust, dirt, grit, gummed oil, and water as these will cause rapid deterioration of the inner mechanism and outer surfaces. Take particular care to keep all surfaces clean and lubricated. Do not clean or polish outer surfaces of the weapon with a treated cloth or other commercial compounds.

c. Tighten loose parts and replace broken or worn parts, as authorized.

d. Every six months check to see if all modifications have been applied. Refer to DA Pam 310–7. No alteration or modification will be made except as authorized by the modification work order.

Table 3-2. Preventive Maintenance Checks and Services

Item no	Interval						B–Before operation D–During operation	A–After operation W–Weekly	M–Monthly Q–Quarterly
	Operator			Organizational					
	B	D	A	W	M	Q	Item to be inspected	Procedure	Reference
1	X	--	--	--	--	--	Rifle	Wipe excessive oil from bore and chamber	Table 3–1.
*2	X	--	--	--	--	--	Rifle	Retract bolt to assure free movement between bolt carrier and gas tube.	Table 3–3.
*3	X	--	--	--	--	--	Rifle	Hand function to assure proper operation	Par. 3–12.
*4	X	--	--	--	--	--	Rifle	Check magazine for positive retention and functioning of bolt catch.	Fig. 2–1.
*5	--	--	X	--	--	--	Rifle	Clean and lubricate. Be sure to ~~clean bolt~~ carrier key.	Table 3–1
6	--	--	--	--	X	--	Rifle	Clean and lubricate detents and springs, for takedown pin, pivot pin and selector lever and outer surface of lower receiver extension.	Table 3–1.
*7	X	--	--	--	--		Bipod	Clean and lubricate. Check bipod legs. Make certain they move freely from closed to open position under spring tension, and that tension is of sufficient strength to hold the bipod to the rifle.	Table 3–1.

*Will be performed weekly, unless daily schedule is performed as a result of firing.

Section IV. TROUBLESHOOTING

3–8. General

a. *Troubleshooting.* Troubleshooting shown in table 3–3 contains information for operator and organizational maintenance and serves as an aid to personnel whose responsibility it is to restore worn, damages, or inoperative materiel to a satisfactory condition. This information includes both determination of cause and corrective action.

b. *Zeroing.* Zeroing will be accomplished in accordance with instructions contained in FM 23–9. Schedules for zeroing will be established by Theater Commanders.

c. *Serviceability, Function Firing Test.* Ten rounds, (3 semi-automatic and 7 automatic), will be fired in conjunction with zeroing. Malfunctions occurring during these tests should be corrected by referring to troubleshooting, table 3–3.

Note. The letters in the maintenance level column indicate the lowest level of maintenance at which corrective action can be performed. Letter C indicates operator and letter O organizational maintenance.

Table 3-3. Troubleshooting

Malfunction	Probable cause	Corrective action	Maintenance level
Failure to fire	Selector lever on safe	Move selector lever to semi or automatic fire position.	C
	Broken firing pin	Replace	C
	Improper assembly of firing pin	Remove firing pin and assemble correctly. Check retaining pin for damage.	C
	Too much oil in firing pin recess of bolt.	Disassemble and wipe off excess oil.	C
	Firing mechanism, lower receiver improperly assembled, or worn, broken or missing parts.	Turn in to direct support maintenance personnel.	O

Table 3–3. Troubleshooting—Continued

Malfunction	Probable cause	Corrective action	Maintenance level
Failure to unlock (Bolt seizes, will not rotate from locked position).	Carbon, dirty or burred bolt group or barrel extension.	Hold rifle in vertical position and strike butt *sharply* on ground, while pulling back on charging handle. ***Warning:* Make certain to be clear of muzzle end.** ***Caution:* Strike butt squarely on ground to prevent breakage of stock, remove bolt group and clean.** *Note.* Brass cases causing a malfunction, if considered serious enough to warrant EIR action, should be forwarded with EIR.	C
Failure to extract	*Dirty or corroded ammunition	Remove ammunition from magazine and clean.	C
	*Carbon buildup in chamber	Clean	C
	Carbon buildup in extractor recess or extractor lip.	Disassemble and clean	C
	Defective extractor, extractor spring, and extractor pin.	Replace	O
	*Badly pitted chamber	Turn in to direct support maintenance personnel.	O
Failure to eject	Broken ejector	Replace	O
	Frozen ejector	Disassemble and clean	O
	Weak or broken ejector spring	Replace	O
	Short recoil	See short recoil.	
Failure to cock	Worn, broken or missing parts of firing mechanism.	Turn in to direct support maintenance personnel.	O
Failure to feed	Magazine not seated properly	Adjust magazine catch. Push in the magazine catch button with the nose of a cartridge and rotate the magazine catch clockwise to tighten and counterclockwise to loosen.	C
	Dirty or corroded ammunition	Remove ammunition from magazine and clean.	
	Dirty magazine	Disassemble and clean	C
	Defective magazine	Change	C
	Too many rounds in magazine	***Caution:* Do not load over 20 rounds.**	C
	Restricted buffer assembly action.	Remove buffer assembly and action spring. Clean.	C
	Short recoil	See short recoil.	
Double feed	Defective magazine	Change magazine	C
Failure to chamber	Dirty or corroded ammunition	Remove ammunition from magazine and clean.	C
	Damaged ammunition	Replace	C
	Carbon buildup in chamber	Clean	C
Failure to lock	Dirt, corrosion or carbon buildup on barrel locking lugs.	Clean	C
	Frozen extractor	Clean and assemble correctly	C

*May be indicated by a rim shear of the cartridge case.

Table 3-3. Troubleshooting—Continued

Malfunction	Probable cause	Corrective action	Maintenance level
Failure to lock–cont'd	Restricted buffer assembly movement.	Remove buffer assembly and action spring and clean.	C
	Weak or broken action spring	Replace	C
	Restricted movement of bolt carrier group.	Disassemble, thoroughly clean and lubricate. With the upper receiver held in the upright position and the charging handle removed, install the bolt carrier group. Slowly slide the colt carrier back and forth on the slides of the receiver to determine proper fit and alinement of the bolt carrier key with gas tube. Inspect for free movement and complete insertion of gas tube within bolt carrier key. If binding occurs turn the rifle in to direct support maintenance personnel.	C
	Bolt cam pin missing	Replace bolt cam pin	O
	Loose or damaged bolt carrier key.	Turn in to direct support maintenance personnel.	O
	Improperly assembled extractor spring.	Assemble correctly	O
	Bent gas tube	Turn in to direct support maintenance personnel.	O
Short recoil	Gaps in bolt rings not staggered	Stagger bolt ring gaps	C
	Carbon buildup or dirt in carrier key and on outside of gas tube.	Clean the bolt carrier group and the outside of the gas tube.	C
	Restricted movement of bolt carrier group or buffer assembly.	See failure to lock	C
	Missing or broken bolt rings	Turn in to direct support maintenance personnel.	O
	Gas leakage caused by broken or loose gas tube.	Turn in to direct support maintenance personnel.	O
Bolt fails to lock to the rear after the last round.	Dirty or corroded bolt catch	Clean. If disassembly is necessary turn in to direct support maintenance personnel.	C
	Faulty magazine	Change	C
	Broken bolt catch and/or spring	Turn in to direct support maintenance personnel.	O
	Old type buffer installed	Turn in to direct support maintenance personnel.	O
Failure to cycle with selector lever on AUTO.	Worn, broken or missing parts of firing mechanism.	Turn in to direct support maintenance personnel.	O
Fires with selector lever on SAFE.	Worn, broken or missing parts of firing mechanism.	Turn in to direct support maintenance personnel.	O
With selector lever on SEMI, fires when trigger is released.	Worn, broken or missing parts of firing mechanism.	Turn in to direct support maintenance personnel.	O
Selector lever binds	Lack of lubrication	Lubricate	C

Section V. OPERATOR MAINTENANCE

3–9. General

This section describes operators maintenance of rifles under normal conditions. For maintenance under adverse conditions refer to chapter 2, section III.

3–10. Disassembly and Assembly

Note. White arrows indicate disassembly and black arrows assembly.

a. Remove/install bayonet–knife as indicated in figure 3–7.

b. Remove/install bipod as indicated in figure 3–8.

c. The major groups are illustrated in figure B–2.

d. For disassembly/assembly refer to figures 3–9 thru 3–13.

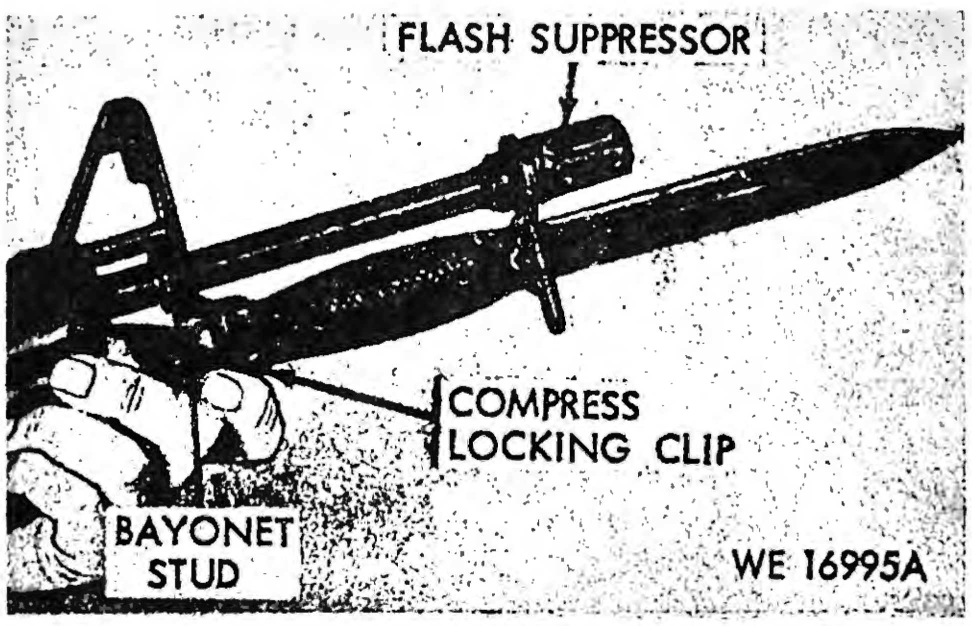


Figure 3–7. Remove/install bayonet–knife.

3–11. Inspection and Repair

Refer to table 3–2.

3–12. Functional Check

Note. Remove magazine (refer to step 1, fig. 3–9). Pull the charging handle to the rear, make certain chamber is clear.

a. *General.* A complete functional check of the rifle consists of checking the function of the rifle while the selector lever is in the Safe, Semi, and Auto positions.

b. *Sequence Check.* The following sequence

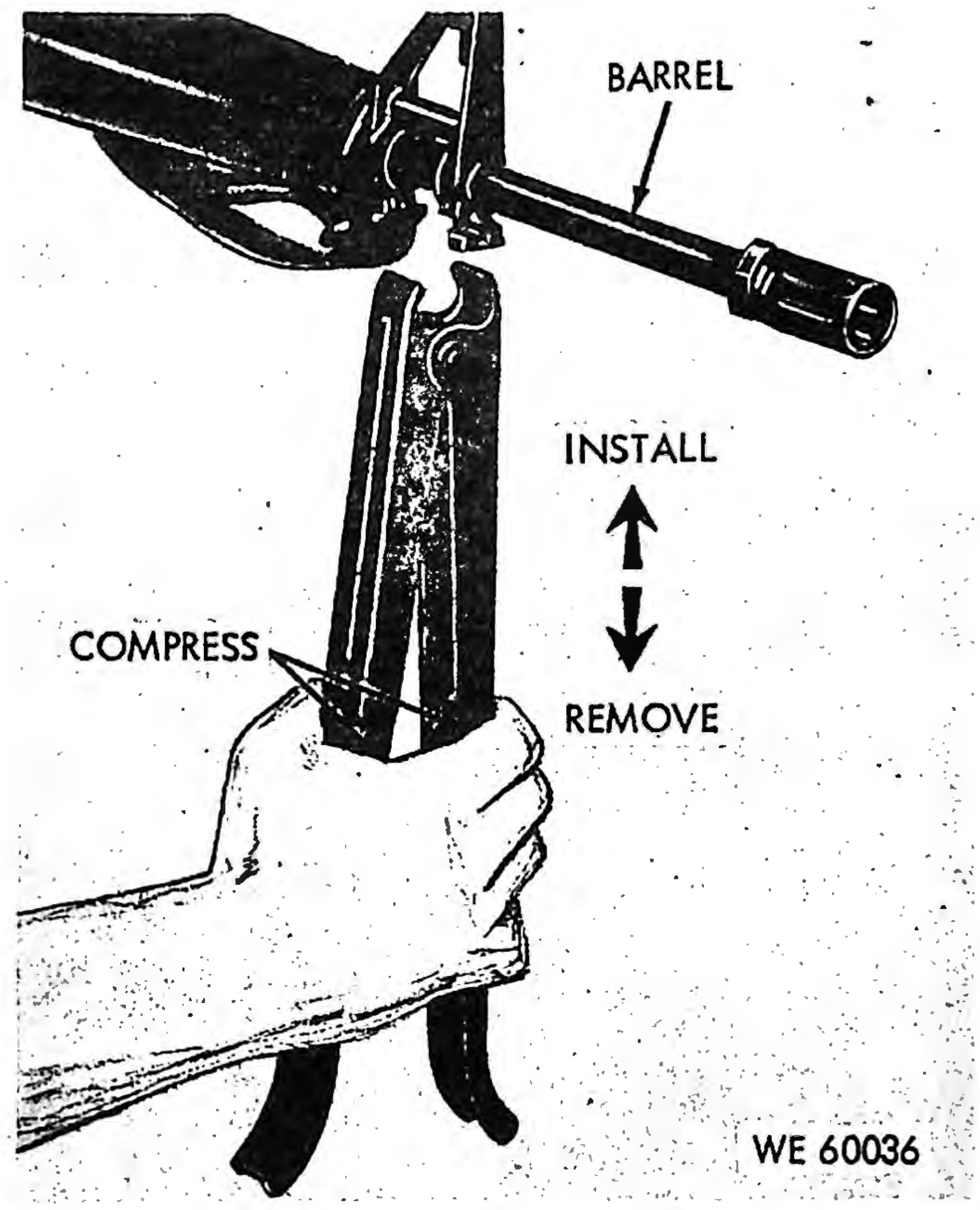


Figure 3–8. Remove/install bipod.

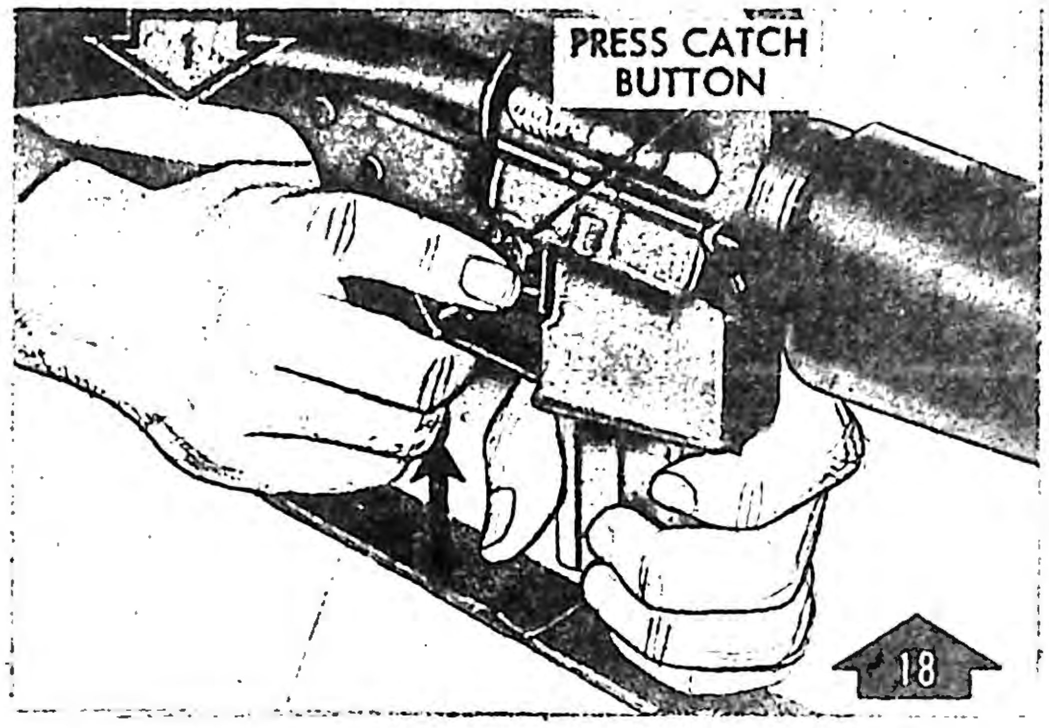
is used for a rapid complete check. Any portion of the check may be used alone to determine the operational condition of any specific fire selection.

Note. Disengage takedown pin and open receivers. Hammer shall be in the cock position.

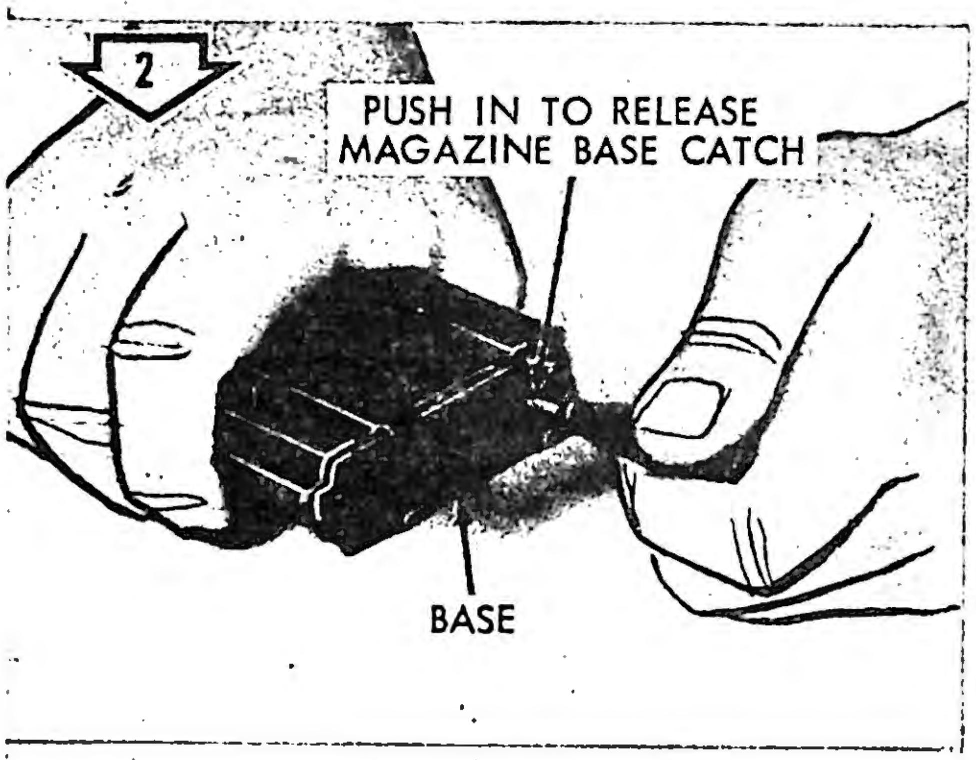
(1) *Safe Position.* Pull trigger, hammer should not fall.

