TM 9-1005-223-12

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

7.62–MM RIFLE M14 AND RIFLE BIPOD M2

HEADQUARTERS, DEPARTMENT OF THE ARMY

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Technical Manual
No. 9-1005-223-12

HEADQUARTERS,
DEPARTMENT OF THE ARMY
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7.62–MM RIFLE M14 AND RIFLE BIPOD M2

*This manual supersedes TM 9-1005-223-12, 26 May 1961 including C1, 15 November 1961.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual contains instructions for operation and organizational maintenance of the 7.62-mm rifle M14, rifle bipod M2, ammunition, and equipment.

b. Appendix I contains a list of current references including supply manuals, forms, technical manuals, and other available publications applicable to the 7.62-mm rifle M14 and rifle bipod M2.

c. Appendix II contains the maintenance allocation chart for the rifle and bipod listing all maintenance and repair operations authorized for all maintenance echelons.

d. Appendix III contains a list of basic issue items.

e. TM 9-1005-223-20P, section II, contains a list of repair parts and tools which are required by the using organization for performing organizational maintenance on the rifle and bipod.

f. Any errors or omissions will be forwarded on DA Form 2028 direct to the Commanding General, Headquarters, U.S. Army Weapons Command, Rock Island Arsenal, Rock Island, Illinois, ATTN: AMSWE-SMM.

g. This technical manual differs from TM 9-1005-223-12, dated 26 May 1961, as indicated in (1) and (2) below.

(1) Adds information on:
   (a) Grenade launcher sight M15.
   (b) Grenade launcher cartridge M64.
   (c) Winter trigger kit.

(2) Revises information on: Appendix II, maintenance allocation chart.

2. Maintenance Allocation

a. Operator Maintenance Allocation. The prescribed maintenance to be performed by the operator will apply as reflected in the operator-maintenance (first echelon) column of the maintenance allocation chart (app. II). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the operator, trained organizational maintenance personnel with suitable tools and equipment may be provided or other instructions issued.

b. Organizational Maintenance Allocation. The prescribed maintenance to be performed by maintenance personnel of the using organization will apply as reflected in the organizational-maintenance (second echelon) column of the maintenance allocation chart (app. II). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the using organization, the supporting Ordnance maintenance unit should be informed so that trained personnel with suitable tools and equipment may be provided or other instructions issued.

3. Forms, Records, and Reports

a. General. Responsibility for the proper execution of forms, records, and reports rests upon the officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for their compilation, maintenance, and use. Records, reports, and authorized forms are normally utilized to indicate the type, quantity, and condition of materiel to be inspected, repaired, or used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of materiel in the hands of troops and for delivery of materiel requiring further repair to Ordnance shops, arsenals, depots, etc. The forms, records, and reports determine the work required, the progress of the work within the shops,

and the status of the materiel upon completion of its repair.

b. Authorized Forms. The forms generally applicable to units operating or maintaining this materiel are listed in appendix I. For instructions on use of these forms, refer to FM 9-3. For a listing of blank forms, refer to DA Pam 310-2.

c. Field Report of Accidents.

(1) *Injury to personnel or damage to materiel.* The reports necessary to comply with the requirements of the Army safety program are prescribed in detail in AR 385-40. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.

(2) *Ammunition.* Whenever an accident or malfunction of ammunition occurs, firing of the remainder of the lot which malfunctions will be immediately discontinued. In addition to any applicable reports required in (1) above, details of the accident or malfunction will be reported as prescribed in AR 700-1300-8.

d. Report of Unsatisfactory Equipment or Materials. Any deficiencies detected in the equipment covered herein, which occur under the circumstances indicated in AR 750-5, should be immediately reported in accordance with applicable instructions in cited regulation.

Section II. DESCRIPTION AND DATA

4. Description

The 7.62-mm rifle M14 and rifle bipod M2 are described as follows:

a. Rifle (figs. 1-7). The 7.62-mm rifle M14 is a light weight, air cooled, gas operated, magazine fed, shoulder weapon, designed primarily for semiautomatic or full automatic fire at the cyclic rate of 750 rounds per minute. The rifle is chambered for 7.62-mm NATO cartridge and is designed to accommodate a 20-round cartridge magazine, the rifle bipod M2, grenade launcher M76, and the bayonet knife M6. The grenade launcher sight M15 is also installed when the grenade launcher is used (fig. 5). For training purposes, a blank ammunition firing attachment M12 and breech shield M3 are used (fig. 6) and during cold weather or arctic operations the winter trigger kit (fig. 7) is also utilized.

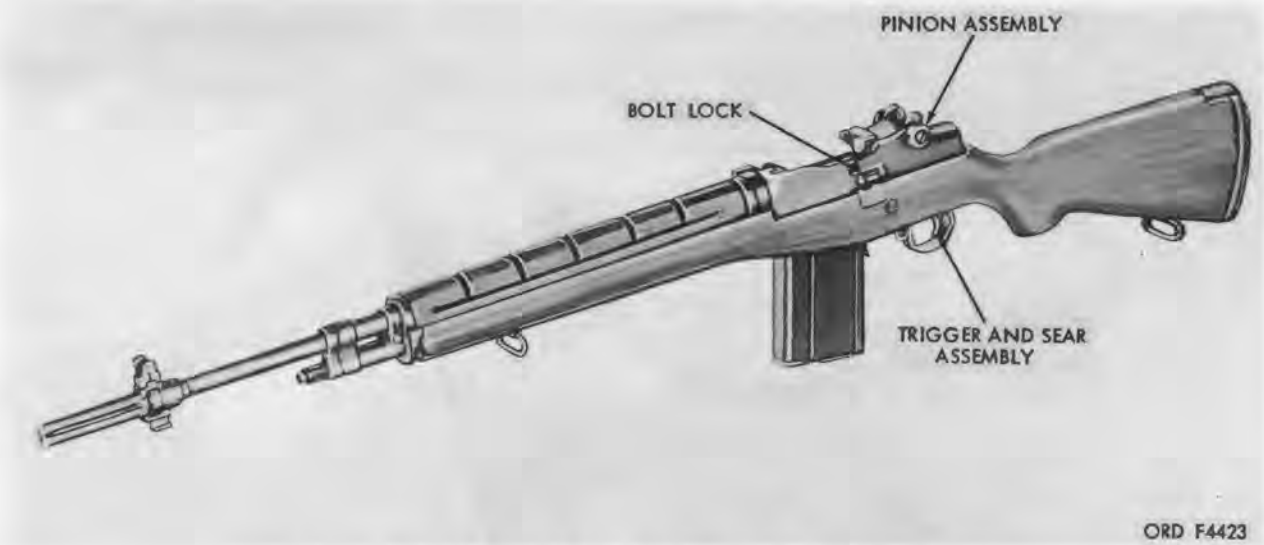


Figure 1. 7.62-mm rifle M14 and controls – left front view.

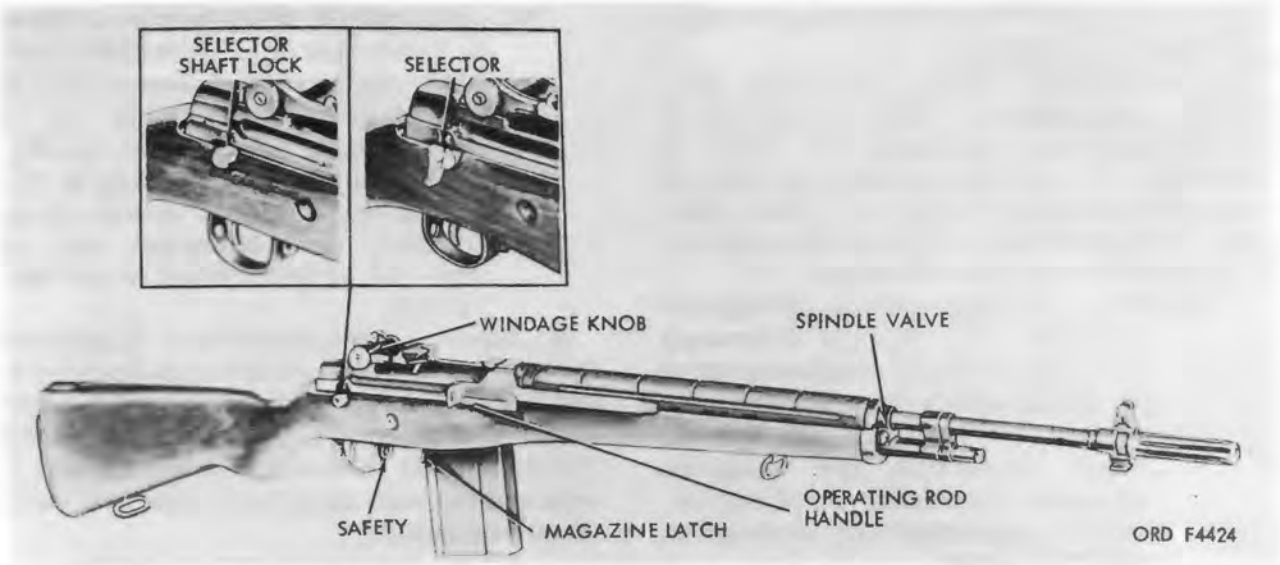


Figure 2. 7.62-mm rifle M14 and controls – right front view – with and without selector.

Figure 3. 7.62-mm rifle M14 with bayonet-knife M6 – right front view.

Figure 4. 7.62-mm rifle M14 with bipod installed – right front view.

Figure 5. 7.62-mm rifle M14 with grenade launcher M76 and grenade launcher sight M15 – left front view.

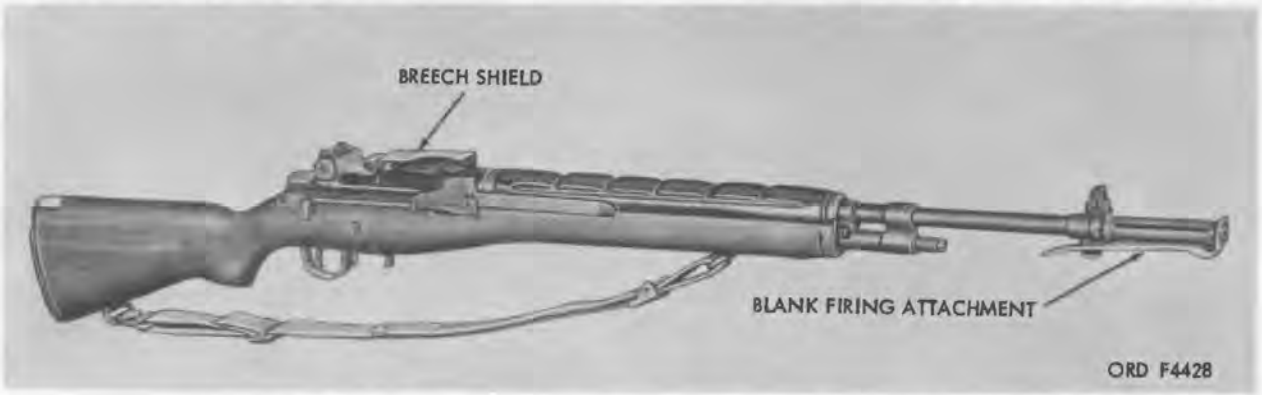


Figure 6. 7.62-mm rifle M14 with blank ammunition firing attachment and breech shield installed – right front view.

Figure 7. 7.62-mm rifle M14 with winter trigger kit – right front view.

b. Bipod (figs. 4 and 8). The rifle bipod M2 is a light, portable, folding mount which clamps onto the gas cylinder and gas cylinder lock of the rifle. It is primarily composed of three main groups: the yoke assembly and the right and left leg assemblies. A self-locking bolt locks the jaws of the yoke assembly when clamped on the rifle. Actuation, of the pivot plunger buttons, controls the extending of the leg assemblies or permits rotating them to a carrying position parallel to the rifle barrel.

c. Grenade Launcher M76 (fig. 9). The launcher is utilized for the launching of grenades from the rifle. The launcher slides over the flash suppressor and is secured to the rifle by a clip latch that snaps over the bayonet lug of the flash suppressor (fig. 5).

d. Grenade Launcher Sight M15 (fig. 5). The sight is used in conjunction with the grenade launcher when launching grenades from the rifle. It consists of the mounting scale plate and sight bar assembly. The mounting scale plate is attached to the left

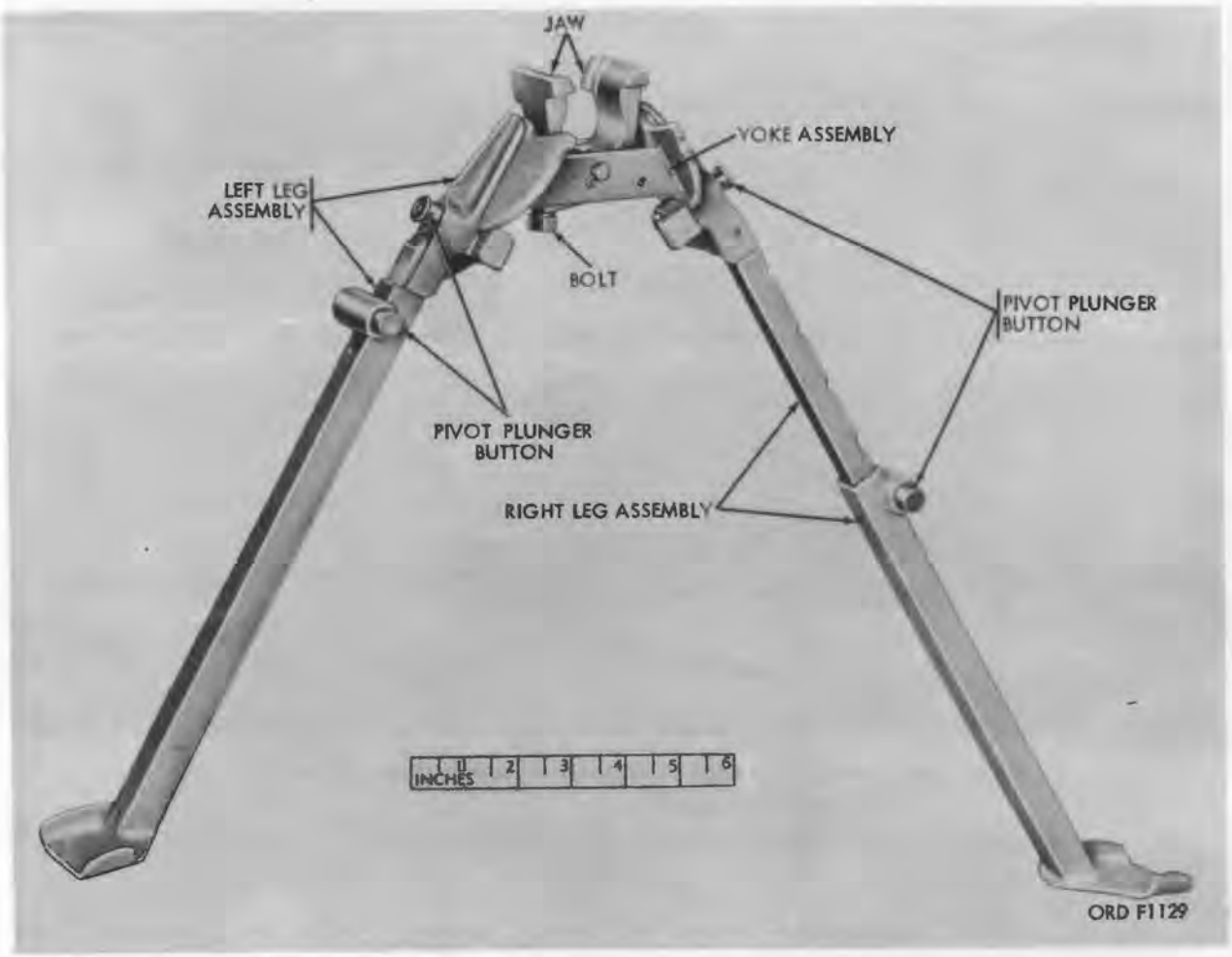


Figure 8. Rifle bipod M2 and controls.

side of the stock by two screws. The sight bar assembly attaches to the mounting plate.

e. Bayonet-Knife M6 and Bayonet-Knife Scabbard M8A1 (fig. 10).

(1) *Bayonet-knife M6.* The bayonet-knife is designed for use on the rifle and is used in close combat. It connects to the bayonet lug of the flash suppressor and a loop in the handle encircles the flash suppressor (fig. 3).

(2) *Bayonet-knife scabbard M8A1.* The bayonet-knife scabbard (fig. 10) serves as a carrier for the M6 bayonet when the bayonet is not being used on the rifle.

f. Blank Ammunition Firing Attachment M12 and Breech Shield M3.

(1) *Blank ammunition firing attachment* (figs. 6 and 11). The blank ammunition firing attachment is an accessory of the rifle and is used only during training when firing blank cartridges. The attachment contains an orifice tube which slides into the muzzle opening of the flash suppressor and is secured to the bayonet lug by a spring clip latch.

(2) *Breech shield* (figs. 6 and 11). The breech shield is used in conjunction with the blank ammunition firing attachment and is used only when firing blank cartridges. The breech shield connects to the cartridge guide on the receiver and is secured within the guide by a spring plunger. The breech shield is used as a protection to the operator as it deflects

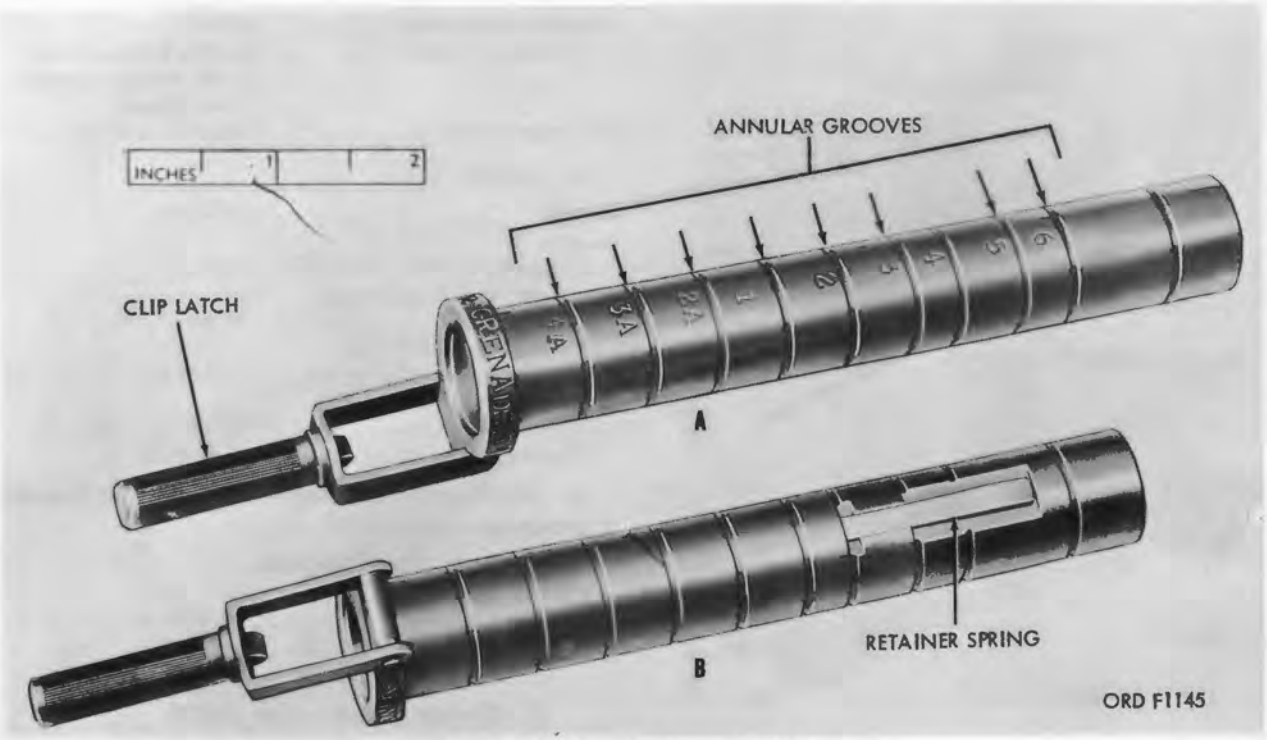


Figure 9. Grenade launcher M76.