(2) *Semi-Position.* Pull trigger, hammer should fall. Hold trigger to rear, recock hammer and release trigger. Hammer should transfer from hammer hooks and disconnector to the hammer notch and trigger nose.

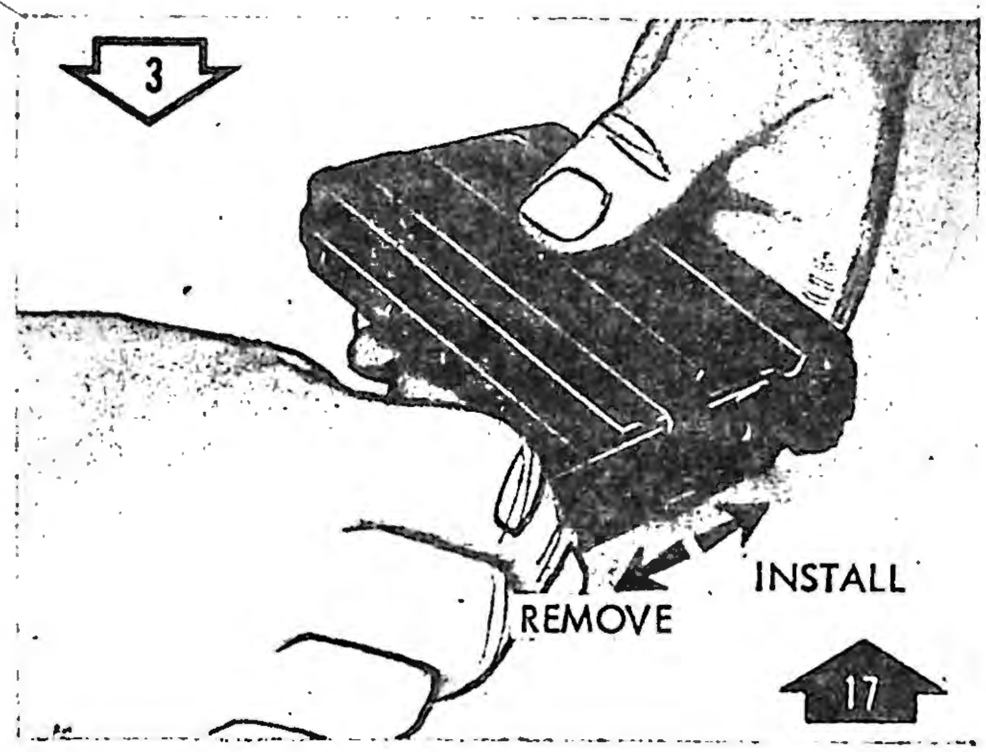
(3) *Auto Position.* Pull trigger, hammer should fall. Hold trigger to the rear and recock the hammer. Upper hammer hook is now engaged with the automatic sear. Hold trigger to the rear, push forward on automatic sear. Hammer should transfer to trigger nose. Hold trigger to the rear, recock hammer, release



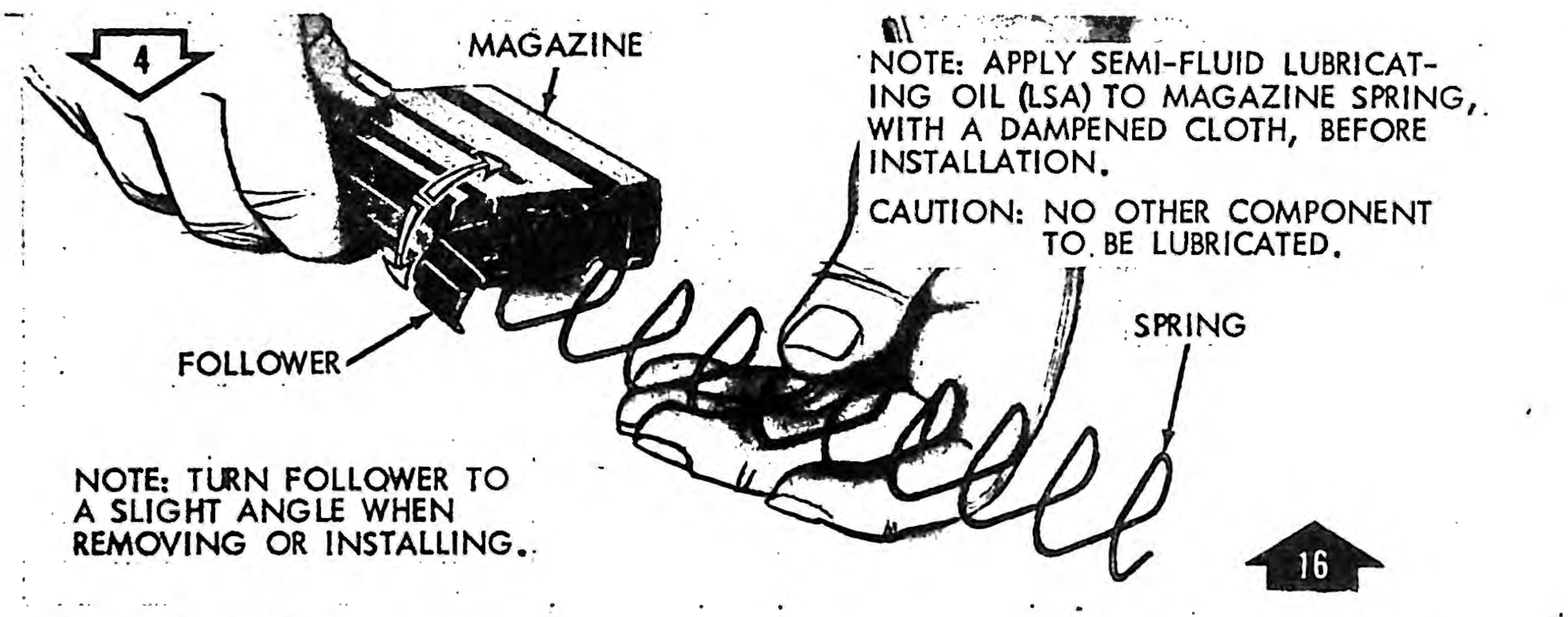
Remove/Install magazine.



Release magazine base.



Remove/Install base.

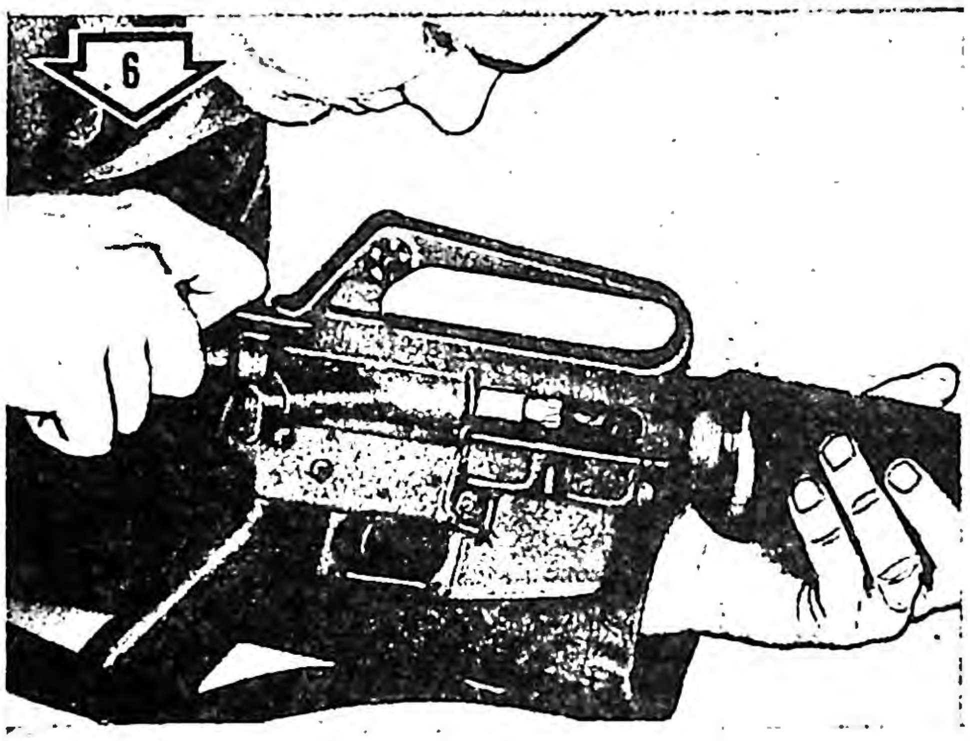


Remove/Install spring and follower.

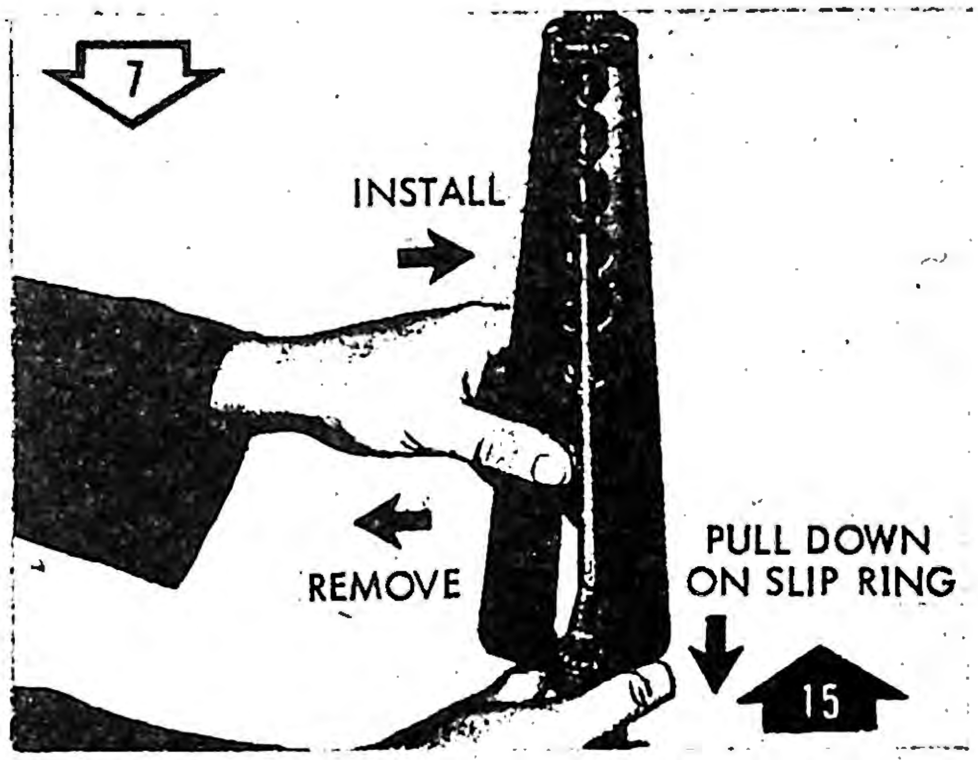
WE 17374A

Figure 3-9. Disassembly/assembly of rifle. (1 of 5)

Base, spring and follower removed from magazine.

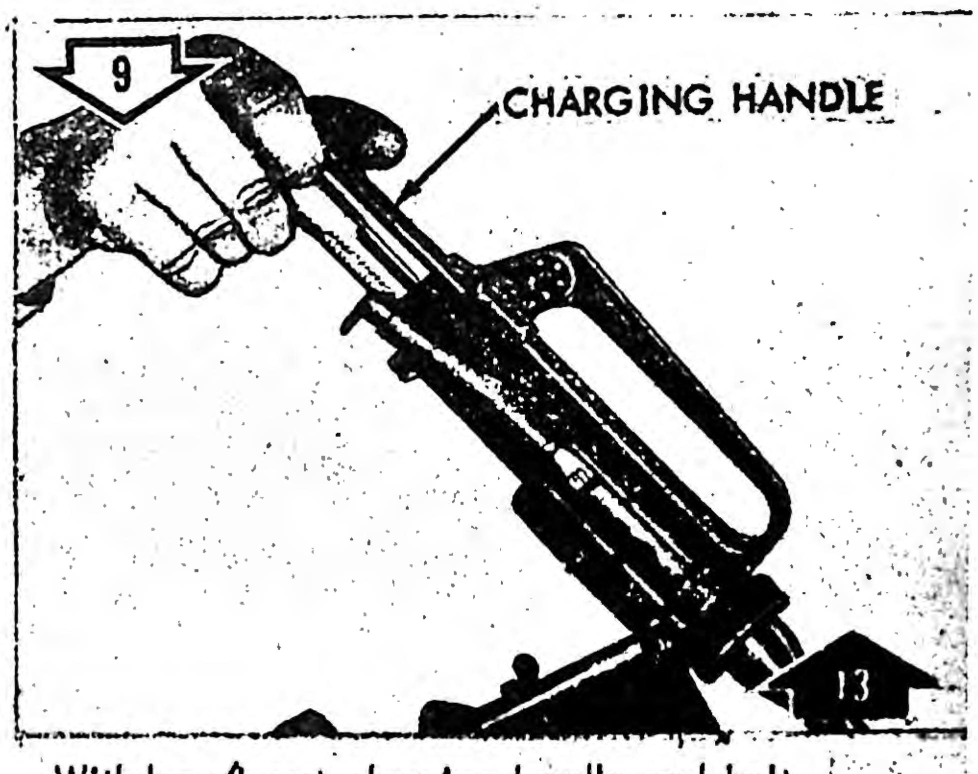


Open bolt and inspect chamber.



Remove/Install handguards.

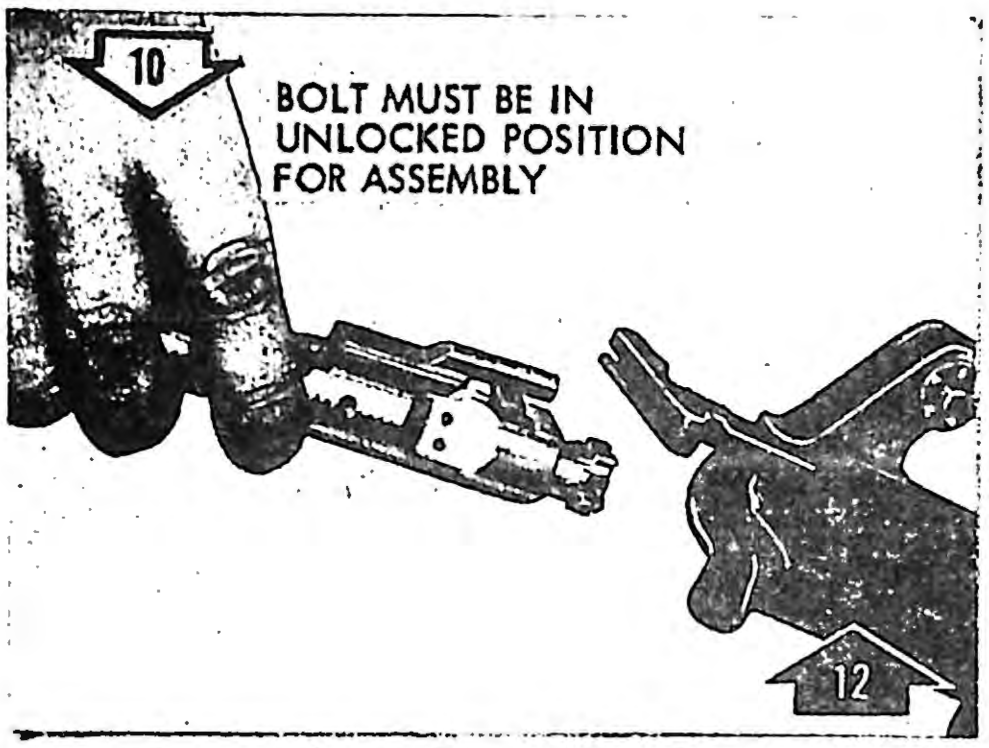
Disengage/Engage take-down pin.



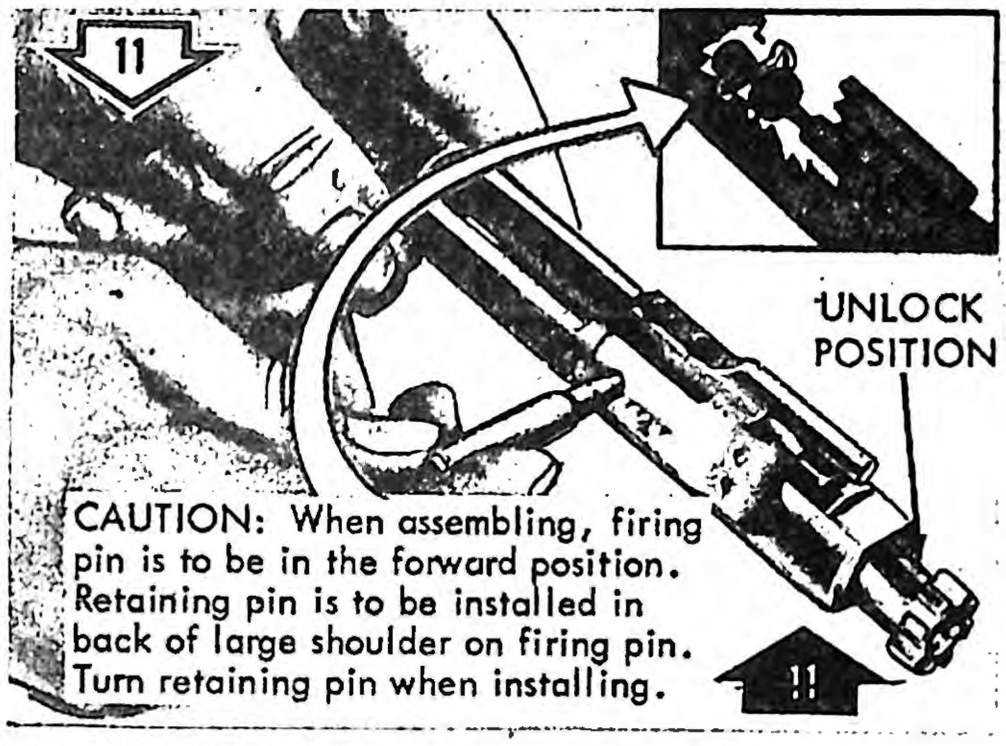
Withdraw/Insert charging handle and bolt carrier and key assembly.