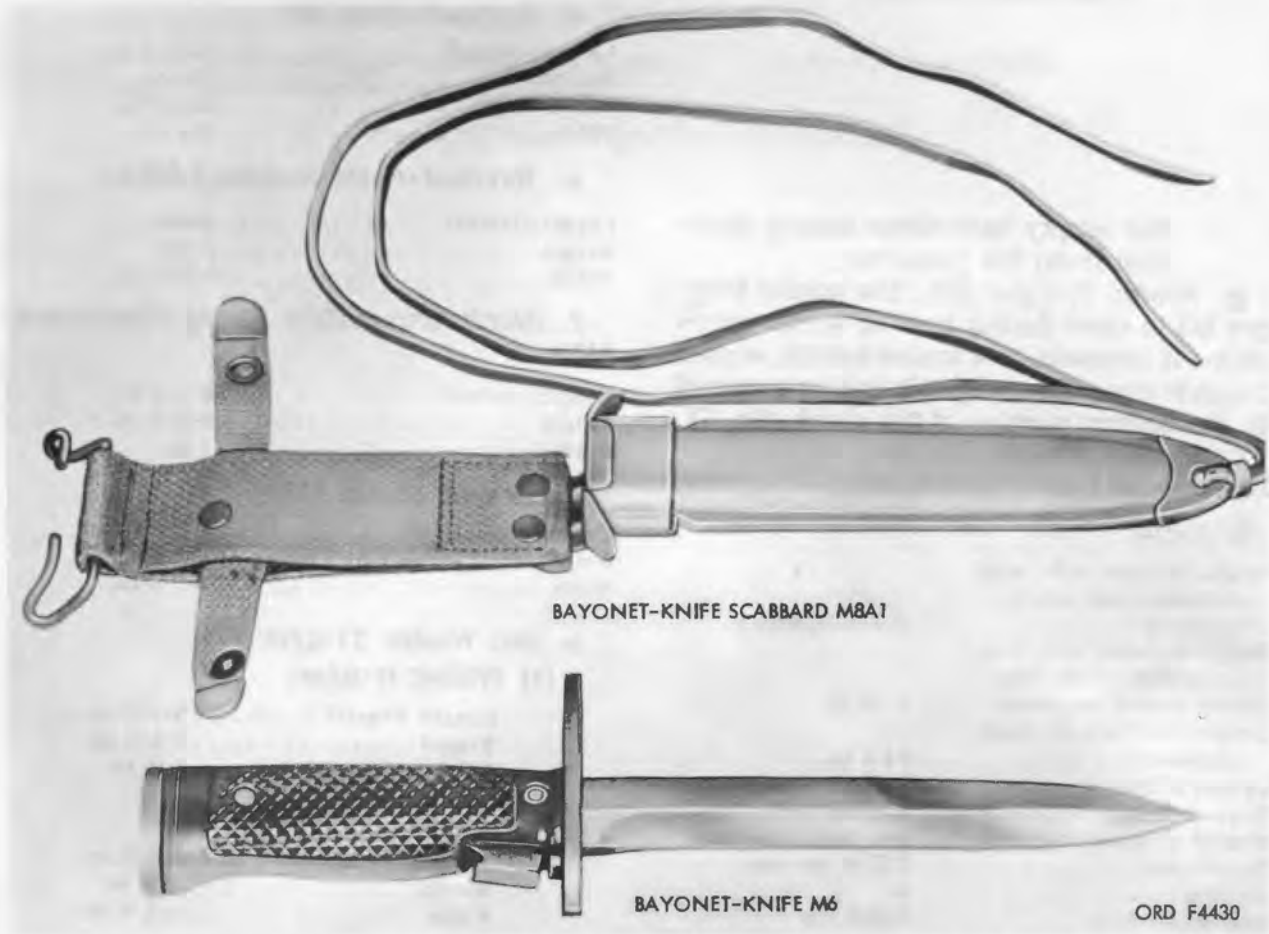


Figure 10. Bayonet-knife scabbard M8A1 and bayonet-knife M6.

Figure 11. Blank ammunition firing attachment M12 and breech shield M3.

the empty cartridges during ejection from the receiver.

g. Winter Trigger Kit. The winter trigger kit is used during cold or arctic operation. It consists of a winter safety, winter trigger assembly (fig. 12) and is secured to the bottom portion of the stock (fig. 7).

5. Tabulated Data

a. Rifle.

Weight of basic rifle with equipment and empty magazine	9.1 lb (approx)
Weight of basic rifle with equipment, ready fire, fully loaded magazine	11.0 lb
Length of rifle with flash suppressor	44.3 in.
Length of barrel	22.0 in.
Type of firing	rotating bolt
Method of actuation	gas operation
Cyclic rate	750 rd per min
Cooling	air
Muzzle velocity	2,800 fps
Magazine capacity	20 rd
Ammunition types	NATO 7.62-mm, ball, AP, tracer, dummy and blank
Maximum range	(See FT 7.62-A-2.)

b. Bipod.

Weight	1-3/4 lb
Height:	
Legs in closed position	9-3/4 in.
Legs in extended position	13 in.
Length, legs folded for transportation	11-3/4 in.
Spread of leg assemblies:	
Closed position	15-1/2 in. (approx)
Extended position	19-3/4 in.

c. Grenade Launcher M76 and Grenade Launcher Sight M15.

(1) *Grenade launcher.*

Length:	
Barrel	5-7/8 in.
Overall	8-1/4 in.
Weight	7 oz

(2) *Grenade launcher sight.*

Length overall	5-1/4 in.
Weight	5 oz

d. Bayonet-Knife M6.

Length overall	11-1/4 in.
Weight	12 oz
Blade length	6-5/8 in.
Width	7/8 in.

e. Bayonet-Knife Scabbard M8A1.

Length overall	14 in.
Weight	4 oz
Width	2-3/8 in.

f. Blank Ammunition Firing Attachment M12.

Length overall	5-1/4 in.
Weight	2-3/4 oz
Width	1 in.

g. Breech Shield M3.

Length overall	3-3/8 in.
Weight	1-1/4 oz
Width	1-1/4 in.

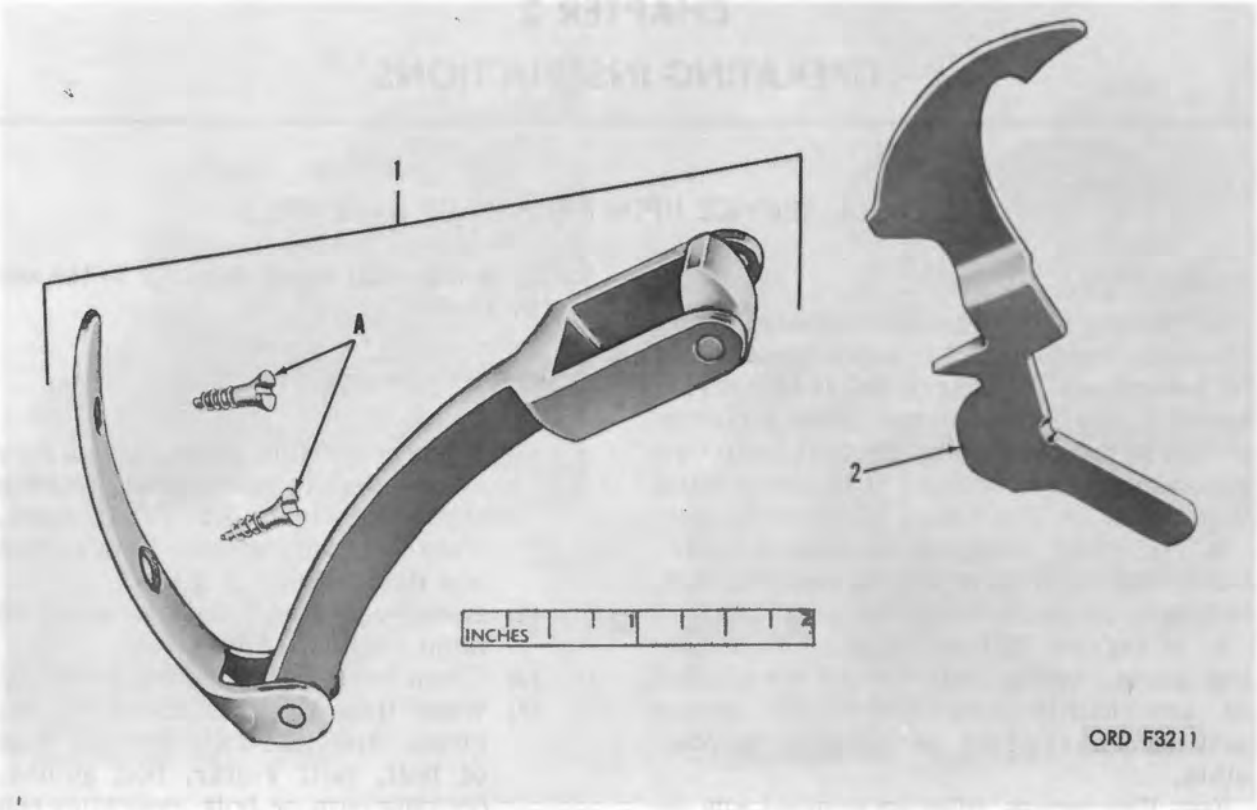
h. Kit, Winter Trigger.

(1) *Winter trigger.*

Length overall	4-1/8 in.
Weight	2-1/2 oz
Width	3/4 in.

(2) *Winter safety.*

Length overall	3-1/4 in.
Weight	1/2 oz
Width	1-3/8 in.



1—Winter trigger assembly M5 7790808
A—Winter trigger screw 7791231
2—Winter safety 7790903

Figure 12. Winter trigger kit – exploded view.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

6. General

a. When a new or reconditioned rifle and bipod 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. All basic issue items, repair parts, tools, and equipment will be checked with listing in appendix III.

c. A record will be made of all missing parts, tools, and equipment and of any malfunctions. Corrective action will be initiated as quickly as possible.

Note: Upon receipt, rifles are equipped with selector shaft lock (fig. 2) and have a selector and spring packaged and secured to the rifle. It is a command responsibility to determine which weapons have the selector shaft locks removed and the selectors installed. In any event, selectors and locks not installed on rifles will be retained. The using unit is responsible for installation and/or removal of either component. Use a 1/16-inch punch with straight shank to drive spring pin out.

Caution: **Punch must have a flat surface and not pointed to prevent spreading the pin. Body of punch must be straight, not tapered. Do not strike punch with heavy force as this will cause damage to the selector shaft.**

7. Services

a. Rifle.

(1) When new rifles are received, they are sealed in vaporproof, volatile corrosion inhibitor (VCI) bags. They are packed two in a carton and five cartons in a box.

(2) Remove carton from box and rifle from carton and bag.

(3) Clean bore with cleaning patch.

(4) When time permits, disassemble, clean, and lubricate locking lugs of bolt, bolt roller, bolt guides, cocking cam on bolt, operating rod guide groove, camming surfaces of operating rod, and operating rod spring.

b. Bipod.

(1) When new bipods are received, they are sealed in vaporproof, volatile corrosion inhibitor (VCI) bags and are packed one to a carton.

(2) Remove bipod from carton and bag.

(3) Apply a light coat of oil to leg assemblies and yoke assembly.

Section II. CONTROLS

8. General

This section describes, locates, and illustrates the various controls provided for the operation and organizational maintenance of the rifle and bipod.

9. Rifle Controls

a. Selector.

(1) The selector (figs. 2 and 13) is located on the right side of the receiver just below the rear sight. Its function is to regulate the firing of the rifle as a semiautomatic or automatic weapon.

(2) When the selector is positioned with its blank face toward the rear and the ear type projection downward (B, fig. 13), the rifle will fire semiautomatically. When the selector is positioned with face marked A toward the rear (A, fig.

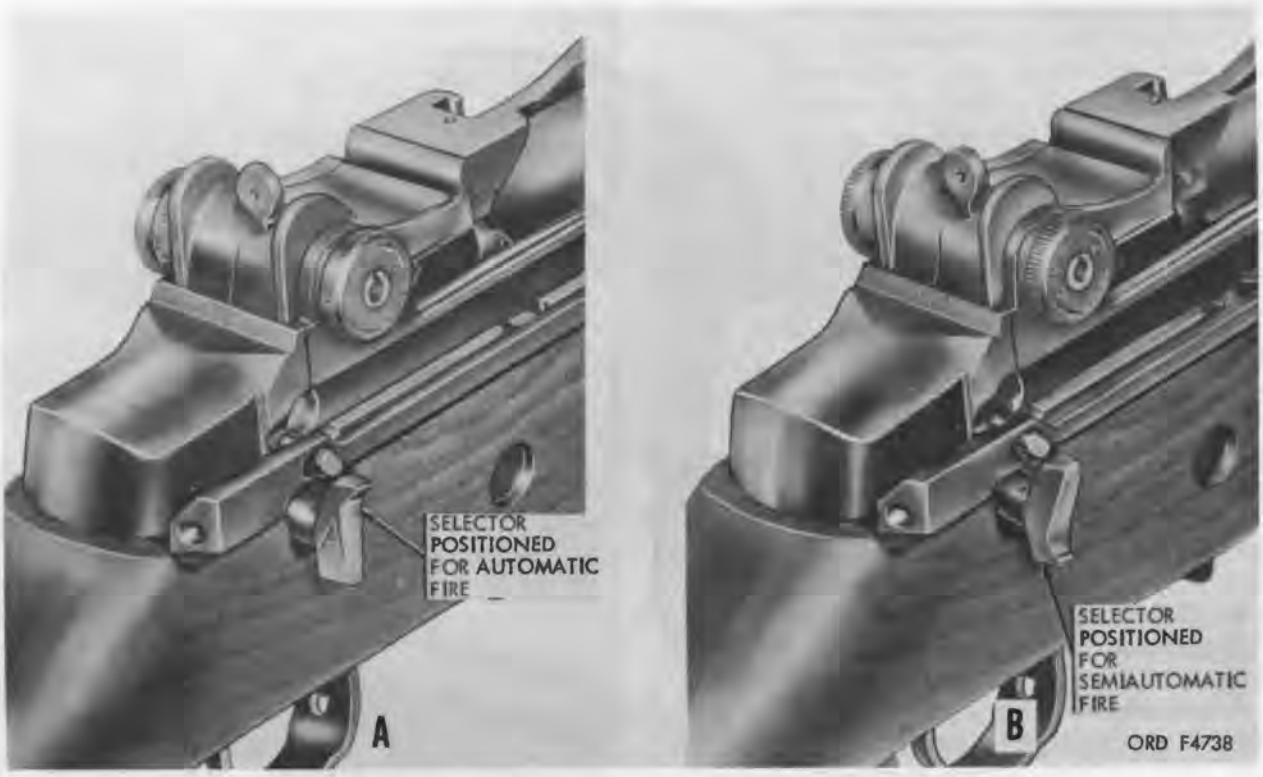


Figure 13. Selector in position for automatic and semiautomatic fire.

13) and the ear type projection upward, the rifle will fire automatically.

b. Trigger and Sear Assembly.

(1) The trigger and sear assembly (fig. 1) is located inside of the guard assembly and is part of the firing mechanism. Its function is to control the firing of the rifle for both semiautomatic and automatic.

(2) In firing the rifle for semiautomatic, squeeze trigger for each round fired.

(3) For automatic firing, squeeze trigger and hold.

c. Safety.

(1) The safety (fig. 2) is located on the firing mechanism near the guard assembly. Its function is to block the trigger and sear and lock the hammer to prevent firing of the rifle.

(2) To prevent firing of rifle, the safety is pressed to rear position (fig. 14). When ready to fire, press safety to forward position (fig. 14).

Caution: **Make certain rifle is cocked before positioning safety.**

d. Spindle Valve.

(1) The gas spindle valve (fig. 2) is located at the front of the stock and is connected to the gas cylinder. Its function is to control the gases used in firing the rifle.

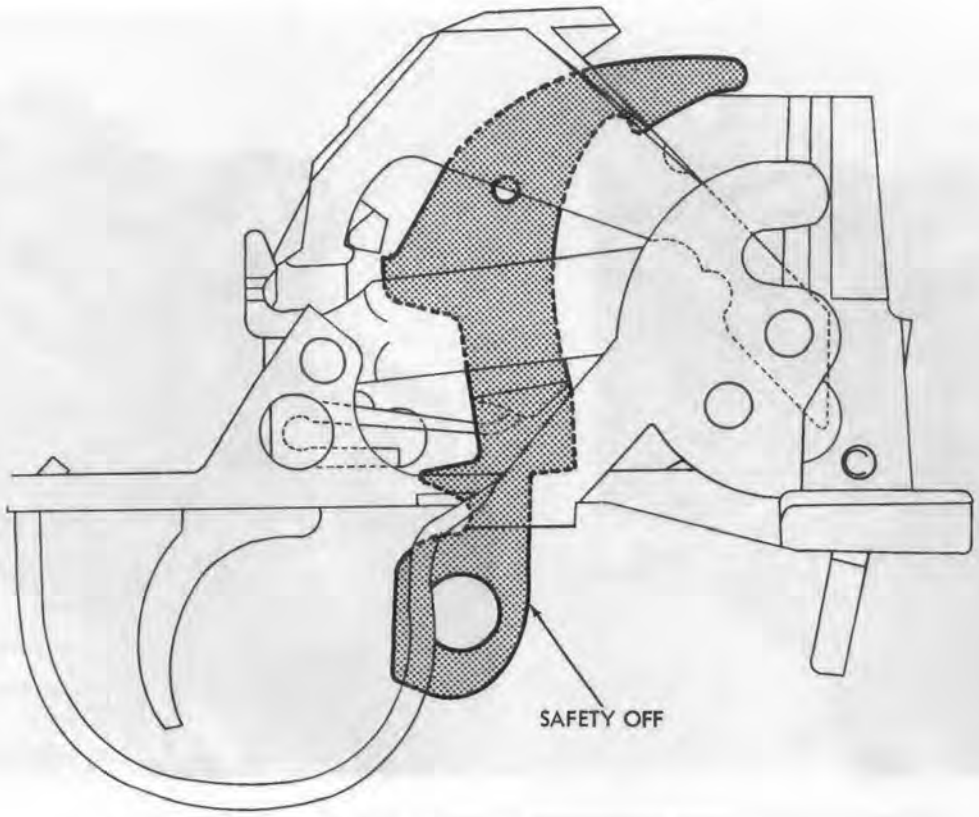
(2) When slot of spindle valve is in vertical or on position (fig. 15), the spindle valve is open, releasing gases necessary for functioning of the rifle.

(3) When slot of spindle valve is in horizontal or off position (fig. 15), the spindle valve is closed. This permits full pressure of gas to be utilized in propelling the rifle grenade and prevents by-pass of gas into the gas cylinder.

e. Rear Sight Controls.

(1) *Windage knob.*

(a) The windage knob (fig. 2) is located at the right rear side of the receiver. Its function is to adjust



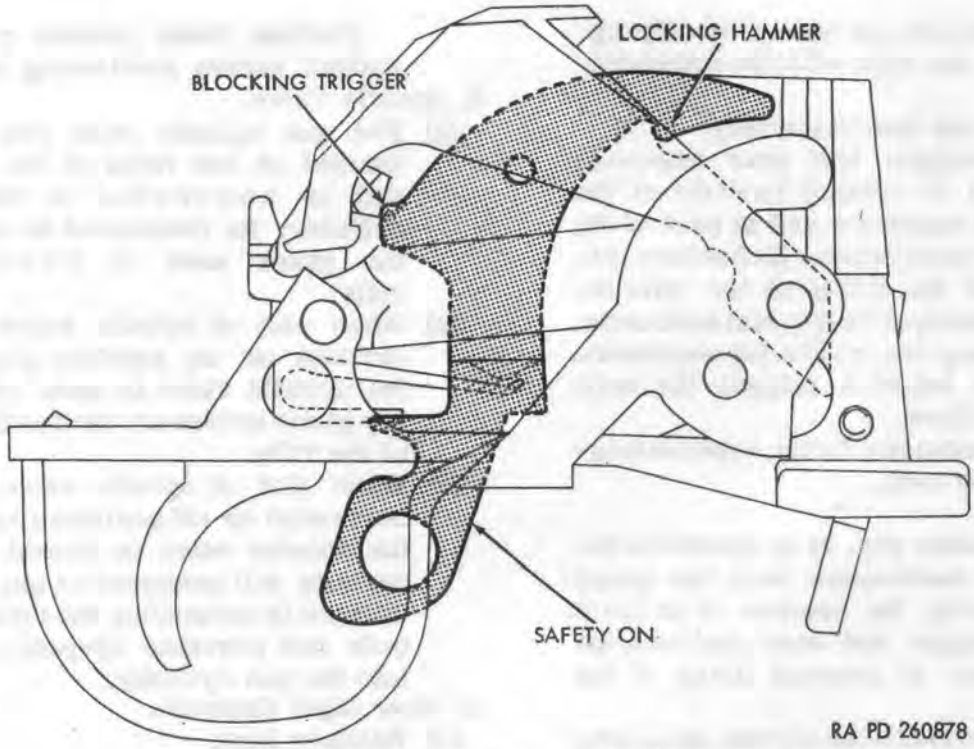


Figure 14. Functioning of safety.