WE 17375

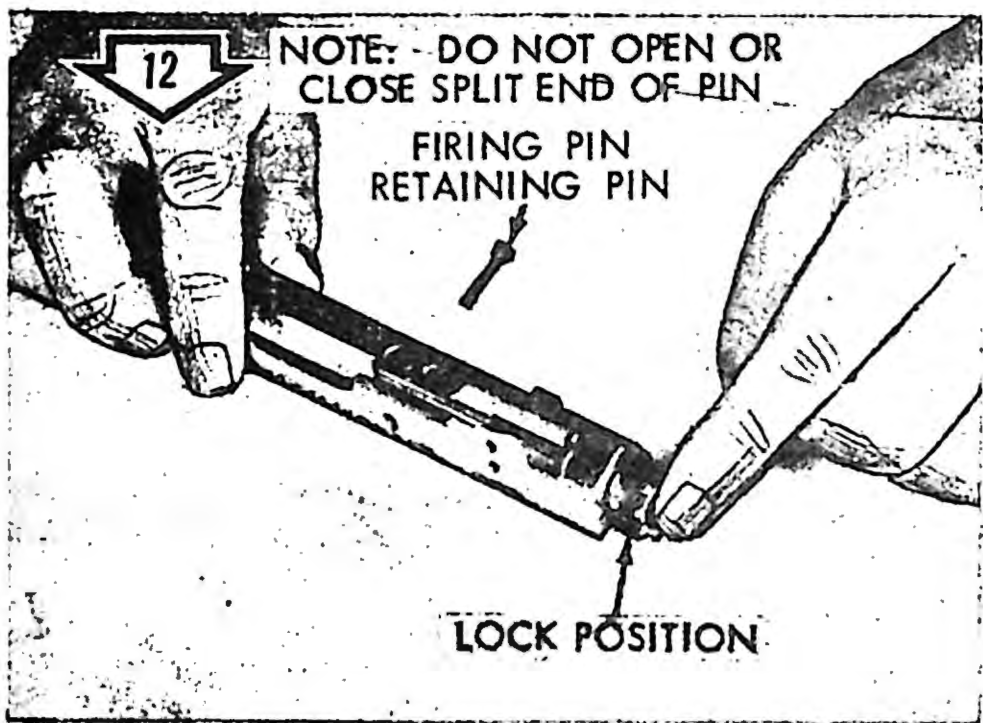
Figure 3–10. Disassembly/assembly of rifle. (2 of 5)



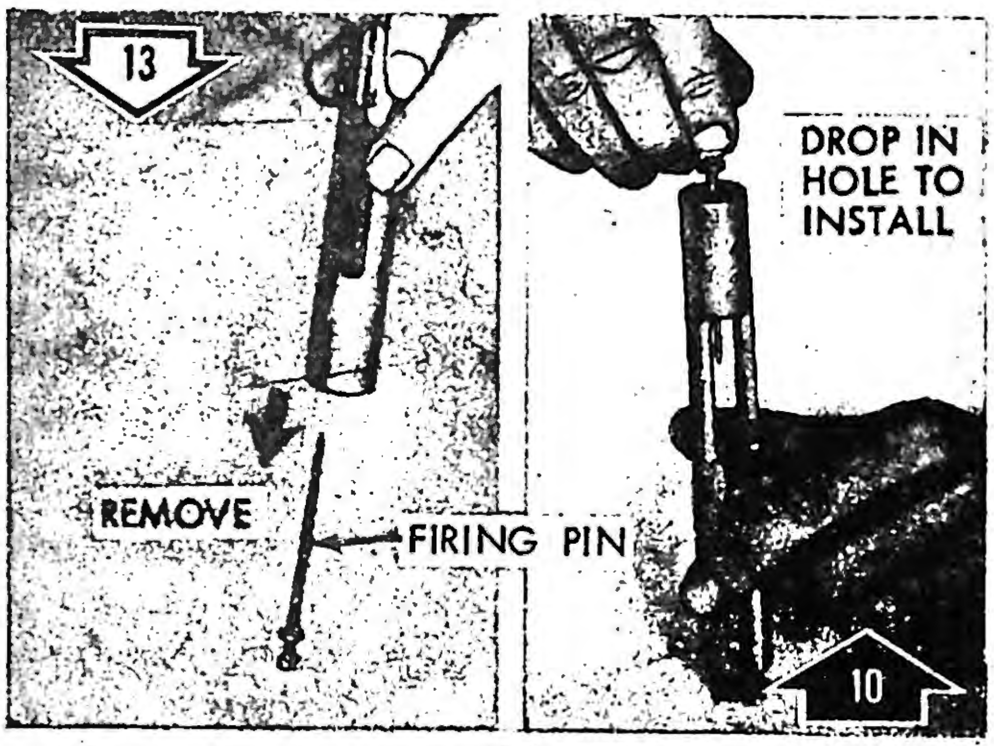
Remove/Install bolt carrier group.



Remove/Install firing pin retaining pin.

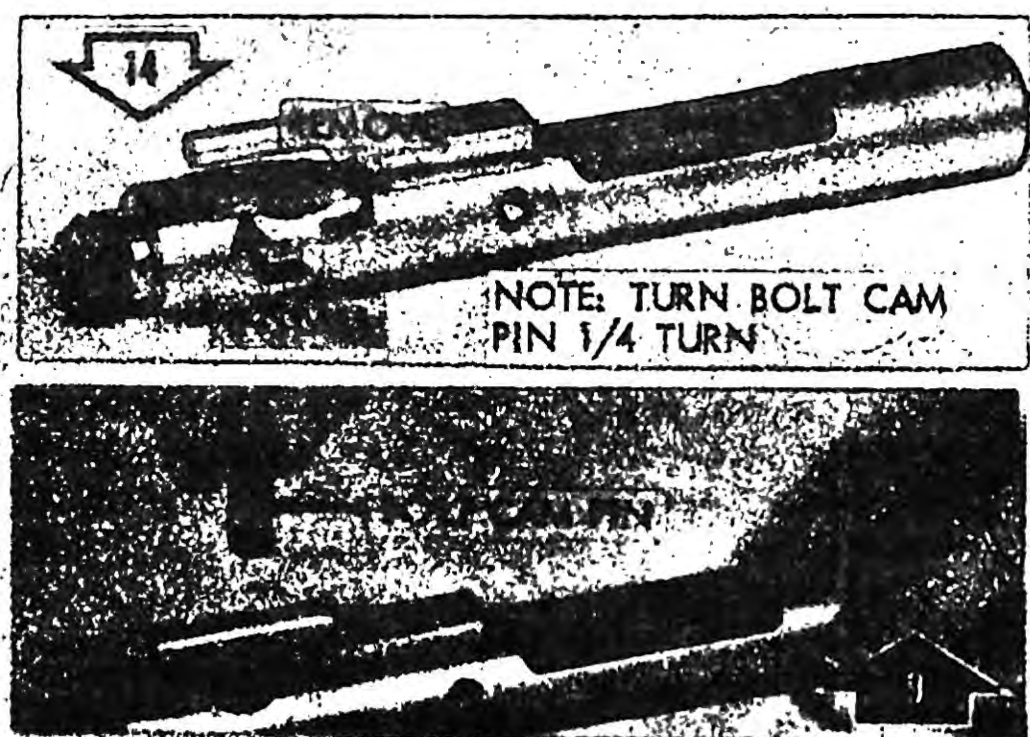


Place bolt in lock position.



Remove/Install firing pin.

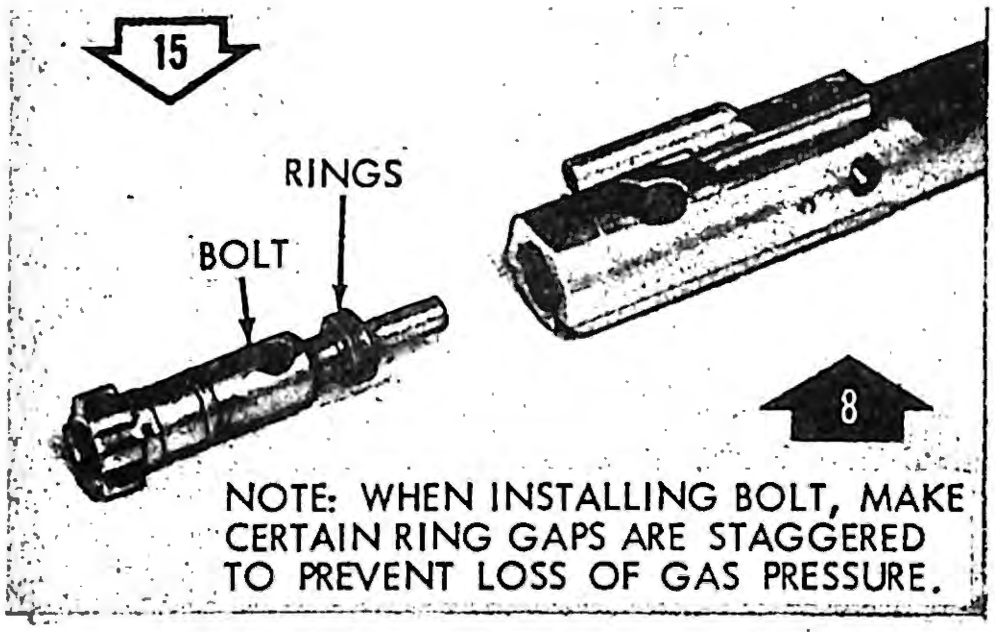
WARNING: MAKE CERTAIN CAM PIN IS INSTALLED.



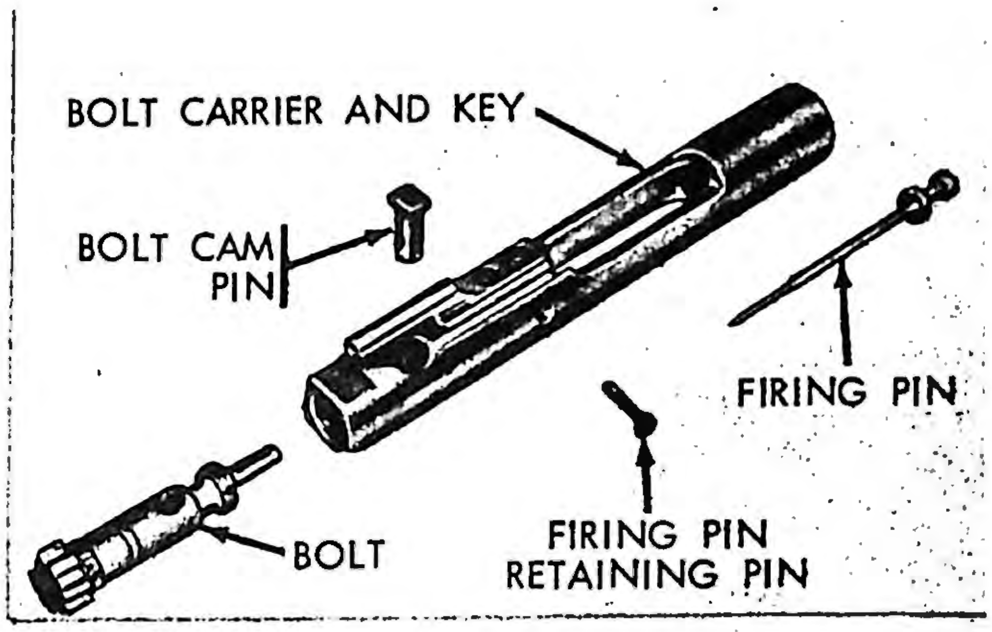
Remove/Install bolt cam pin.

WE 60045

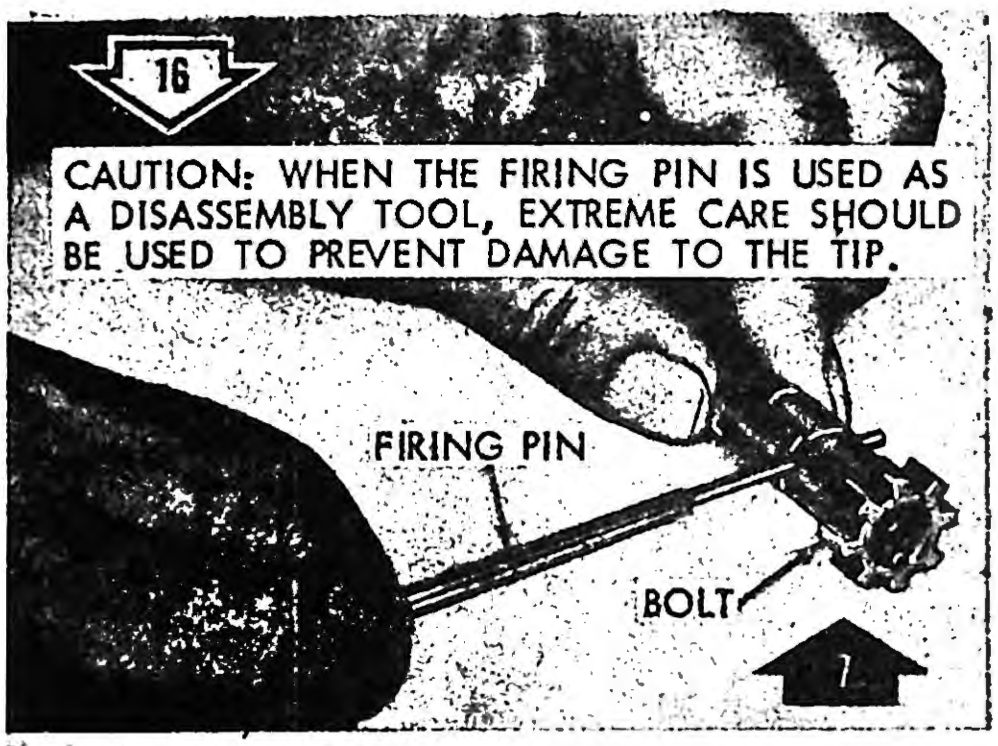
Figure 3-11. Disassembly/assembly of rifle (3 of 5)



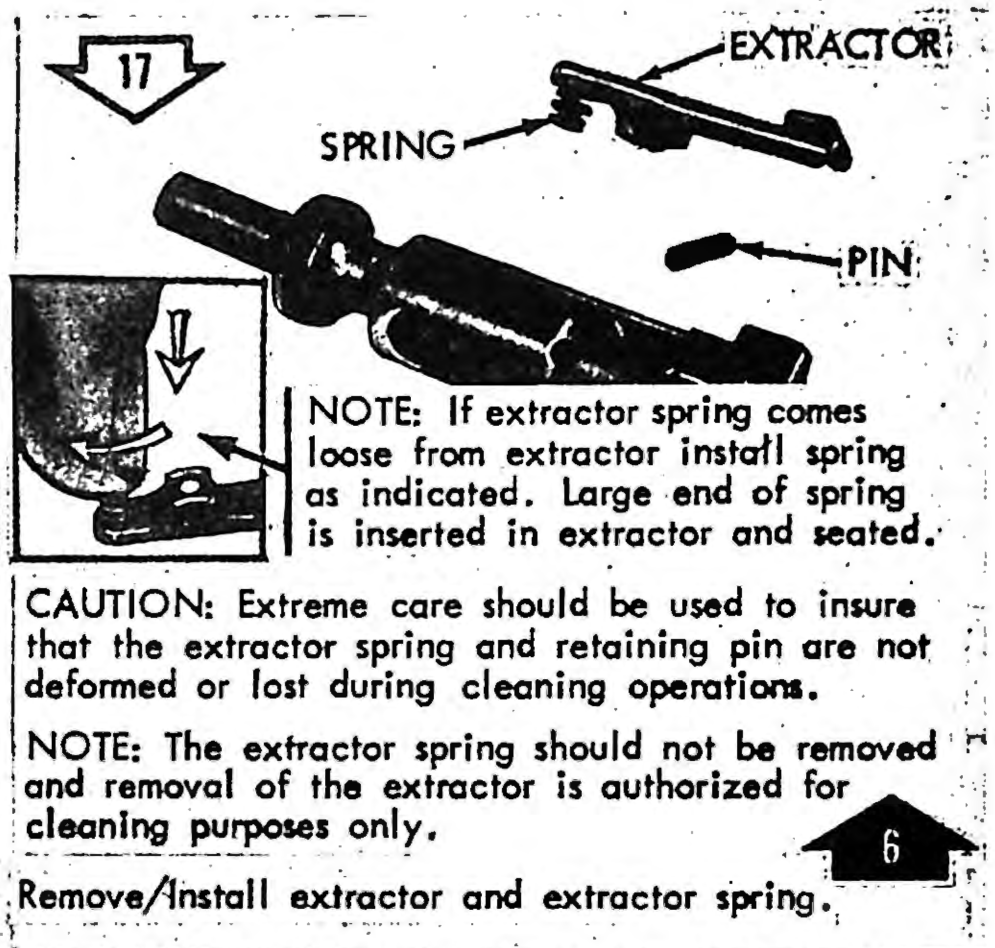
Remove/Install bolt from bolt carrier and key.



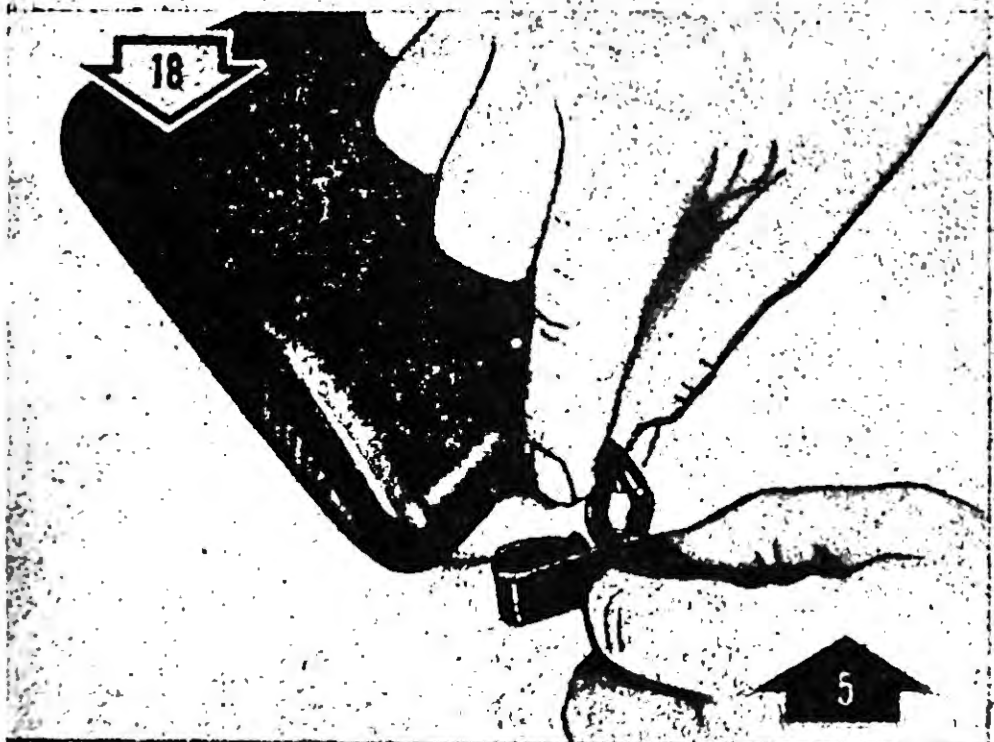
Bolt carrier group parts.



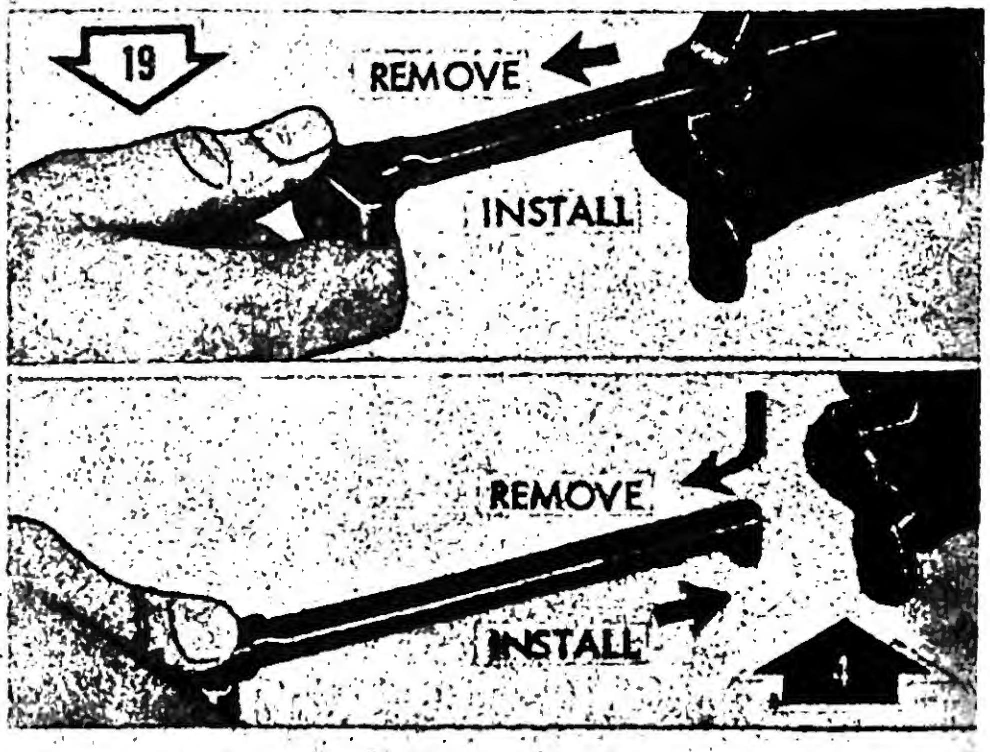
Remove/Install extractor pin.



Remove/Install extractor and extractor spring.



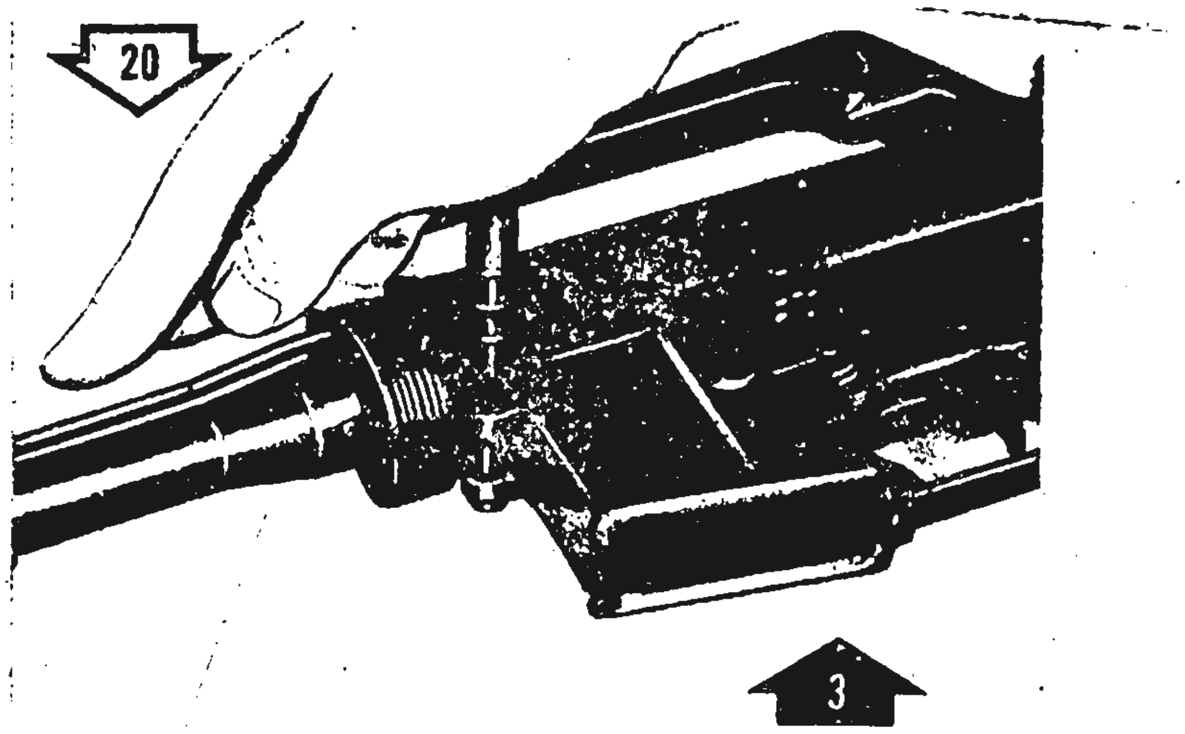
Remove/Install sling.



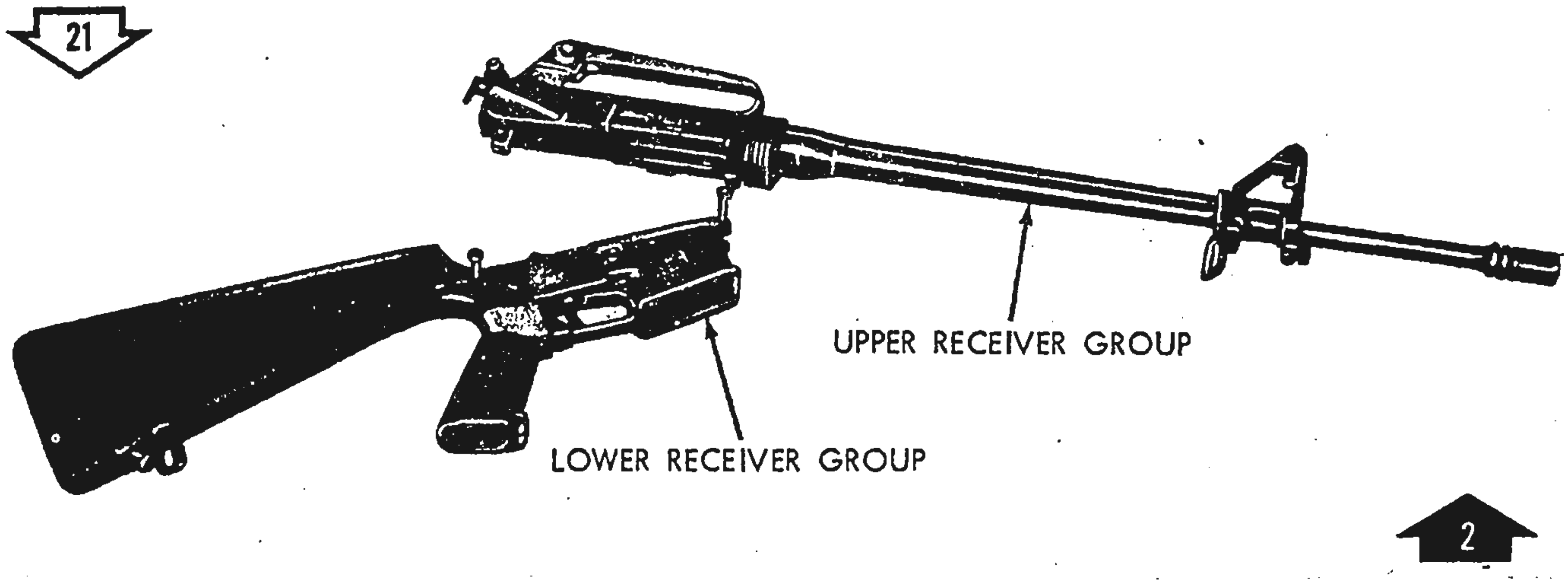
Remove/Install charging handle.

WE 19646

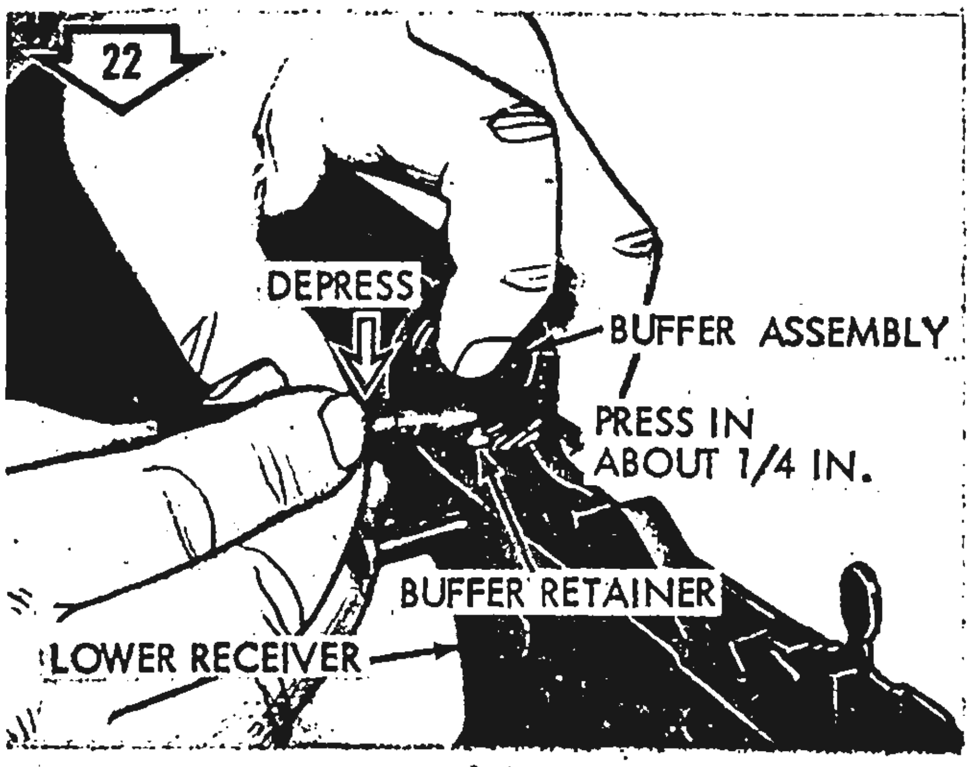
Figure 3-12. Disassembly/assembly of rifle. (4 of 5)



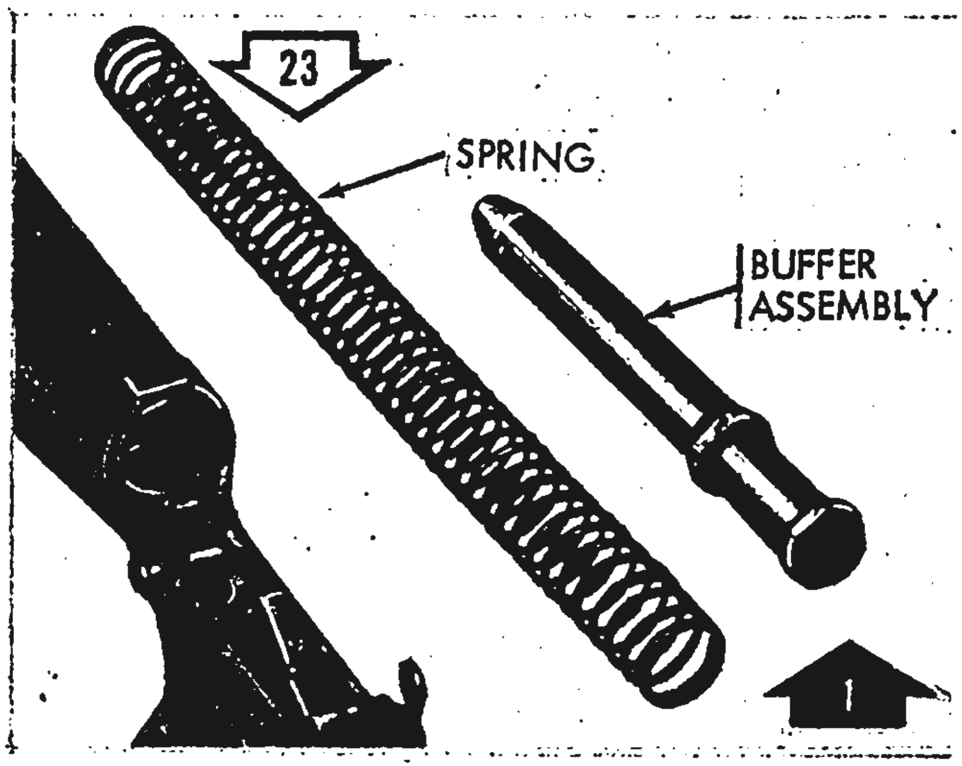
Disengage/Engage receiver pivot pin.



Separate/Join upper receiver and lower receiver groups.



Press in buffer assembly, depress buffer retainer, and then release buffer assembly.



Remove/Install buffer assembly and spring.

WE 19647

Figure 3-13. Disassembly/assembly of rifle. (5 of 5)

trigger and push forward on automatic sear. Hammer should transfer to the sear engagement. Move selector lever to "safe" or "semi" position. Close receiver and engage takedown pin.

Caution: **Failure to move selector lever to "safe" or "semi" position before closing receiver, will damage automatic sear.**

(4) *Semi-Position.* Pull charging handle to the rear. Make certain chamber is clear, then release charging handle. Pull the trigger, hammer should fall.

Section VI. ORGANIZATIONAL MAINTENANCE PROCEDURES

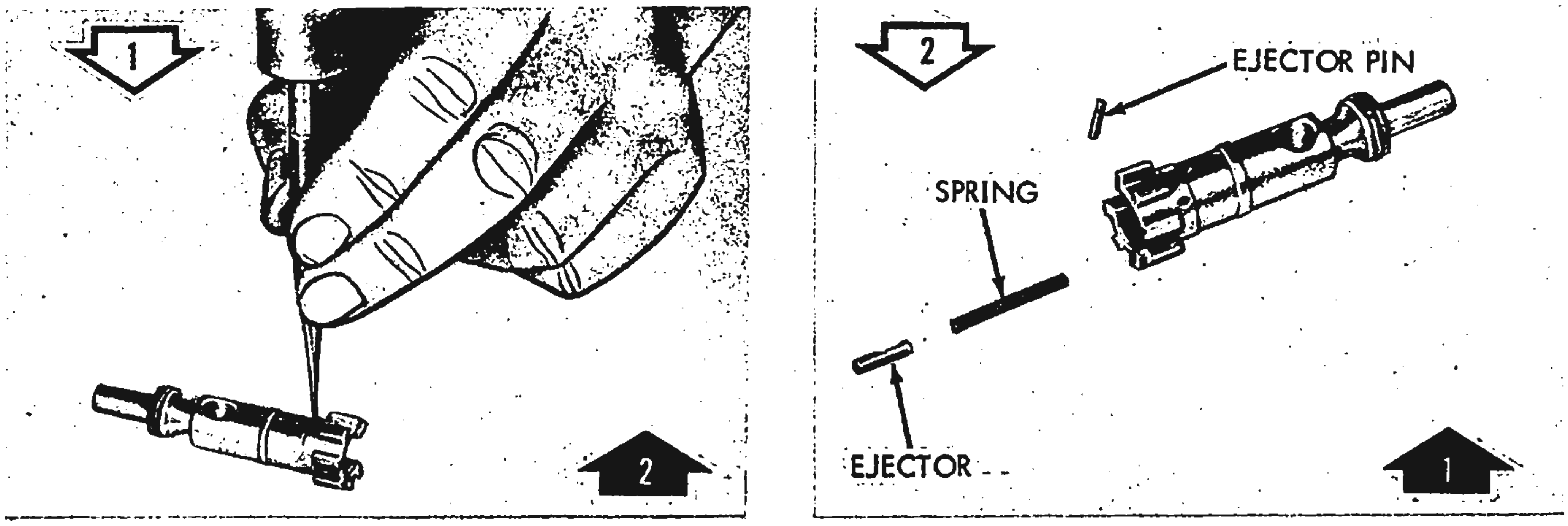
3-13. General

This section describes organizational maintenance procedures for the rifle and bipod. Refer to table 3-4.

Table 3-4. Organizational Guide to Maintenance of Individual Groups or Assemblies

Group or assembly	Removal/ installation	Disassembly/ assembly	Inspection and repair	Cleaning
Magazine assembly.	Fig. 3-9	*Fig. 3-9 and 3-10.	1. Inspect tube for bulges, dents or damaged feeder lips. 2. Inspect spring for kinks, cracks or breaks. Replace magazine assembly. 3. Inspect follower and bore for excessive wear, cracks or being bent. Replace magazine assembly.	Table 3-1.
Bolt assembly	Fig. 3-11	*Fig. 3-14	1. Check for cracks in bolt especially in area of cam pin hole, condition of locking lugs, pitted or chipped bolt face and elongated firing pin hole. If broken evacuate to direct support maintenance personnel. 2. Inspect for broken bolt rings, make certain ring gaps are staggered. If broken or deformed, evacuate to direct support maintenance personnel. 3. Inspect for worn ejector, spring, and pin. Replace.	Table 3-1.
Upper receiver group.	Fig. 3-13		1. Inspect for cracks and parts for wear. Evacuate to direct suport maintenance personnel if parts are worn or damaged. 2. Inspect receiver for condition of finish. If scratched or worn (shiny bright) remove all lubricant from surface and touch up with primer and lacquer listed in table 2-2. If corrosion is present turn in to direct support maintenance personnel. 3. Inspect charging handle for damage and latch spring for tension.	Table 3-1.
Lower receiver group.	Fig. 3-13	*Fig. 3-15 and 3-16.	1. Inspect pistol grip for cracks and for damaged screw and washer. Replace. 2. Inspect stock assembly. If cracked or damaged, replace. *Note.* Cracked stocks will be evacuated to direct support maintenance for repair. 3. Inspect takedown pin, pivot pin, selector lever, detents, and springs. If worn or damaged, replace. 4. See 2 above under upper receiver group. 5. Inspect lower receiver extension for serviceability.	Table 3-1.
Bipod	Fig. 3-8		Check spring tension of jaws.	Table 3-1.