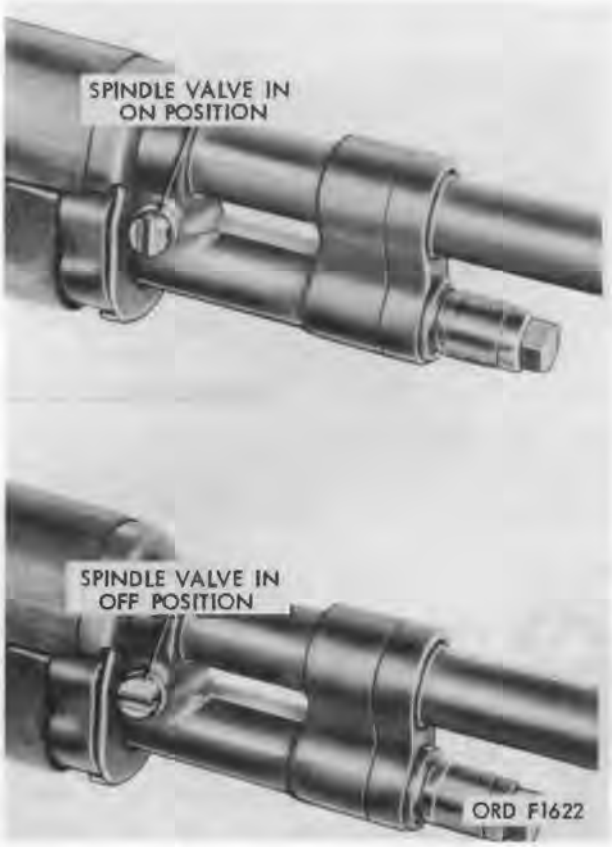


Figure 15. Gas spindle valve – on and off position.

the lateral movement of the rear sight.

(b) To move the sight to the right, turn knob clockwise. To move to left, turn knob counterclockwise.

(2) *Pinion assembly.*

(a) The pinion assembly (fig. 1) is located at the left rear side of the receiver and is calibrated in meters. Its function is to adjust the elevation of the aperture.

(b) Turn pinion clockwise to raise; counterclockwise to lower.

f. Operating Rod Handle.

(1) The operating rod handle (fig. 2) is located on the right-hand side of receiver. The rifle is cocked and operated manually by use of this handle.

(2) To cock and operate rifle manually, move operating rod handle to rear position and release. This permits the force of the magazine spring to position the top round in path of the bolt after the operating rod has moved the bolt to its rearward position. As the operating rod moves the bolt forward, the bottom face of the bolt engages the base of the cartridge, ramming it forward, feeding, chambering, and locking it in the barrel (fig. 16).

g. Winter Trigger Kit (fig. 7)

(1) *Winter trigger.* The winter trigger works in conjunction with the trigger and sear assembly. To fire, depress winter trigger which contacts the trigger.

(2) *Winter safety.*

(a) The winter safety is located on the firing mechanism and replaces the regular safety. Its function is to block the trigger, sear, and hammer thereby preventing firing of the rifle.

(b) To prevent firing of the rifle, the safety is pressed to the rear position.

(c) When ready to fire, press safety to forward position.

10. Bipod Controls (fig. 8)

a. Jaw, Self-locking Bolt.

(1) *Installation.* Using combination tool 7790769, tighten self-locking bolt in right jaw securing both right and left jaws to gas cylinder.

(2) *Removal.* Using combination tool, loosen self-locking bolt in right jaw. Spread both right and left jaw and remove bipod from rifle.

b. Pivot Plunger Buttons of Leg Assemblies (fig. 8).

(1) The pivot plunger buttons are located on the leg assemblies.

(2) Press the top button of right or left leg assembly to permit rotating of legs to an open or closed position.

(3) Press bottom button of right and left leg assemblies to permit extending or closing of leg assemblies.

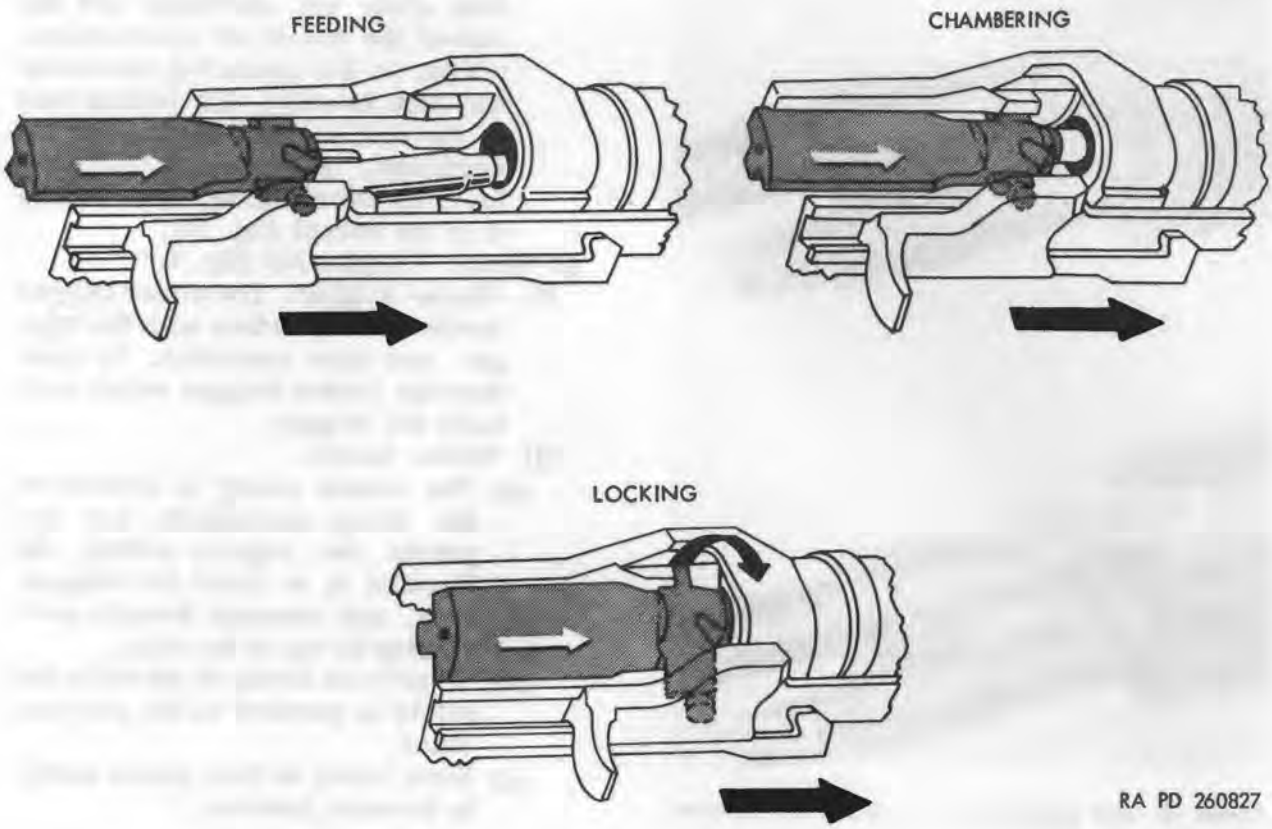


Figure 16. Feeding, chambering, and locking.

Section III. OPERATION UNDER USUAL CONDITIONS

11. General

This section contains instructions for the operation of the rifle and bipod under conditions of moderate temperatures and humidity. Instructions for operation under unusual conditions are covered in paragraphs 21 through 25.

12. Preparation for Firing

a. Examine the bore to be sure it is free of powder fouling or corrosion.

b. Check gas cylinder plug for secure installation. See table II.

c. Check ammunition to make certain it is clean and that it is of the proper type and grade (pars. 95-102).

d. Check bipod for secure installation. Tighten bolt if loose (par. 10a).

e. Cock the rifle and place the safety in the safe position (par. 9c(2)).

13. Service Before Firing

Perform the before firing operations as indicated in table I, operators preventive-maintenance services.

14. Loading

a. Insert front end of a loaded magazine into the magazine well, until the front catch snaps into engagement; then pull rearward and upward until the magazine latch locks magazine into position (fig. 17).

b. If the magazine is empty, it can be loaded by means of a 5-round clip. Push safety in safe position (par. 9c(2)). To load from clip to magazine, draw bolt assembly

Figure 17. Installation and removal of the magazine.

fully to rear, depress bolt lock and ease bolt forward until movement is stopped by the bolt lock. Place loaded clip into slot of cartridge clip guide and push down until bottom of clip touches top of magazine follower (A, fig. 18). With the fingers of the right hand under the housing of the firing mechanism and the ball of the thumb on the powder space of the top cartridge, near the clip, press cartridges straight down (B, fig. 18) until all cartridges are inserted into the magazine (C, fig. 18). To fully load magazine, charge with four clips. An alternate method of loading is usage of combination tool 7790769 (fig. 19). Insert cartridge clip in cartrige clip guide. Place open end of tool on base of cartridge at top of clip. Push downward forcing cartridges into magazine (fig. 19). Remove clip from guide, release bolt lock by drawing bolt rearward and close bolt. As the bolt assembly is closed, the top cartridge in the magazine is pushed forward into the chamber. Release safety to fire.

c. In loading magazine when out of the rifle, install clip if available, (A, fig. 20) on top rear of magazine. Insert cartridge clip into filler and force cartridges into magazine using combination tool (A, fig. 20), fingers (B, fig. 20), or placing base of cartridge against butt plate assembly forcing the cartridges in magazine (D, fig. 20).

15. Zeroing

a. The following procedures will be performed to target or zero the rifle at the distance of 100 meters, with no wind blowing.

(1) Raise aperture from lowest position to eight clicks elevation.

(2) Aline windage center index line on sight base with center index line on receiver.

(3) Fire three warmup rounds. Then fire four additional rounds, adjust-justing sights after each round to move point of impact to center of target. Then fire five consecutive rounds semiautomatically. The impact of the 5-round shot group should be within a 6.1-inch diameter circle.

(4) Adjust sights to bring point of impact of round to center of target by correcting with one click of elevation or windage for each 28 millimeters (approx 1-1/8 in.) of movement required.