*White arrows on illustration indicate disassembly and black arrows indicate assembly.



Remove/Install ejector pin.

Remove/Install ejector and ejector spring.

WE 19736

Figure 3–14. Disassembly/assembly of bolt assembly.

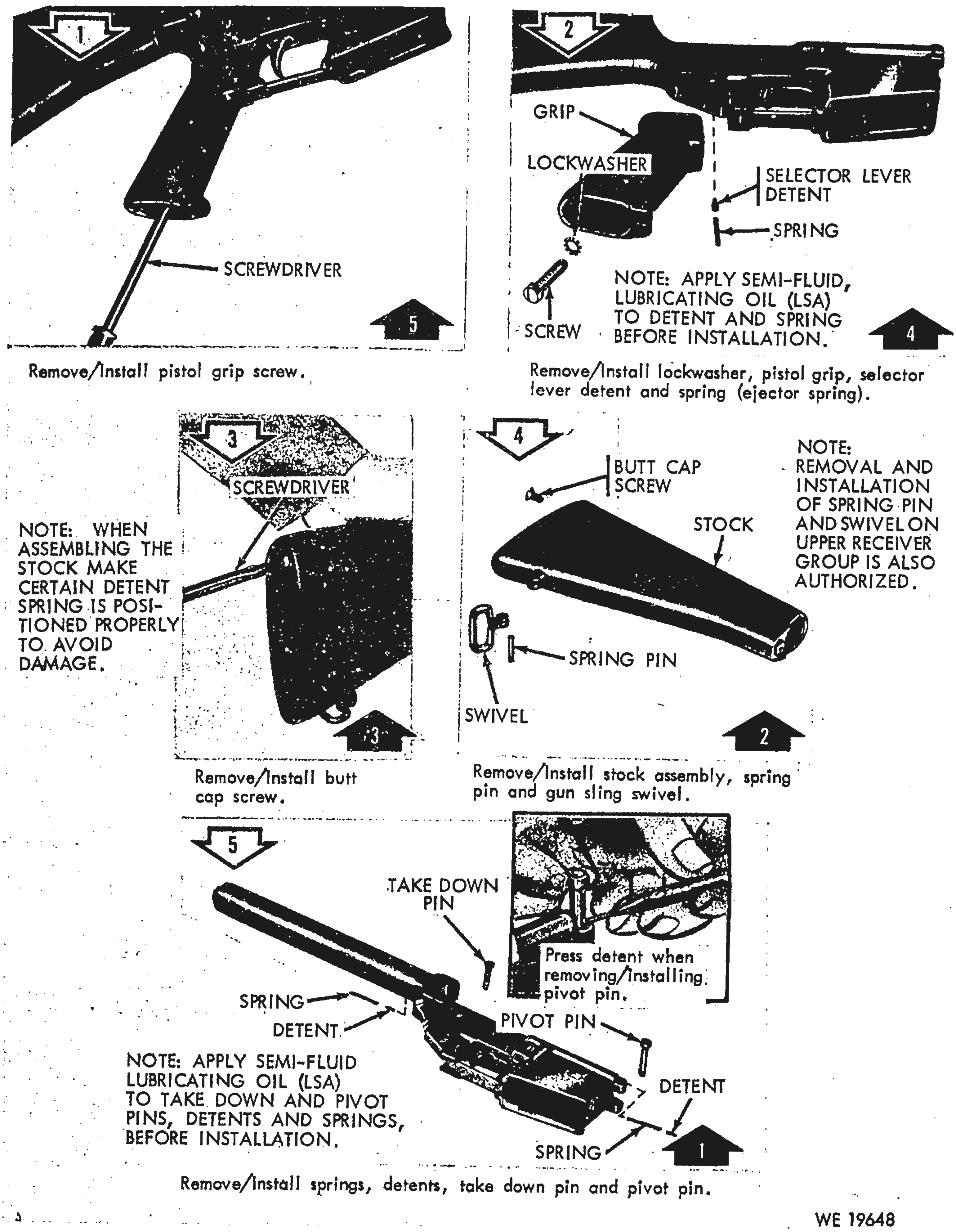


Figure 3–15. Disassembly/assembly of lower receiver group.

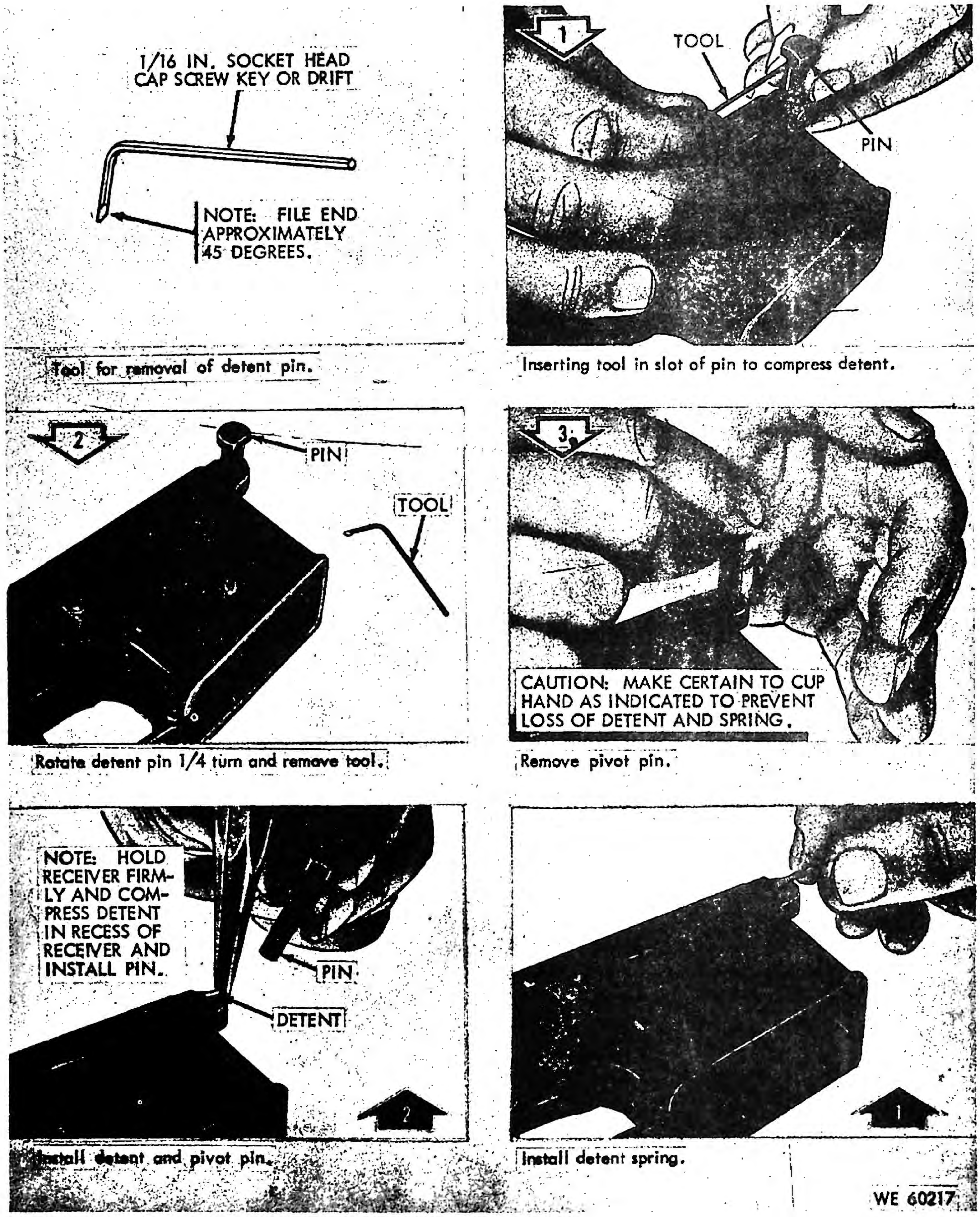


Figure 3–16. Disassembly/assembly of lower receiver group. (Old design pivot pin)

CHAPTER 4

MATERIEL USED IN CONJUNCTION WITH MAJOR ITEMS

4–1. General

This chapter contains information on materiel used with the major items.

4–2. Description and Usage

a. *Bayonet–Knife, M7.* The bayonet–knife (fig. 4–1) is used for close combat, guarding of prisoners, riot duty, etc. It is also used as a general utility knife. The blade has a full cutting edge on the bottom and a 3–1/8 inches cutting edge on the top. The handle fits comfortably and has a knurled surface for a firm grip.

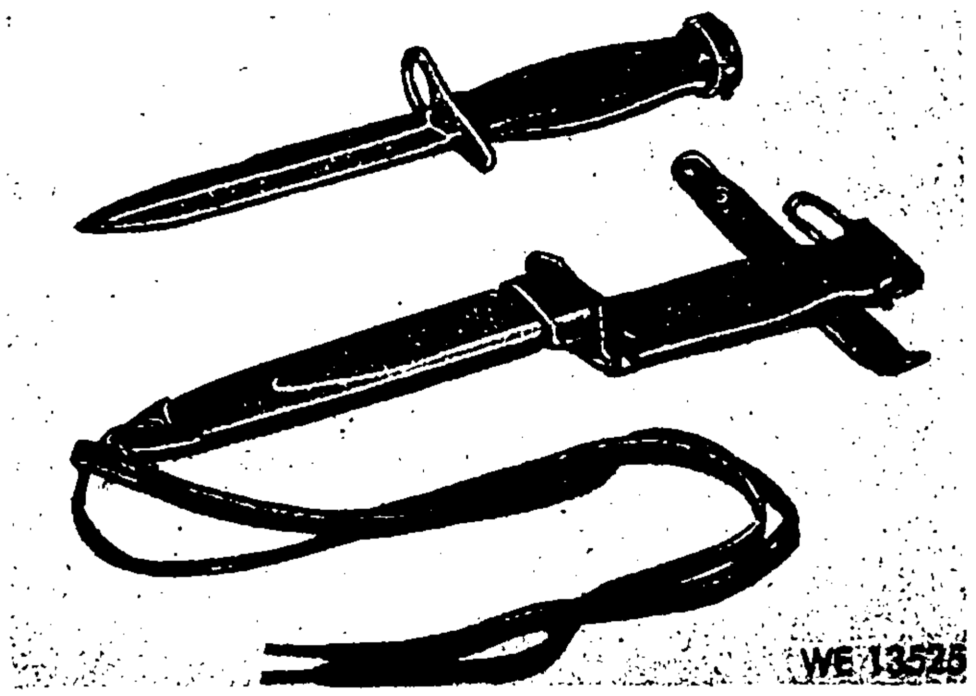


Figure 4–1. Bayonet–Knife, M7 and Bayonet–Knife Scabbard, M8A1.

b. Bayonet–Knife Scabbard, M8A1. The bayonet–knife scabbard (fig. 4–1) is used to carry the bayonet–knife when not being used on the rifles.

4–3. Installation and Removal

Refer to figure 3–7.

4–4. Disassembly and Assembly

Refer to figure 4–2.

4–5. Cleaning, Inspection and Repair

a. *Cleaning.* Refer to table 3–1.

b. *Inspection and Repair.*

(1) If the bayonet–knife fails to slide over the bayonet stud of the rifle or can be removed without compressing the releases, the releases are assembled incorrectly. Evacuate to direct support maintenance to be assembled correctly.

(2) If the releases are assembled correctly, inspect for a weak or broken release spring. If spring is weak or broken evacuate to direct support maintenance for replacement.

(3) If screws or washers are missing or damaged replace.

Note. For repair parts refer to TM 9–1005–237–15P.

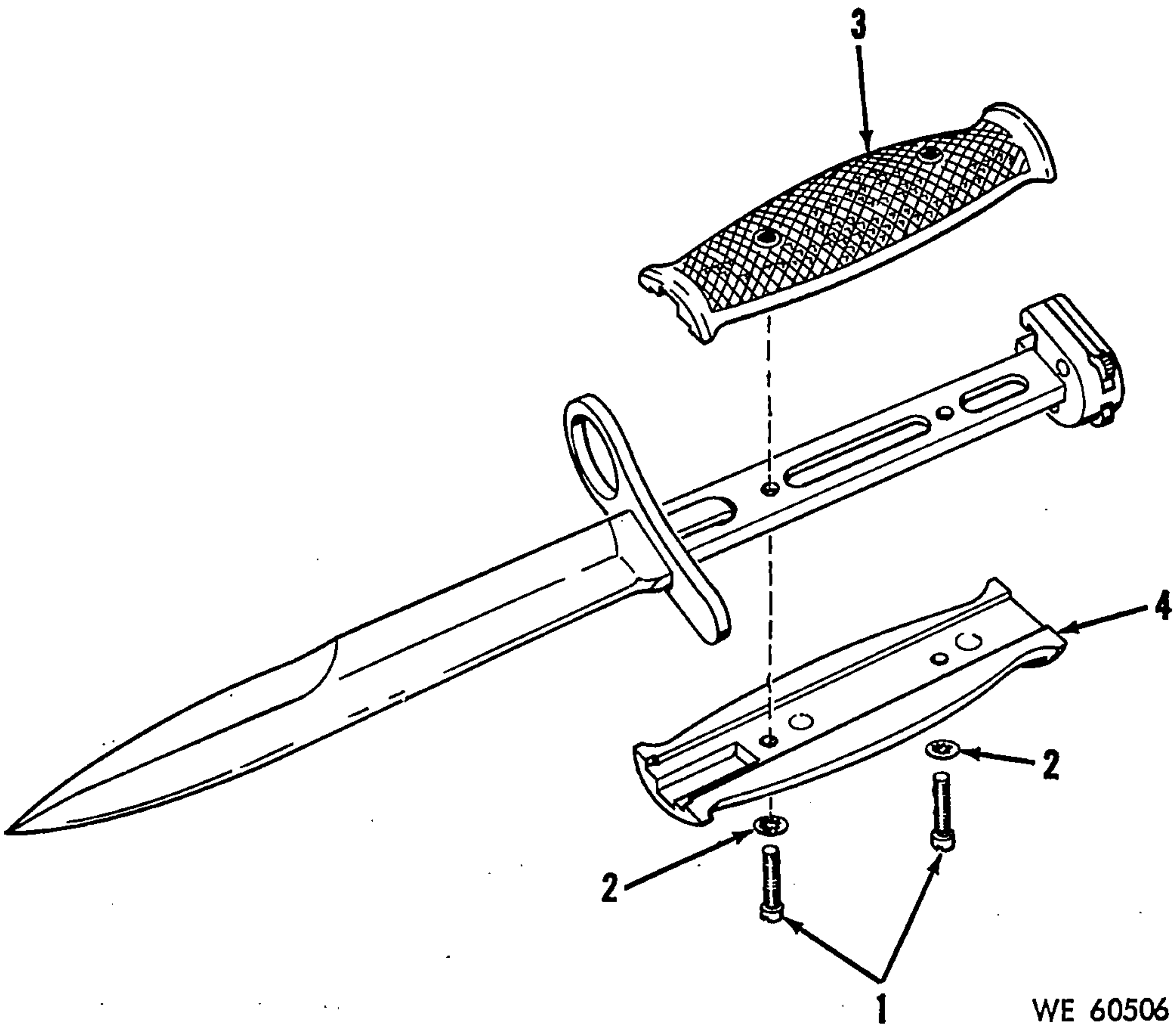


Figure 4–2. Bayonet–Knife M7—partial exploded view.

CHAPTER 5

AMMUNITION

5–1. General

The ammunition for the Rifles, 5.56–MM, M16 and M16A1 is classified as small–arms ammunition and is issued in the form of a complete round. A complete round (cartridge) consists of all the components necessary to fire the weapon once, that is, projectile (bullet), cartridge case, propellant, and primer.

5–2. Classification

a. Cartridges for the Rifles, 5.56–MM, M16 and M16A1 are classified as centerfire cartridges. In a centerfire cartridge the primer is located in a small well or pocket in the center of the cartridge case head.

b. The cartridges for these weapons are classified and identified according to type and model as follows:

(1) Ball, M 193

(2) Tracer, M196

(3) Dummy, M199

(4) Blank, M200

5–3. Identification

a. *General.* Ammunition for this weapon is identified completely by packing and marking, including the ammunition lot number, on original packing containers. When ammunition is removed from its original packing container, the full identity of the ammunition, including the lot number, nomenclature and model designation shall be maintained with the ammunition.

b. *Identification.* The various cartridges can be visually identified as itemized in table 5–1.

Table 5–1. Identification of 5.56–MM Cartridges

Type of cartridge	Identification
Ball, M193	None (See figure 5–1).
Tracer, M196	Red bullet tip.
Dummy, M199	Six longitudinal corrugations in case.
Blank, M200	*Rosette crimp and indentification knurl 1/2 inch from base of case, white tip.

*In the past the tip has been clear or black, but currently it is white.

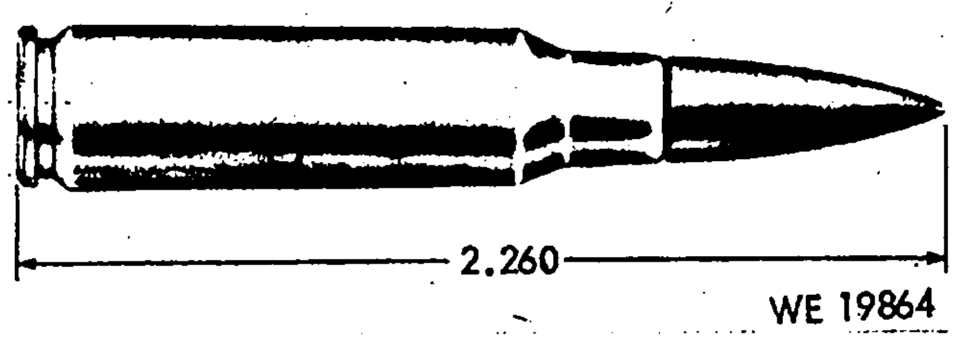


Figure 5–1. Cartridge, 5.56–MM, Ball, M193.

c. *Marking.* Ammunition for 5.56–mm weapons has the manufacturer's identification and year of manufacture impressed on the head of the cartridge case. The year is denoted by the last two digits of the calendar year.

5–4. Care, Handling and Preservation

a. This ammunition is not dangerous to handle. It is packed to withstand conditions normally encountered in the field. Moisture resistant ammunition boxes are used to provide protection during shipment and storage; however, care must be taken to prevent this packing from becoming damaged. All damaged packing must be repaired or replaced immediately with careful attention given to the transfer of all markings to the new parts.

b. Ammunition boxes should be opened carefully as they are to be used as long as they are serviceable.

c. Ammunition boxes should not be opened until the ammunition is required for use. Ammunition removed from airtight containers for extended periods of time, particularly in damp climate, is apt to corrode, thereby rendering the ammunition unserviceable.

d. Cartridges should be protected from high temperatures and prolonged exposure to the direct rays of the sun. Such exposure is likely to affect ballistic performance of the cartridges. The combination of high temperatures and a humid atmosphere is particularly detrimental to the stability of the propellant and to the tracer mixture in tracer ammunition.

e. Cartridges should be kept clean and free of foreign matter. If cartridges get wet or dirty, they should be wiped off at once. If light corrosion forms on cartridges, it should be wiped off with a clean dry cloth. If a cartridge case becomes so corroded that any amount of metal is eaten away, it is dangerous to fire and should not be fired. Cartridges should not be polished to make them look better or brighter.

f. The use of oil or grease on cartridges is prohibited. Oil or grease might cause injurious abrasives to collect in weapons or produce excessive and hazardous chamber pressures when fired.

g. Whenever practicable, ammunition should be stored under cover. This applied particularly to tracer ammunition.

h. When it is necessary to store ammunition in open storage, raise it on dunnage at least six inches from the ground and cover it with a double thickness of paulin, leaving enough space for the free circulation of air through the stack. Suitable trenches should be dug to prevent water from running under the stack.

i. When ammunition is stored, it should be segregated by caliber or millimeter, type, and ammunition lot.

j. When only a part of a box of ammunition is issued or used the ammunition remaining in the ammunition box should be protected by firmly fastening the cover.

k. Ammunition removed from the original packing should be tagged or marked so as to preserve the ammunition lot number.

l. For additional instructions in the care, handling, and preservation, destruction of ammunition refer to TM 9-1300-206.

5-5. Authorized Cartridges

The following cartridges are authorized for use with this weapon:

a. Ball, M193

b. Tracer, M196

c. Dummy, M199

d. Blank, M200

5-6. Preparation for Firing

a. After removal, from packing materials, these cartridges are ready to be used.

b. Cartridges which are not used will be returned to their original packings. (Such cartridges will be used first in subsequent firings so as to reduce stocks of opened packings.) If the original packings are not utilized, the boxes in which the ammunition is stored should be appropriately marked with the nomenclature of the cartridges and the ammunition lot number.

5-7. Packing

The ammunition box and method of pack for 5.56-mm ammunition for these weapons is given in drawings, specifications, or as specified in the procurement contract. The ammunition box presently being used has been designed to withstand all conditions commonly encountered in handling, storing, and transportation of the ammunition.

CHAPTER 6

DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

6–1. General

a. Rifles, subject to capture or abandonment in the combat zone, will be destroyed only by the authority of the unit commander, in accordance with orders of, or policy established by the army commander. The destruction of equipment is to be reported through regular Command channels.

b. The information which follows is for guidance only. Certain of the procedures outlined require use of explosives and incendiary grenades, normally not authorized items of issue to the using organization. Issue of these and related items, and conditions under which destruction will be effected are command decisions based on the tactical situation. Of the several means of destruction, the following generally apply:

Mechanical	Requires axe, pick mattock, sledge, crowbar, or other flammables or welding or cutting torch.
Burning	Requires gasoline, oil, incendiary grenades, and other flammables or welding or cutting torch.
Demolition	Requires suitable explosives or ammunition.
Gunfire	Includes artillery, machine gun, rifle grenades, and launchers using antitank rockets. Under some circumstances, hand grenades may be used.
Disposal	Requires burying in the ground, dumping in streams or marshes, or scattering so widely as to preclude recovery of essential parts.

Destruction of essential parts by mechanical means will render the rifle useless, however, selection depends upon utilizing facilities on hand under existing conditions. Time is usually critical.

c. If destruction to prevent enemy use is resorted to, the rifle and bipod must be damaged so that they cannot be restored to a usable condition in combat zone either by repair or cannibalization. Adequate destruction requires that all parts essential to the operation of the rifle and bipod be destroyed or damaged beyond repair. However, when lack of time and personnel prevent destruction of all parts, priority is given to destruction of parts in the following order:

(1) Bolt carrier group

(2) Upper receiver group

(3) Lower receiver group

It is equally important that the same essential parts be destroyed on all like materiel, including spare parts, so that the enemy cannot construct one complete unit from several damaged units.

d. If destruction is directed, due consideration should be given observance of appropriate safety precautions.

6–2. Destruction of the Rifles, 5.56–MM, M16, M16A1, Bipod, Rifle, M3

***Warning:* Do not use any type of mechanical means for destruction of ammunition.**

a. *Method No. 1–By Mechanical Means.* Using an axe, pick mattock, sledge, or other heavy implement, destroy the rifles by smashing the receiver groups, front and rear sights, trigger and trigger guard, magazine, stock, and controls. Also bend the barrel and cut the sling into several pieces. Destroy the bipod using same items listed above.
Elapsed time: about 3 minutes.

b. *Method No. 2—By Burning.*

(1) Place the rifle on a suitable pile of combustible material. Pour gasoline or oil over the rifle and bipod and the combustible material. Ignite and take cover. A hot fire is required to render the rifle and bipod useless. Elapsed time: about 3 minutes.

Warning: **When igniting gasoline, due consideration should be given to the highly flammable nature of gasoline and its vapor. Carelessness in its use may result in painful burns.**

(2) If a welding or cutting torch is available, burn through the barrel and receiver groups. Destroy the stock and sling as described in paragraph a, above.

c. *Method No. 3–By Disposal.* Bury the rifle in a suitable hole or dump it into a stream.
Elapsed time: about 3 minutes.

APPENDIX A

REFERENCES

A–1. Publication Indexes

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

Military Publications:

Index of Administrative Publications	DA Pam 310–1
Index of Army Films, Transparencies, GTA Charts, and Recordings	DA Pam 108–1
Index of Blank Forms	DA Pam 310–2
Index of Doctrinal, Training, and Organizational Publications	DA Pam 310–3
Index of Modification Work Orders	DA Pam 310–7
Index of Supply Catalogs and Supply Manuals (excluding types 7, 8, and 9)	DA Pam 310–6
Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders	DA Pam 310–4

A–2. Forms

The following form pertains to this materiel .... DA Form 2028
Recommended Changes to DA Publications.

A–3. Other Publications

a. *Ammunition.*

Care, Handling, Preservation, and Destruction of Ammunition .... TM 9–1300–206

b. *General.*

Logistics Management:

Army Equipment Record Procedures .... TM 38–750

Special Operations:

Basic Cold Weather Manual .... FM 31–70

Related Publications:

Organizational, and DS maintenance manual:
Starlight scope, small, hand–held or individual weapons mounted .... TM 11–1090–268–13

Organizational and DS maintenance manual:
Night vision sight individual weapons mounted AN/PVS–2 .... TM 11–5855–203–13

Stowage locations for rifle bracket assembly 2590–045–9611 on trucks, ¾ ton, 4 x 4, M37, M37B1, M201 and M201B1; 2–½ ton, 6 x 6, M44, M44A1, M44A2 series; 5 ton, 6x6,M39,M39A2 series; 10 ton, 6 x 6, M123, M123C, and M123A1C .... TB 9–2300–209–20

APPENDIX B

ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

B–1. Scope

This appendix lists basic issue items, repair parts, and special tools required for the performance of organizational maintenance of the Rifles M16 and M16A1, and Bipod, Rifle, M3.

B–2. General

The Basic Issue Items, Repair Parts, and Special Tools List is divided into the following sections:

a. *Basic Issue Items List–Section II.* A list of items which accompany the rifles and bipod and are required for installation, operation, or maintenance.

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

c. *Prescribed Load Allowance (PLA)–Section IV.* A composite listing of repair parts, special tools, test and support equipment having quantitative allowances for initial stockage at the organizational level.

d. *Repair Parts–Section V.* A list of repair parts authorized for the performance of maintenance at the organizational level in figure and item number sequence.

e. *Special Tools, Test and Support Equipment–Section VI.* A list of special tools test and support equipment authorized for the performance of maintenance at the organizational level.

f. *Federal Stock Number and Reference Number Index–Section VII.* A list of Federal stock numbers in ascending numerical sequence, followed by a list of reference numbers appearing in all the listings, in ascending alphanumeric sequence, cross-referenced to the illustration figure number and item number.

B–3. Explanation of Columns

The following provides an explanation of columns in the tabular lists in Sections II through VI.

a. *Source, Maintenance, and Recoverability Codes (SMR).*

(1) *Source Code.* Indicates the selection status and source for the listed item. Source codes used are:

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

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

(2) *Maintenance Code*. Indicates the lowest category of maintenance authorized to install the item. The maintenance level codes are:

Code	Explanation
C	Operator/crew
O	Organizational maintenance

(3) *Recoverability Code*. Indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. The recoverability codes are:

Code	Explanation
R	Repair parts and assemblies which are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
T	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts are normally repaired or overhauled at depot maintenance activities.
U	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings, etc.
S	Repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis. However, when these items are determined to be uneconomically repairable by a GSU they will be evacuated to a depot for evaluation and analysis before final disposition.
No Code Indicated	Parts will be considered expendable.

b. *Federal Stock Number*. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. *Description*. Indicates the Federal item name and any additional description of the item required. The abbreviation "w/e" when used as a part of the nomenclature, indicates that the Federal stock number includes all armament, equipment, accessories, and repair parts issued with the item. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

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

e. *Quantity Incorporated in Unit*. Indicates the quantity of repair parts in a group or assembly. A "V" appearing in this column is lieu of a quantity indicates that a definite quantity cannot be indicated (e.g. shims, spacers, etc.).

f. *Quantity Furnished with Equipment*. Indicates the quantity of an item furnished with the equipment (BIIL only).

g. *Component Application*. Identifies the component application of each maintenance or operating supply item (M&O supplies only).

h. *Quantity Required for Initial Operation*. Indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment (M&O supplies only).

i. *Quantity Required for 8 Hours Operation*. Indicates the estimated quantities required for an average 8 hours of operation (M&O supplies only).

j. *Notes*. Indicates informative notes keyed to data appearing in a preceding column (M&O supplies only).

k. *15-Day Organizational Maintenance Allowances*.

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents

one initial prescribed load for a 15-day period, for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance for more than 100 of these equipments shall determine the total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51–100 allowance column. Example, authorized allowance for 51–100 equipments is 12; for 140 equipments multiply 12 by 1.40 or 16.80 rounded off to 17 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendations should be forwarded to Commanding General, Headquarters, U.S. Army Weapons Command, ATTN: AMSWE–SMM–SA, Rock Island, Ill 61201, for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the U.S. Army Weapons Command based upon engineering experience, demand data, or TAERS information.

l. *Illustration.*

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

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

Note. Items called–out on illustration, but not listed, are for disassembly purposes only.

B–4. Special Information

Identification of the usable on codes of this publication are:

Code	*Used On*
Blank	M16 and M16A1
A	M16
B	M16A1

Note. There are no repair parts authorized for Bipod, M8.

B–5. How to Locate Repair Parts

a. When Federal stock number is unknown:

(1) *First.* Using the table of contents determine the functional group or assembly, within which the repair part belongs. This is necessary because separate illustrations are prepared for functional groups and assemblies, and listings are divided into the same groups.

(2) *Second.* Find the illustration covering the functional group or assembly to which the repair part belongs.

(3) *Third.* Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) *Fourth.* Using the repair parts listing, find the functional group or assembly to which the repair part belongs and locate the illustration figure and item number noted in the illustration.

b. When Federal stock number or reference number is known:

(1) First. Using the Index of Federal Stock Numbers and Reference Numbers, find the pertinent Federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in alpha–numeric sequence, cross–referenced to the illustration figure number and item number.

(2) Second. Using the Repair Part Listing, find the functional group or assembly of the repair part and the illustration figure number and item number referenced in the Index of Federal Stock Numbers and Reference Numbers.

B–6. Abbreviations

Abbreviation	*Explanation*
cres	corrosion resistant steel
dld–f/lkg	drilled for locking
ext–teeth	external teeth
fil–hd	fillister head
id	inside diameter
NF	National fine (thread)
nom	nominal
od	outside diameter
pass–fin	passivated finish
phos–ctd	phosphate coated
S	steel
w/	with

B-7. Federal Supply Code for Manufacturers

Code	Manufacturer
13629	Colt Industries, Inc., Firearms Division, Hartford, Connecticut
19204	Rock Island Arsenal, Rock Island, Illinois
19205	Springfield Armory, Springfield, Mass.
81337	Army Natick Laboratories, Mechanical Engineering Division, Natick, Massachusetts
96906	Military Standards, Promulgated by Standardization Division, Directorate of Logistics Services, Defense Supply Agency

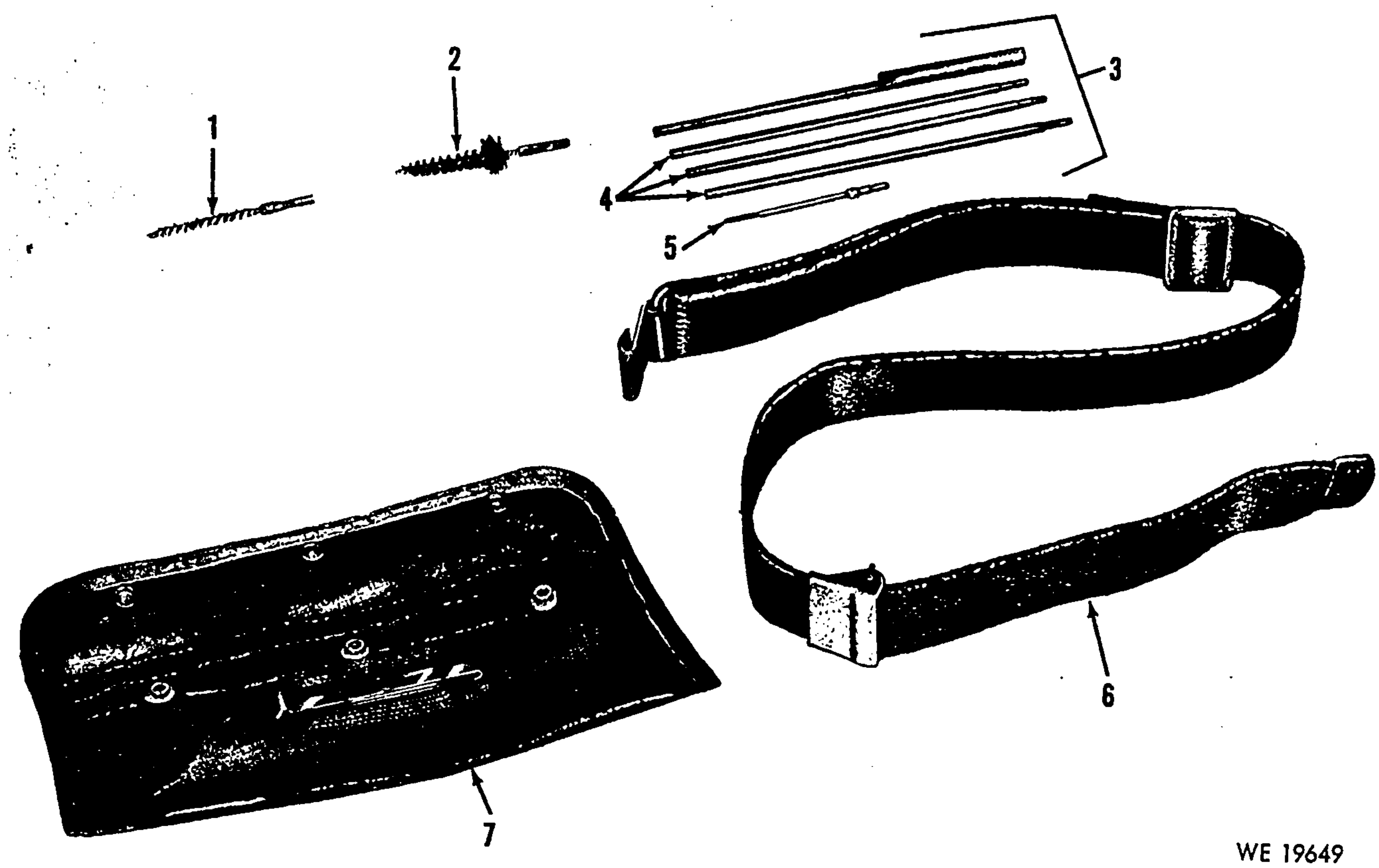


Figure B-1. Basic issue tools and equipment.

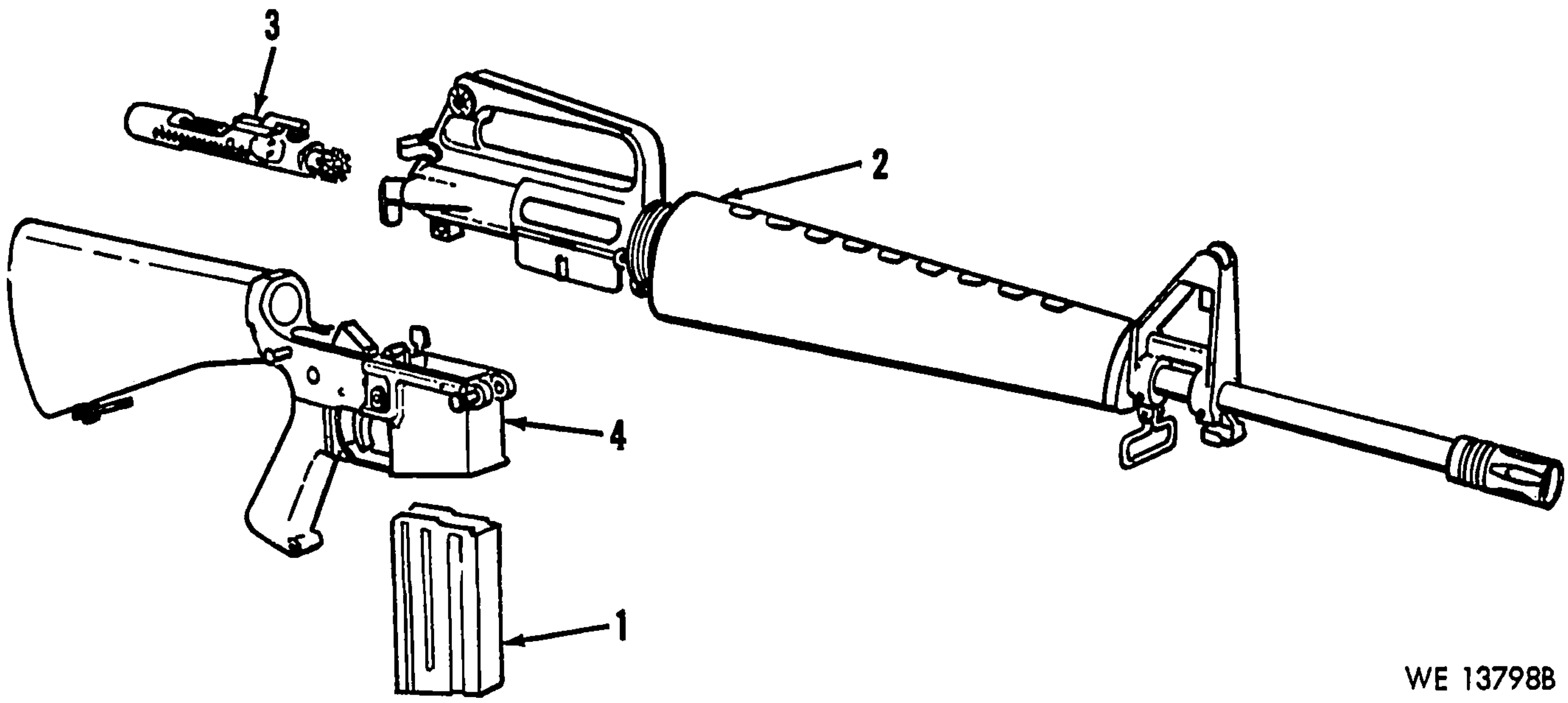


Figure B–2. Major groups and assemblies.