(5) Maximum adjustments permitted are: six clicks elevation or depression and/or three clicks windage in either direction.

b. After the rifle has been zeroed, loosen the locking screw on pinion assembly which secures the elevation knob. *Make certain*

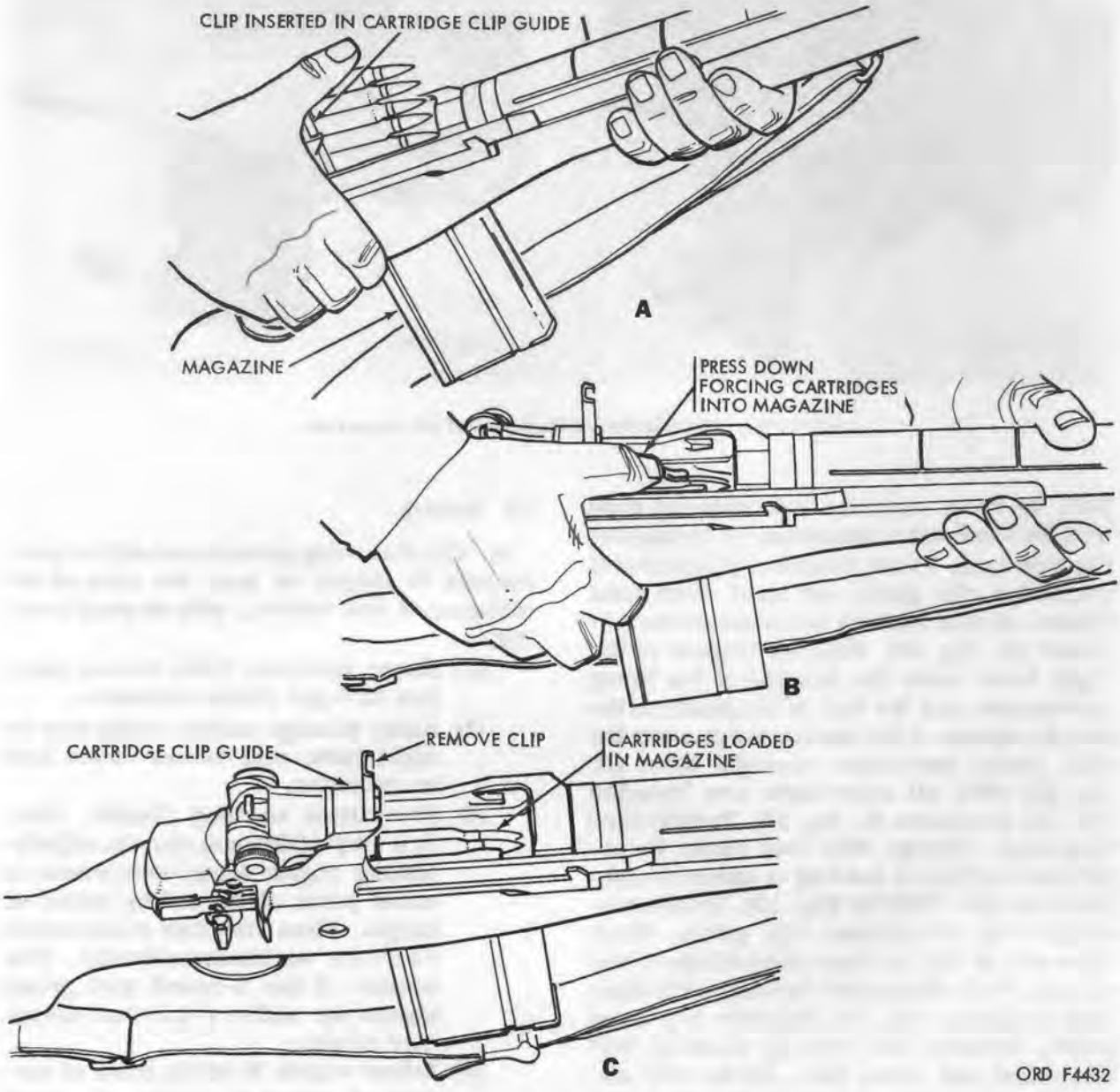


Figure 18. Loading magazine through cartridge clip guide.

not to move the aperture. Turn the elevation knob until the 100-meter mark (between 2 and 12) is alined with mark on the side of receiver. Tighten screw to lock knob.

c. If the rifle cannot be zeroed, according to above instructions, evacuate to Ordnance for further inspection and/or repair.

16. Firing

a. Semiautomatic Fire with Selector Shaft Lock (fig. 21). On rifles containing selector shaft lock, push safety forward. With each squeeze of the trigger the rifle will fire 1 round.

b. Semiautomatic Fire With Selector (fig. 21). After removal of selector shaft

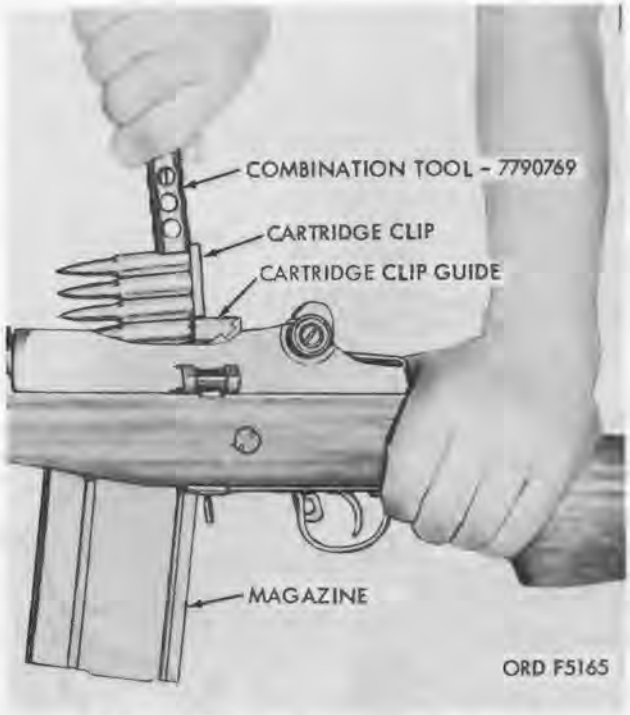


Figure 19. Loading magazine using combination tool.

lock (par. 61) and installation of selector (par. 63), position selector for semiautomatic fire (B, fig. 13). Push safety forward and with each squeeze of the trigger the rifle will fire 1 round.

c. Automatic Fire With Selector (fig. 22).

(1) Position selector for automatic fire (A, fig. 21).
(2) Push safety forward.
(3) Squeeze trigger and rifle will fire automatically as long as trigger is squeezed and there is ammunition in the magazine. Release trigger to cease firing.
(4) After the last round is fired, the magazine follower actuates the bolt lock, locking the bolt in rearward position. When a loaded magazine is inserted, the bolt lock releases the bolt which moves forward, chambers a round and moves into battery position.

17. Misfire, Hangfire, and Cookoff

a. Misfire. A misfire is a failure to fire. A misfire itself is not dangerous but since it cannot be immediately distinguished from a delay in the functioning of the firing mechanism or from a hangfire (*b* below), it should be considered as a possible delay in firing until such possibility has been eliminated. A delay in the functioning of the firing mechanism, could result from the presence of foreign matter such as sand, grit, frost, ice, or oil and grease. These might create initially a partial mechanical restraint which, after some delay, is overcome as a result of the continued force applied by the spring and the firing pin then striking the primer in a normal manner. In this connection, no round should be left in a hot weapon any longer than the circumstances required because of the possibility of a cookoff (*c* below).

b. Hangfire. A hangfire is a delay in the functioning of a propelling charge at the time of firing. The amount of delay is unpredictable but, in most cases, will fall within the range of a split second to several seconds. Thus, a hangfire cannot be distinguished immediately from a misfire and therein lies the principal danger of assuming that a failure of the weapon to fire is a misfire whereas, in fact, it may prove to be a hangfire.

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

c. Cookoff. A cookoff is a functioning of any or all of the explosive components of a round chambered in a very hot weapon due to the heat of the weapon. If the primer or propelling charge should cookoff, the projectile will be propelled from the weapon with normal velocity even though no attempt was made to fire the primer by actuating the firing mechanism. In such a case there may be uncertainty as to whether or when the round will fire, and precaution should be observed the same as those prescribed for a hangfire (*b*

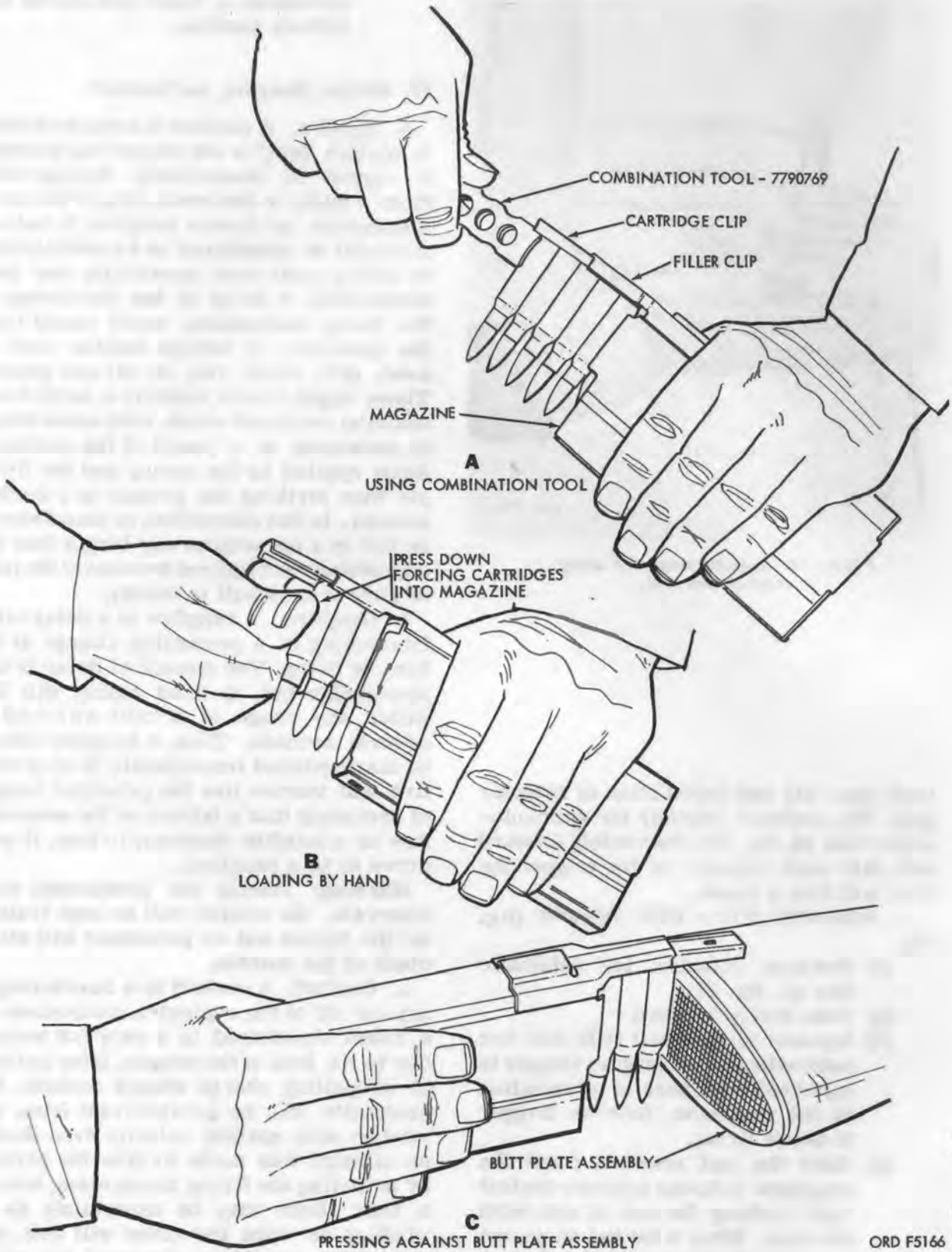


Figure 20. Loading magazine when out of rifle.

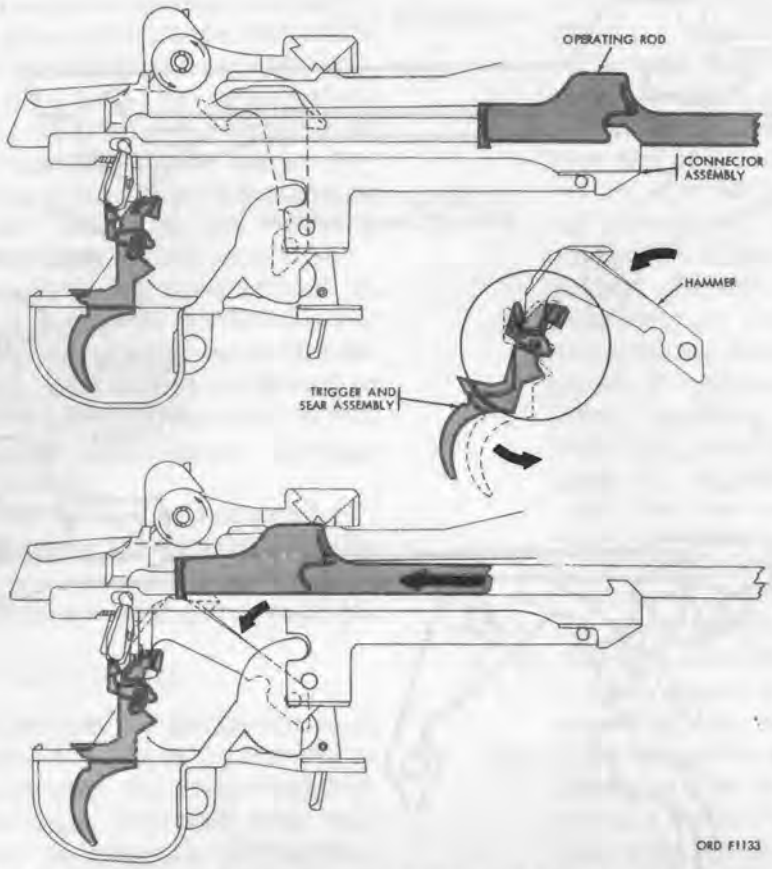


Figure 21. Cycle of operation for semiautomatic fire with selector (or selector shaft lock).

above). To prevent a cookoff, a round of ammunition, which has been loaded into a very hot weapon should be fired immediately or removed after 5 seconds and within 10 seconds.

18. Procedures for Removing a Round in Case of Failure to Fire

a. General. After failure to fire, due to a misfire, the following general precautions, as applicable, will be observed until the round has been removed from the weapon and the cause of failure determined.

(1) Keep the weapon trained on the target and see that all personnel are clear of the muzzle.
(2) Before retracting the bolt and removing the round, see that personnel, not required for operation, are cleared from vicinity.
(3) Make certain the round, removed from the weapon, is kept separate from other rounds until it has been determined whether the round or the firing mechanism was at fault. If the weapon is determined to be at fault, the round may be reloaded and fired after correcting the cause for failure to fire.

b. Time Intervals. The definite time intervals for waiting, after failure of weapon to fire, are prescribed as follows: Always keep the round in the chamber for 5 seconds from the time a misfire occurs to insure against an explosion outside of the gun in event a hangfire develops. If the barrel is hot, and a misfire stops operation of the gun, wait 5 seconds with the round locked in the chamber to insure against hangfire dangers (a hangfire will occur within 5 seconds after the primer is struck), then extract the round immediately to prevent cookoff. If the round cannot be extracted within an additional 5 seconds, it must remain locked in the chamber

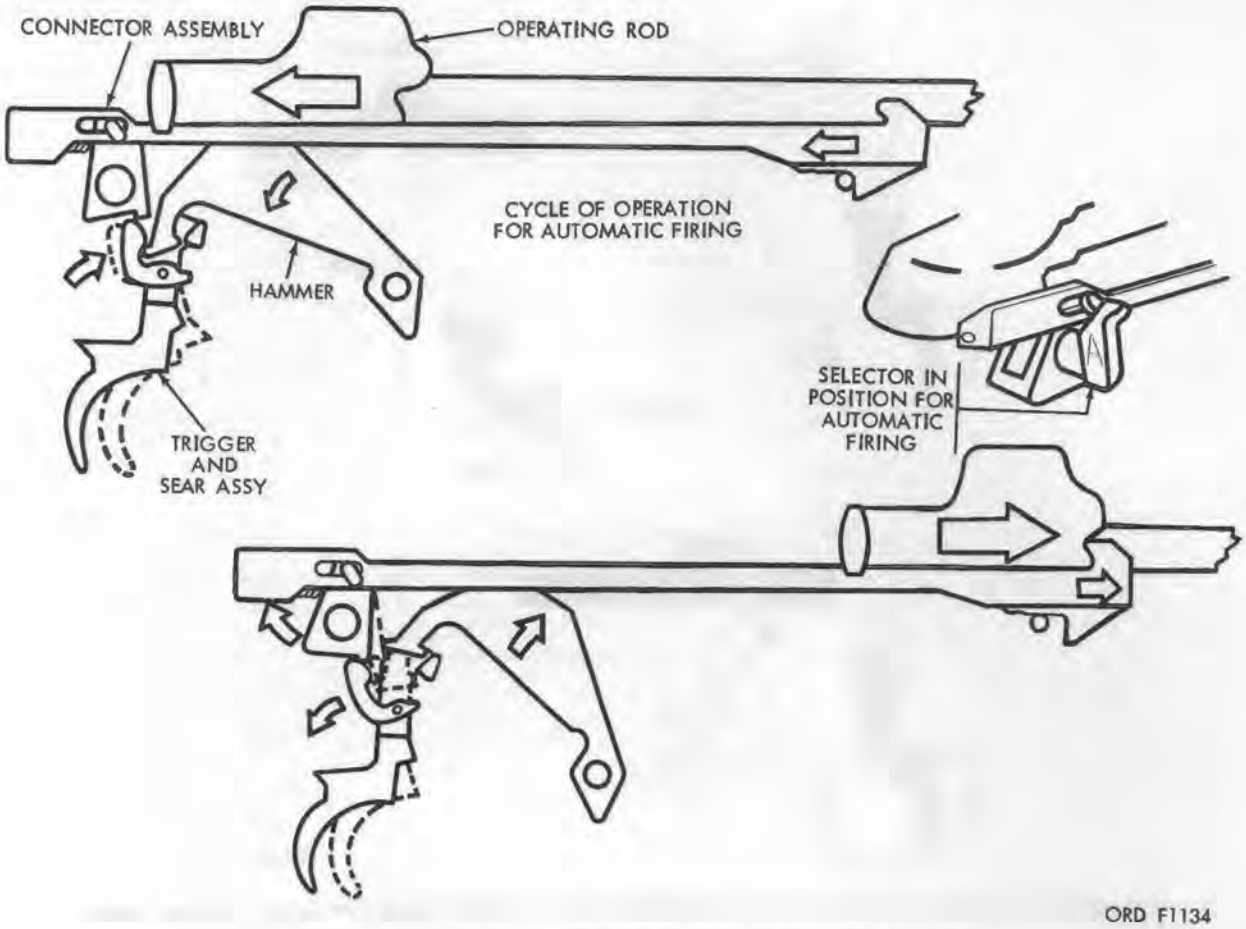


Figure 22. Cycle of operation for automatic fire with selector.

for at least 5 minutes due to the possibility of a cookoff. Also, in the event the barrel is hot and a misfire occurs when attempting to resume firing after an intentional cessation of firing, the round should remain locked in the chamber for 5 minutes because of the possibility of a cookoff. One hundred and fifty rounds fired in a 2-minute interval will heat a barrel enough to produce a cookoff.

19. Service During Firing

Perform the during firing operations as described in the operators preventive-maintenance services (table I).

20. Unloading

a. Push the safety in safe position (par. 9*c*(2)).

b. Grasp magazine placing the thumb on the magazine latch, and squeeze the latch; push the magazine forward and downward to disengage it from the front catch and remove the magazine from the magazine well, as shown in figure 15.

c. Pull the operating rod handle rearward to extract and eject the chambered round. Inspect the chamber, making certain the rifle is clear.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

21. General Conditions

a. In addition to the normal operating procedures for usual conditions, special instructions for operation under unusual conditions are contained herein. In addition to the normal preventive-maintenance

service, special care in cleaning and lubrication must be observed where extremes of temperature, humidity, and atmospheric conditions are present or anticipated. Proper cleaning, lubrication, storage, and handling of lubricants not only insure operation and functioning but also guard against excessive wear of the working parts and deterioration of the materiel.

b. See paragraph 31 for instructions on lubrications under unusual conditions and table I for preventive-maintenance checks to be made when materiel is subjected to unusual conditions. See paragraphs 22 and 23 for maintenance procedures applying to unusual conditions.

c. When chronic failure of materiel results from subjection to extreme conditions, report of such chronic failure should be made in accordance with paragraph 3*d*.