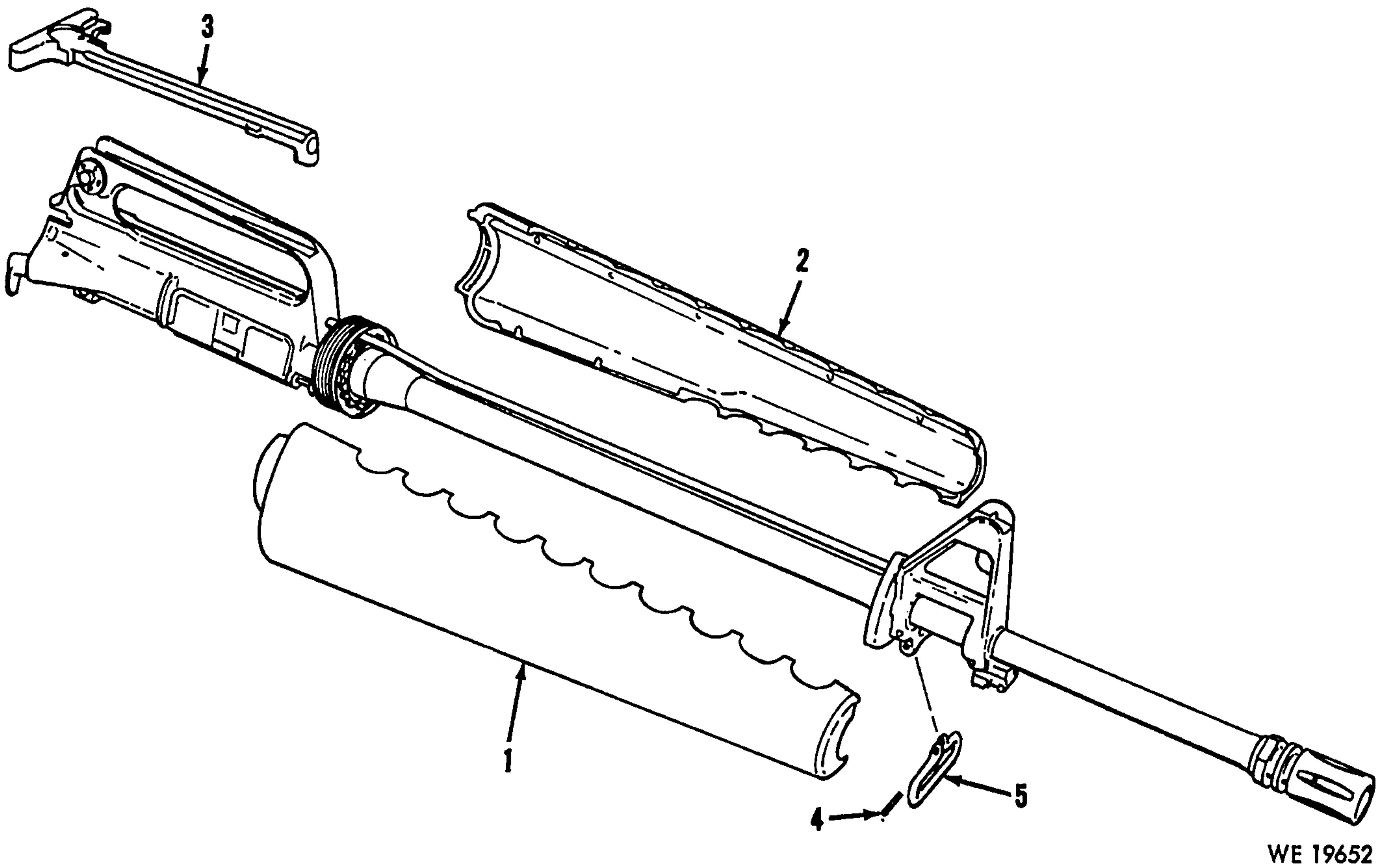


Figure B–3. Upper receiver group—partially exploded view.

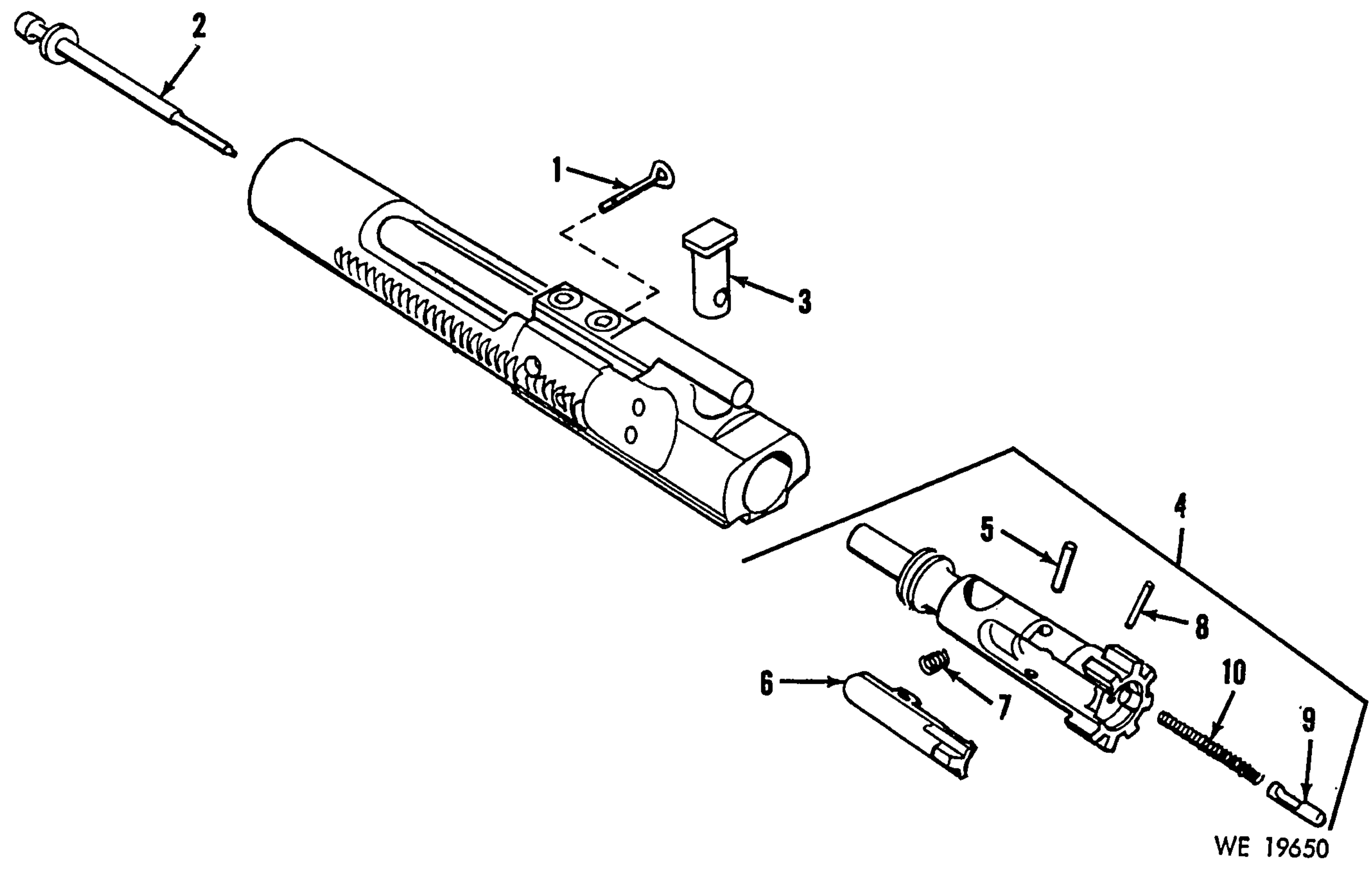


Figure B-4. Bolt carrier group—partially exploded view.

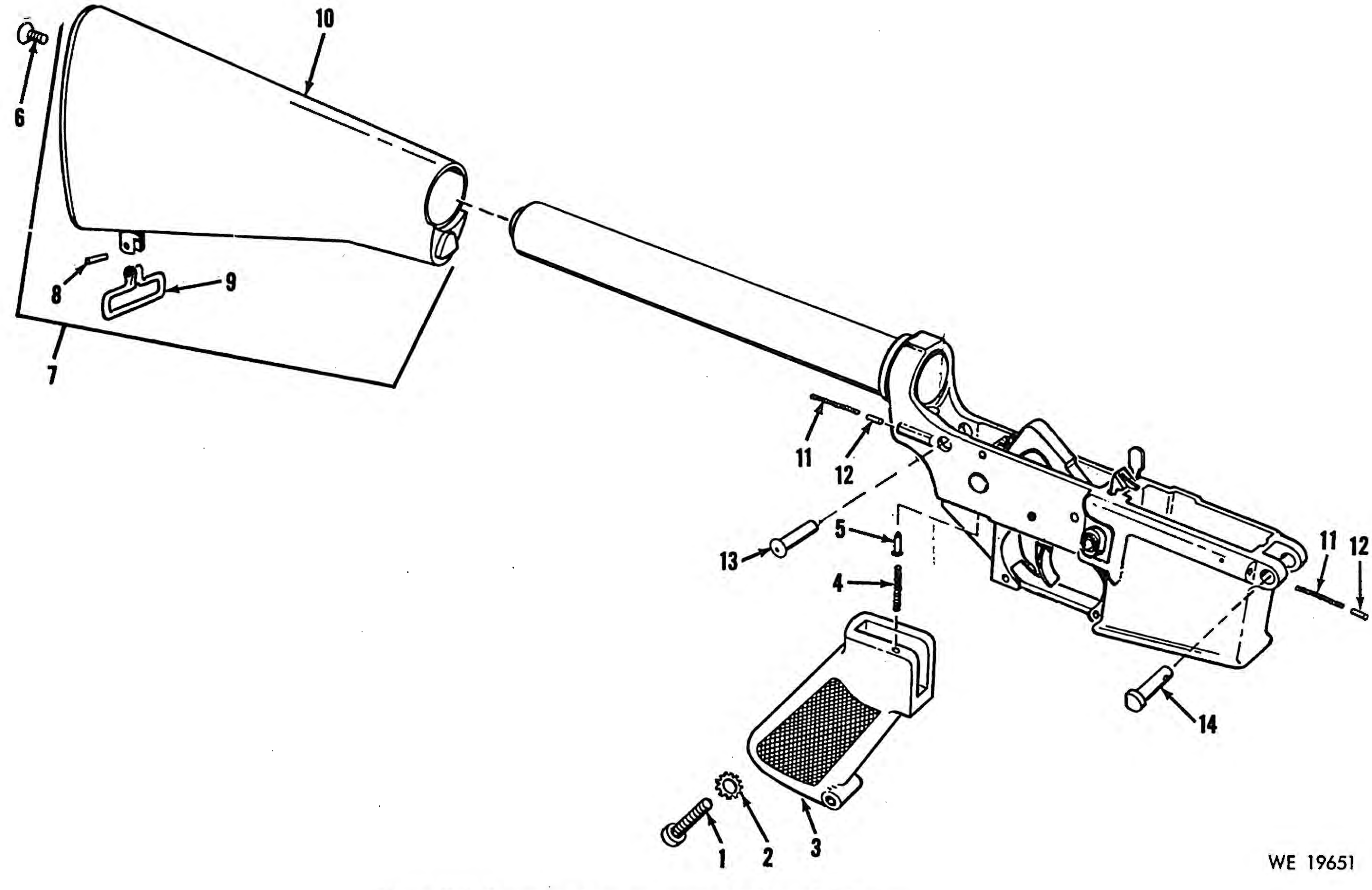


Figure B–5. Lower receiver group—partially exploded view.

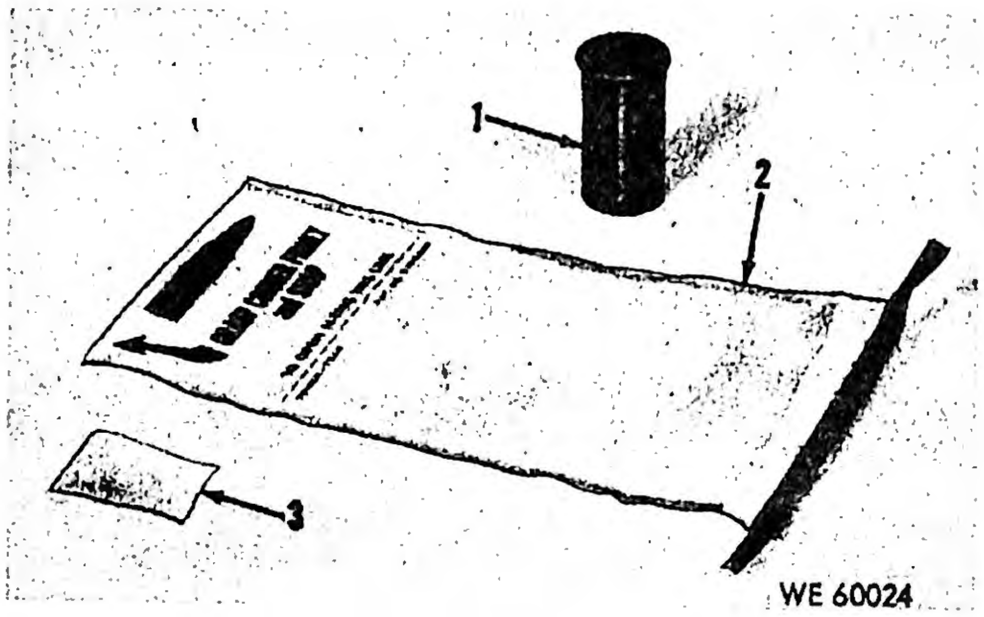


Figure B–6. Tools and equipment.

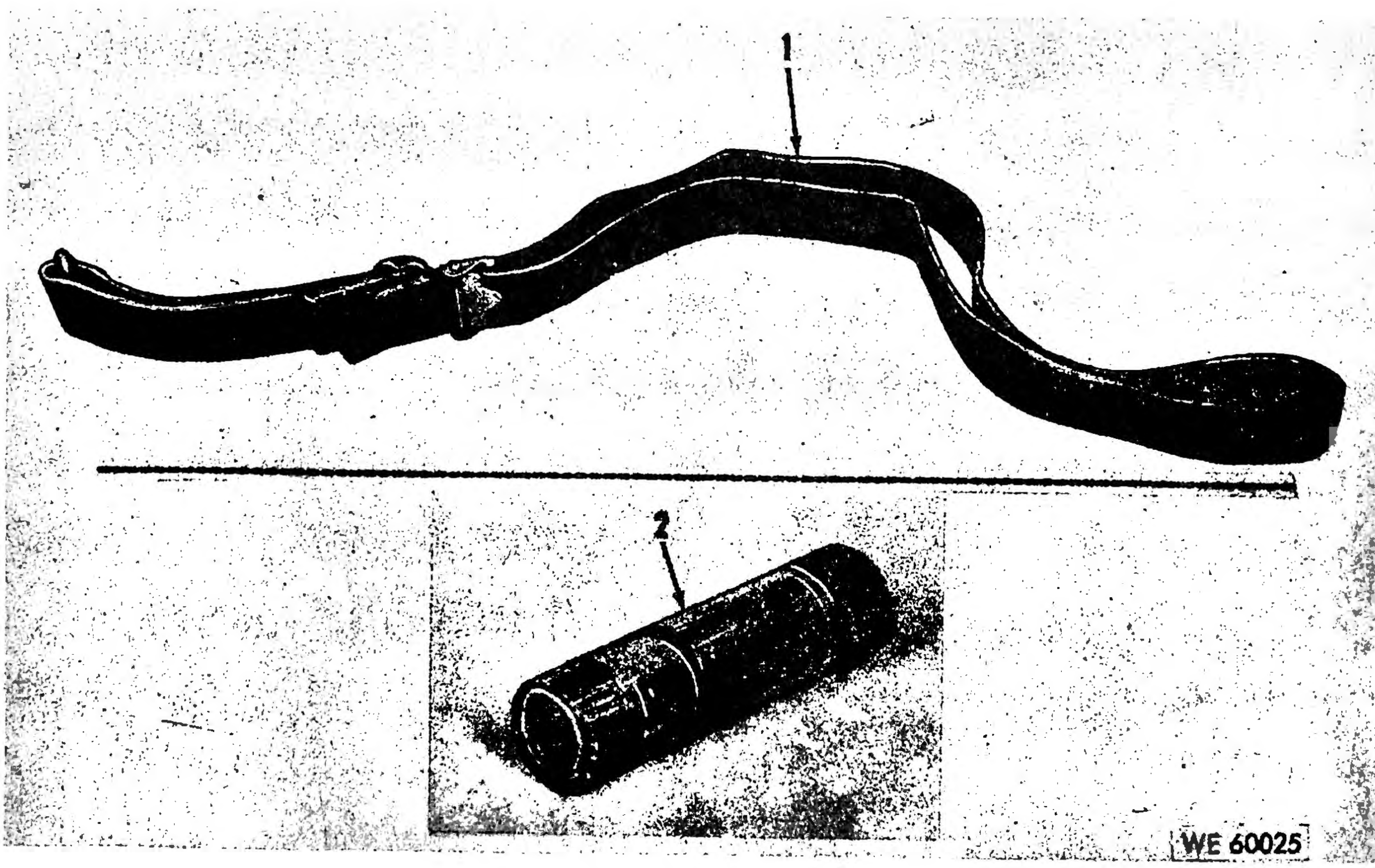


Figure B–7. Tools and equipment.

WE 60489

Figure B–8. Rifle cover.

Section II. BASIC ISSUE ITEMS LIST

(1) Source, Maint. And Recov. Code (a) Source	(b) Recov.	(c) Maint.	(2) Federal Stock No.	(3) Description Reference Number & Mfr Code — Usable on Code	(4) Unit Of Meas.	(5) Qty. Inc. In Unit	(6) Qty. Furn. With Equip.	(7) Illustration (a) Fig no.	(b) Item no.
				REPAIR PARTS					
P	C	--	1005–056–2237	MAGAZINE ASSEMBLY 20–CARTRIDGE CAPACITY. 62103 (13629)	EA	1	6	B–2	1
				ACCESSORIES, TOOLS AND EQUIPMENT					
P	C	--	1005–903–1296	BRUSH, CLEANING, SMALL ARMS: BORE 11686340 (19205)	EA	.	1	B–1	1
P	C	--	1005–999–1435	BRUSH, CLEANING, SMALL ARMS: CHAMBER. 8432358 (19204)	EA	--	1	B–1	2
P	C	--	1005–781–9564	CASE, MAINTENANCE EQUIPMENT, SMALL ARMS: 2–2–282 (81337)	EA	--	1	B–1	7
P	C	--	1005–089–3994	ROD, CLEANING, SMALL ARMS: M11E3 8436777 (19204)	EA	--	1	B–1	3
P	C	--	1005–654–4058	SLING, SMALL ARMS: M1 6544058 (19204)	EA	--	1	B–1	6

Section III. MAINTENANCE AND OPERATING SUPPLIES

(1) Component Application	(2) Federal Stock Number	(3) Description	(4) Qty. Required For Initial Operation	(5) Qty. Required For 8 Hours Operation	(6) Notes
	1005–912–4248	SWAB SMALL ARMS CLEANING: 11686408	*		

Section IV. PRESCRIBED LOAD ALLOWANCE

(1) Federal Stock No.	(2) Description	(3) 15-Day Organizational Maint. Allowance			
		(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100
	RIFLES, 5.56-MM, M16 AND M16A1 REPAIR PARTS				
1005-056-2237	MAGAZINE ASSEMBLY:	2	8	8	16
1005-992-6655	SPRING, DETENT, TAKE DOWN PIN:	--	--	--	2
1005-992-6657	SCREW, BUTT CAP:	--	--	--	2
1005-992-7290	PIN, EXTRACTOR:	--	--	--	2
5315-999-1509	PIN, FIRING PIN RETAINING:	--	--	--	2
	TOOLS AND EQUIPMENT				
1005-052-6942	BAG, PROTECTIVE, CARTRIDGE MAGAZINE: (500 PER BOX)	--	--	2	2
1005-089-3994	ROD, CLEANING, SMALL ARMS: M11E3	--	--	2	2
1005-654-4058	SLING, SMALL ARMS: M1	--	--	--	2
5340-880-7666	CAP, PROTECTIVE, DUST AND MOISTURE SEAL: MUZZLE	--	20	30	50
1005-903-1296	BRUSH, CLEANING, SMALL ARMS: BORE	--	2	2	3
1005-912-4248	SWAB, SMALL ARMS CLEANING: 5.56-MM (1000 PER PACKAGE).	--	2	3	5
1005-999-1435	BRUSH, CLEANING, SMALL ARMS: CHAMBER	--	2	2	3

Section V. REPAIR PARTS LIST

(1) Source Maint. and Recov. Code (A) Source	(B) Maint.	(C) Recov.	(2) Federal Stock No.	(3) Description: Reference Number & Mfr Code — Usable on Code	(4) Unit of Meas.	(5) Qty. Inc. In Unit	(6) 15 Day Organizational Maint. Allowance (A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100	(7) Illustration (A) Figure No.	(B) Item No.
				REPAIR PARTS FOR:								
				RIFLES 5.56-MM, M16 AND M16A1								
				MAJOR GROUPS AND ASSEMBLIES								
P	C	--	1005-056-2237	MAGAZINE ASSEMBLY: 20-CARTRIDGE CAPACITY 61203 (13629)	EA	1	2	3	8	16	B-2	1
				UPPER RECEIVER GROUP		1	----	----	----	----	B-2	2
				BOLT CARRIER GROUP		1	----	----	----	----	B-2	3
				LOWER RECEIVER GROUP		1	----	----	----	----	B-2	4
				UPPER RECEIVER GROUP								
P	O	--	1005-056-2252	GUARD, HAND GUN: R.H. BLACK 62198 (13629)	EA	1	*	*	*	*	B-3	1
P	O	--	1005-056-2251	GUARD, HAND GUN: L.H. BLACK 62196 (13629)	EA	1	*	*	*	*	B-3	2
P	O	--	1005-017-9546	HANDLE, CHARGING: 62290 (13629)	EA	1	*	*	*	*	B-3	3
P	O	--	5315-058-6078	PIN, SPRING: TUBULAR, SLOTTED, S, PHOS-CTD, 1/8 NOM DIA, 7/16 LG. MS 16562-126 (96906)	EA	1	*	*	*	*	B-3	4
P	O	--	1005-017-9543	SWIVEL, GUN SLING: 61563 (13629)	EA	1	*	*	*	*	B-3	5
				BOLT CARRIER GROUP								
P	O	--	5315-999-1509	PIN, FIRING PIN RETAINING: 62335 (13629)	EA	1	*	*	*	2	B-4	1
P	O	--	1005-017-9547	PIN, FIRING: 62294 (13629)	EA	1	*	*	*	*	B-4	2
P	O	--	1005-992-7294	PIN, BOLT CAM: 61704 (13629)	EA	1	*	*	*	*	B-4	3
P	O	--	1005-992-7290	PIN, EXTRACTOR: 61563 (13629)	EA	1	*	*	*	2	B-4	5
P	O	--	1005-992-9288	EXTRACTOR, SMALL ARMS CARTRIDGE: 61562 (13629)	EA	1	*	*	*	*	B-4	6
P	O	--	1005-992-7289	SPRING, EXTRACTOR: 61568 (13629)	EA	1	*	*	*	*	B-4	7
P	O	--	5315-514-2358	PIN, SPRING: TUBULAR, SLOTTED, S, PHOS-CTD, 1/16 NOM DIA, 7/16 LG MS 16562-99 (96906)	EA	1	*	*	*	*	B-4	8

(1) Source Maint. and Recov. Code (A) Source	(B) Maint.	(C) Recov.	(2) Federal Stock No.	(3) Description — Reference Number & Mfr Code / Usable on Code	(4) Unit of Meas.	(5) Qty. Inc. In Unit	(6) 15 Day Organizational Maint. Allowance (A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(7) Illustration (A) Figure No.	(B) Item No.
P	O	--	1005–992–7291	EJECTOR, SMALL ARMS CARTRIDGE: 61564 (13629)	EA	1	*	*	*	*	B–4	9
P	O	--	1005–992–7292	SPRING, EJECTOR AND SEECTOLR LEVER DETENT: 61569 (13629)	EA	1	*	*	*	*	B–4	10
				LOWER RECEIVER GROUP								
P	O	--	5305–912–7296	SCREW, MACHINE: FIL–HD, DLD–F/LKG WIRE, CRES, PASS–FIN, 1/4–28NF–2A, 1–1/8 LG MS 35276–284 (96906)	EA	1	*	*	*	*	B–5	1
P	O	--	5310–527–3634	WASHER, LOCK: FLAT, EXT-TEETH, S, PASS–FIN, 1/4 NOM SIZE, 0.267 MAX ID, 0.510 MAX OD, 0.028 MAX THK. MS 35335–61 (96906)	EA	1	*	*	*	*	B–5	2
P	O	--	1005–056–2250	GRIP, PISTOL: BLACK 62194 (13629)	EA	1	*	*	*	*	B–5	3
P	O	--	1005–992–7292	SPRING, EJECTOR AND SELECTOR LEVER DETENT: 61569 (13629)	EA	1	REF	REF	REF	REF	B–5	4
P	O	--	1005–992–6667	DETENT, SELECTOR LEVER: 61785 (13629)	EA	1	*	*	*	*	B–5	5
P	O	--	1005–992–6657	SCREW, BUTT CAP: 92601 (13629)	EA	1	*	*	*	2	B–5	6
P	O	--	1005–017–9549	STOCK ASSEMBLY, MOLDED: W/SWIVEL, BLACK 62302 (13629)	EA	1	*	*	*	*	B–5	7
P	O	--	5315–058–6078	PIN, SPRING: TUBULAR, SLOTTED, S, PHOS–CTD, 1/8 NOM DIA, 7/16 LG MS 16562–126 (96906)	EA	1	REF	REF	REF	REF	B–5	8
P	O	--	1005–017–9543	SWIVEL, GUN SLING: 62280 (13629)	EA	1	REF	REF	REF	REF	B–5	9
X1	--	--	------------	STOCK: 62204	----	1	----	----	----	----	B–5	10
P	O	--	1005–992–6655	SPRING, DETENT, TAKE DOWN PIN: 61692 (13629)	EA	2	*	*	*	2	B–5	11
P	O	--	1005–992–6654	DETENT, TAKE DOWN PIN: 61698 (13629)	EA	2	*	*	*	*	B–5	12
P	O	--	1005–992–6653	PIN, TAKE DOWN: 61655 (13629)	EA	1	*	*	*	*	B–5	13
P	O	--	1005–017–9537	PIN, PIVOT: 62221 (13629)	EA	1	*	*	*	*	B–5	14

(1) Source Maint. and Recov. Code (A) Source	(B) Maint.	(C) Recov.	(2) Federal Stock No.	(3) Description — Reference Number & Mfr Code — Usable on Code	(4) Unit of Meas.	(5) Qty. Inc. In Unit	(6) 15 Day Organizational Maint. Allowance (A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(7) Illustration (A) Figure No.	(B) Item No.
				ROD, CLEANING, SMALL ARMS, M11E3								
P	O	--	1005-050-6357	ROD SECTION, CLEANING, SMALL ARMS: 8436775 (19204)	EA	3	*	*	*	*	B-1	4
P	O	--	1005-937-2250	SWAB HOLDER SECTION, SMALL ARMS CLEANING ROD: 11686327 (19205)	EA	1	*	*	*	*	B-1	5

Section VI. SPECIAL TOOLS, TEST AND SUPPORT EQUIPMENT

(1) Source Maint. and Recov. Code (A) Source	(B) Maint.	(C) Recov.	(2) Federal Stock No.	(3) Description — Reference Number & Mfr Code — Usable on Code	(4) Unit of Meas.	(5) Qty. Inc. In Unit	(6) 15 Day Organizational Maint. Allowance (A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(7) Illustration (A) Figure No.	(B) Item No.
				TOOLS AND EQUIPMENT AUTHORIZED FOR UNIT REPLACEMENT								
P	O	--	1005-052-6942	BAG, PROTECTIVE, CARTRIDGE MAGAZINE: (500 PER BOX) 8445068 (19204)	EA	----	*	*	2	2	B-6	2
P	C	--	1005-089-3994	ROD, CLEANING, SMALL ARMS: M11E3 8436777 (19204)	EA	----	*	*	2	2	B-1	3
P	C	--	1005-654-4058	SLING, SMALL ARMS: M1 6544058 (19204)	EA	----	*	*	*	2	B-1	6
P	C	--	1005-781-9564	CASE, MAINTENANCE EQUIPMENT, SMALL ARMS: 2-2-282 (81337)	EA	----	*	*	*	*	B-1	7
P	O	--	1005-809-2190	COVER, PROTECTIVE, RIFLE: 8448213 (19204)	EA	----	*	*	*	*	B-8	----
P	C	--	1005-903-1296	BRUSH, CLEANING, SMALL ARMS: BORE 11686340 (19205)	EA	----	*	2	2	3	B-1	1
P	O	--	1005-912-4248	SWAB, SMALL ARMS CLEANING: 5.56-MM (1000 PER PACKAGE. 11686408 (19205)	EA	----	*	2	3	5	B-6	3
P	C	--	1005-992-6676	BIPOD, RIFLE: M3 62122 (13629)	EA	----	*	*	*	*	1-3	1
P	C	--	1005-999-1435	BRUSH, CLEANING, SMALL ARMS: CHAMBER 8432358 (19204)	EA	----	*	2	2	3	B-1	2
P	O	--	1005-999-2430	CASE, CARRYING: BIPOD AND CLEANING EQUIPMENT 2-2-246 (19204)	EA	----	*	*	*	*	1-3	2
P	O	--	5340-880-7666	CAP, PROTECTIVE, DUST AND MOISTURE SEAL: MUZZLE 8445067 (19204)	EA	----	*	20	30	50	B-6	1
				THE FOLLOWING ITEM IS ISSUED OR REQUISITIONED ONLY BY SPECIAL AUTHORIZATION OF THE UNIT COMMANDER								
P	O	--	1005-714-9749	SLING, SMALL ARMS: 7149749 (19204)	EA	----	*	*	*	*	B-7	1

(1) Source Maint. and Recov. Code			(2)	(3) Description		(4)	(5)	(6) 15 Day Organizational Maint. Allowance				(7) Illustration	
(A) Source	(B) Maint.	(C) Recov.	Federal Stock No.	Reference Number & Mfr Code	Usable on Code	Unit of Meas.	Qty. Inc. In Unit	(A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(A) Figure No.	(B) Item No.
				THE FOLLOWING ITEM IS AUTHORIZED AND ISSUED ONLY BY SPECIAL AUTHORIZATION OF THE UNIT COMMANDER FOR ZERO DEGREE OPERATION									
P	O		1005–791–3377	CASE, LUBRICANT: ---------------- 7790995 (19205)		EA	----	*	*	*	*	B–7	2

Section VII. FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS-REFERENCE TO FIGURE AND ITEM NUMBER

Stock Number	Figure Number	Item Number
1005-017-9537	B-5	14
1005-017-9543	B-3	5
	B-5	9
1005-017-9546	B-3	3
1005-017-9547	B-4	2
1005-017-9549	B-5	7
1005-050-6357	B-1	4
1005-052-6942	B-6	2
1005-056-2237	B-2	1
1005-056-2250	B-5	3
1005-056-2251	B-3	2
1005-056-2252	B-3	1
1005-089-3994	B-1	3
1005-654-4058	B-1	6
1005-714-9749	B-7	1
1005-781-9564	B-1	7
1005-791-3377	B-7	2
1005-809-2190	B-8	—
1005-903-1296	B-1	1
1005-912-4248	B-6	3
1005-937-2250	B-1	5
1005-992-6653	B-5	13
1005-992-6654	B-5	12
1005-992-6655	B-5	11
1005-992-6657	B-5	6
1005-992-6667	B-5	5
1005-992-6676	1-3	1
1005-992-7289	B-4	7
1005-992-7290	B-4	5
1005-992-7291	B-4	9
1005-992-7292	B-4	10
	B-5	4
1005-992-7294	B-4	3
1005-992-9288	B-4	6
1005-999-1435	B-1	2
1005-999-2430	1-3	2
5305-912-7296	B-5	1
5310-527-3634	B-5	2
5315-058-6078	B-3	4
	B-5	8
5315-514-2358	B-4	8
5315-999-1509	B-4	1
5340-880-7666	B-6	1

Reference Number	Mfg Code	Figure Number	Item Number
MS 16562-99	96906	B-4	8
MS 16562-126	96906	B-3	4
		B-5	8
MS 35276-284	96906	B-5	1
MS 35335-61	96906	B-5	2
2-2-246	19204	1-3	2
2-2-282	81337	B-1	7
61562	13629	B-4	6
61563	13629	B-4	5
61564	13629	B-4	9
61568	13629	B-4	7
61569	13629	B-4	10
		B-5	4
61655	13629	B-5	13
61692	13629	B-5	11
61698	13629	B-5	12
61704	13629	B-4	3
61785	13629	B-5	5
62103	13629	B-2	1
62122	13629	1-3	1
62194	13629	B-5	3
62196	13629	B-3	2
62198	13629	B-3	1
62204		B-5	10
62221	13629	B-5	14
62280	13629	B-3	5
		B-5	9
62290	13629	B-3	3
62294	13629	B-4	2
62302	13629	B-5	7
62335	13629	B-4	1
92601	13629	B-5	6
6544058	19204	B-1	6
7149749	19204	B-7	1
7790995	19205	B-7	2
8432358	19204	B-1	2
8436775	19204	B-1	4
8436777	19204	B-1	3
8445067	19204	B-6	1
8445068	19204	B-6	2
8448213	19204	B-8	–
11686327	19205	B-1	5
11686340	19205	B-1	1
11686408	19205	B-6	8

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C–1. General

The maintenance allocation chart indicates specific maintenance operations performed at proper maintenance levels. Deviation from maintenance operations allocated in the chart is authorized only upon approval of the Commanding Officer.

C–2. Maintenance Functions

The maintenance allocation chart designates overall responsibility for the maintenance function of an end item or assembly. Maintenance functions will be limited to and defined as follows:

INSPECT	To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.
TEST	To verify serviceability and to detect electrical characteristics with established standards.
SERVICE	To clean, preserve, and lubricate.
ADJUST	To rectify to the extent necessary to bring into proper operating range.
ALIGN	To adjust specified variable elements of an item to bring to optimum performance.
CALIBRATE	To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.
INSTALL	To set up for use in an operational environment; such as, an emplacement, site, or vehicle.
REPLACE	To replace unserviceable items with serviceable assemblies, sub-assemblies, or parts.
REPAIR	To restore an item to a serviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.
OVERHAUL	To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards using the Inspect and Repair Only as Necessary (IROAN) technique.
REBUILD	To restore an item to a standard as nearly as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through complete disassembly of the item, inspection of all parts, or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

C–3. Explanation of Format

Purpose and use of the format are as follows:

a. *Column a, Group Number.* Lists group numbers, to identify components and assemblies.

b. *Column b, Component Assembly Nomenclature.* Lists the noun names of groups and assemblies on which maintenance is authorized.

c. *Column c, Maintenance Functions.* Lists the various categories of maintenance to be performed on the weapon.

d. *Use of Codes.* Explanation of the use of codes in maintenance function, column c, is as follows:

Code	*Explanation*
C	Operator/crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot

e. *Column d, Tools and Equipment.* This column will be used to specify those tools and test equipment required to perform the designated function.

f. *Column e, Remarks.* Self–explanatory.

Note. Columns not utilized are considered not applicable.

Section II. MAINTENANCE ASSIGNMENT

Group Number a	Component Assembly Nomenclature b	Maintenance Function c: Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild	Tools and Equipment d	Remarks e
	RIFLES, 5.56–MM, M16 AND M16A1													
1	Magazine assembly	C	–	C	–	–	–	C	C	F	–	–		
2	Upper receiver group	C	–	C	–	–	–	C	–	O	–	–		
3	Bolt carrier group	C	–	C	–	–	–	C	–	O	–	–		
3a	Hand guard assembly	C	–	C	–	–	–	C	O	–	–	–		
3b	Barrel and front sight assembly	C	–	C	–	–	–	F	–	O	–	–		
3c	Rear sight	C	–	C	–	–	–	F	F	F	–	–		
4	Lower receiver group	C	–	C	–	–	–	F	–	O	–	–		
4a	Stock assembly	C	–	C	–	–	–	O	O	O	–	–		
	BIPOD, RIFLE, M3													
1	Bipod	C	–	C	–	–	–	C	O	–	–	–		
2	Case	C	–	C	–	–	–	–	O	–	–	–		

By Order of the Secretary of the Army:

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

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
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