22. Operation in Cold Climates

a. In climates where the temperature is consistently below 0°F., it is necessary to prepare the materiel for cold-weather operation. Generally, extreme cold will cause lubricants to congeal. Therefore, the weapon and bipod should be thoroughly cleaned with CR, rifle bore cleaner, of all lubricants or grease, and lubricated with LAW, lubricating oil.

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

c. When materiel is not in use, and must be stored outside, pay particular attention to protecting it with proper cover, making certain cover is serviceable, in good state of repair, and is securely fastened so that snow, ice, or moisture will be kept from the operating parts. Provide as much protection as possible for all parts of the materiel.

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

23. Operation in Hot Climates

a. Hot Climates.

(1) When operating in hot climates, the film of oil necessary for operation and preservation will dissipate quickly. Inspect the rifle, paying particular attention to all hidden surfaces such as bolt and roller, operating rod and recess, cam surface and bolt locking recess in receiver, and the yoke assembly and leg assemblies of the bipod where corrosion might occur and not be quickly noticed.

(2) Perspiration from the hands is a contributing factor to rusting because it contains acids and salts. After handling materiel, clean, wipe dry, and restore the oil film using PL special, lubricating oil.

Note: For care, handling, and preservation of ammunition, see paragraph 99.

b. Hot, Dry Climates. When operating in hot, dry climates, clean and oil the bore of the rifle more frequently than usual.

c. Hot, Damp, and Salty Atmosphere.

(1) Inspect materiel frequently, when operating in hot, moist areas.

(2) When materiel is active, clean and lubricate the bore and exposed metal surfaces more frequently than prescribed for normal service.

(3) Moist and salty atmospheres have a tendency to emulsify oils and greases and destroy their rust-preventive qualities. Inspect all parts frequently for corrosion.

(4) When materiel is inactive, cover unpainted surfaces with a film of PL special, lubricating oil.

24. Operation Under Sandy or Muddy Conditions

a. Sand. Clean and lubricate the materiel more frequently when operating in sandy areas. Exercise particular care to keep sand out of mechanisms when carrying out inspecting and lubricating operations. Shield parts from flying sand, with paulins, during disassembly and assembly operations. When commencing an action in sandy areas, remove lubricant from bolt, barrel and receiver, connector assembly, operating rod, firing mechanism, and bipod, as they will pick up sand and form an abrasive which will cause rapid wear.

With surfaces dry, there is less wear than when coated with lubricant contaminated with sand. Clean and lubricate all exposed parts after action is over.

b. Mud. Clean and lubricate materiel as soon as possible when operating in areas which are muddy. Exercise particular care and make certain all mud is removed and that mechanism is thoroughly dry before lubricating. Clean and lubricate all exposed parts after action is over.

25. Hand-Carried Fording

a. No special lubrication is required before fording.

b. Protect from water splashes.

c. If accidental immersion occurs, proceed as directed in paragraph 94.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, TOOLS, AND EQUIPMENT

26. General

Repair parts, tools, and equipment are issued to the using organization for operating and maintaining the materiel. Tools and equipment should not be used for purposes other than prescribed and, when not in use, should be properly stowed.

27. Repair Parts

Repair parts are supplied to the using organization for replacement of those parts most likely to become worn, broken, or otherwise unserviceable, providing replacement of these parts is a function of the using organization. Repair parts supplied to the first echelon are listed in appendix III which is the authority for requisitioning replacements. Repair parts applied to the second echelon are listed in TM 9-1005-223-20P.

28. Common Tools and Equipment

Common tools and equipment having general application to this materiel are authorized by tables of allowances and tables of organization and equipment.

29. Tools and Equipment

Tools and equipment required for operational or first-echelon maintenance, repair and general use with the materiel are listed in appendix III, which is the authority for requisitioning replacements. These items, with exception of sling, are stowed in the rifle stock (fig. 23). Tools and equipment supplied to second echelon are listed in section II of TM 9-1005-223-20P.

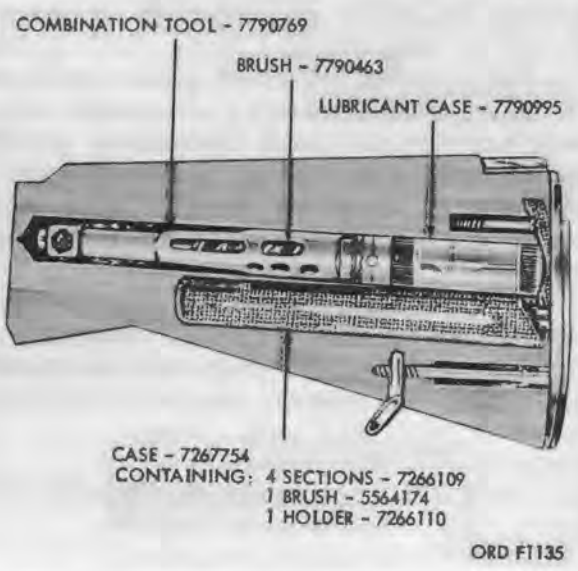


Figure 23. Tools and equipment stowed in stock with butt plate assembly 7790702.

Section II. LUBRICATION

30. General Lubricating Instructions

a. Usual Conditions. Make certain all metal parts have been cleaned with CR, rifle bore cleaner and dried thoroughly. Apply a light coat of preservative, PL special, lubricating oil. Apply a light coat of rifle grease lubriplate 130A to the following surfaces:

(1) Locking lugs of bolt, operating lug, and recesses.
(2) Bolt guide.
(3) Antifriction roller on bolt.
(4) Operating rod guide groove on side of the receiver.

b. Reports and Records. Report unsatisfactory performance of materiel or effect

of prescribed lubricants and preserving materials (par. 3d).

31. Lubrication Under Unusual Conditions

a. Unusual Conditions. Reduce or increase lubrication intervals as required to compensate for abnormal operation and extreme conditions, such as high or low temperatures, prolonged periods of high-rate operation, continued operation in sand or dust, or exposure to moisture, any one of which may quickly destroy the protective qualities of the lubricant. Lubrication intervals may be extended during inactive periods.

b. Changing Grade of Lubricants. Lubricants are prescribed in accordance with temperature ranges. The time to change the grade of lubricants is determined by maintaining a close check on the operation of the rifle during the approach to changeover periods in accordance with weather forecast data. Ordinarily, it will be necessary to change grade of lubricants only when air temperatures are consistently in the next higher or lower range.

c. Extreme Cold-Weather Lubrication. Apply a light coat of low temperature lubricating oil (LAW) to the rifle and bipod and exercise weapon frequently during periods of low temperature below 0° F. to insure proper functioning.

d. Extreme Hot-Weather Lubrication. Special lubricants will ordinarily not be required at extremely high temperatures, as lubricants prescribed for temperatures above 0° F., provide adequate protection. However, more frequent servicing than specified in tables I and II is necessary because the heat tends to dissipate the lubricants.

e. Lubrication for Humid and Salt-Air Conditions. High humidity, moisture, or salt air contaminate lubricants, necessitating more frequent service than specified in tables I and II.

f. Before-Immersion Lubrication. No special lubrication is required before amphibious operation.

g. After-Immersion Lubrication. After immersion, perform the maintenance described in paragraph 94 which covers maintenance operations after immersion and includes special lubrication instructions.

h. Lubrication After Operation Under Sandy or Dusty Conditions. If firing or prolonged travel has occurred under dusty or sandy conditions, clean and inspect all lubricated surfaces for fouled lubricants. Lubricate as necessary.

Section III. PREVENTIVE-MAINTENANCE SERVICES

32. General

a. Responsibility and Intervals. Preventive-maintenance services are the responsibility of the using organization. These consist of before-operation, during-operation, and after-operation services performed by the operator (first echelon), and the scheduled services to be performed at weekly intervals by the using organization (second echelon). Intervals are based on usual conditions. Reduce or increase intervals for unusual conditions. Intervals during inactive periods may be extended accordingly.

b. Definition of Terms. The general inspection of each item applies also to any supporting member or connection and is generally a check to see whether the item is in good condition, correctly assembled, secure, and not worn.

(1) The inspection for "good condition" is a visual inspection to determine whether the unit is damaged beyond safe or serviceable limits. The term "good condition" is explained further by the following: Not bent or twisted, not chafed or burred, not broken or cracked, not bare or frayed, not dented or collapsed, not torn, cut or deteriorated.

(2) The inspection of a unit to see that it is "correctly assembled" is a visual inspection to see if it is in its normal assembled position in the materiel and functions properly when manually operated.

(3) Inspection of a unit to determine if it is "secure" is a visual examination or a check by wrench or hand.

(4) By "worn" is meant that the item is approaching unserviceable limits to a point likely to result in failure if the unit is not replaced.

33. Cleaning and Care

a. General. Any special instructions required for cleaning and care of components are contained in the pertinent sections. General instructions are given in *b* through *c* below.

b. Cleaning Instructions.

(1) Immediately after firing, thoroughly clean bore with a stiff wire bore brush saturated with CR, rifle bore cleaner. Make certain that all surfaces including the rifling are well coated.

(2) After cleaning with CR, the bore should be swabbed with flannel cleaning patches making certain no trace of burned powder, or other foreign substances are left in the bore, then apply a light coat of PL special, lubricating oil.

(3) The chamber should be cleaned with a cleaning brush using the following procedures:

Note. The following procedures are used when the rifle is ASSEMBLED.

(a) Screw the threaded end of cleaning rod section into ratchet base of brush (A, fig. 24).

Caution: **Be sure all threaded areas are clean, undamaged, and not cross threaded when assembled.**

(b) Remove magazine (par. 20*b*).

(c) Apply a light coating of CR to chamber.

(d) Withdraw bolt rearward engaging bolt lock and hold bolt lock in open position (B, fig. 24).

(e) Insert brush in chamber with thumb pushing against base of brush (B, fig. 24).

(f) Pull operating rod rearward, release bolt lock and ease operating rod and bolt fully foward, seating brush in chamber.

(g) Move rod section from side to side several times (C, fig. 24).

(h) Grasp cleaning rod section, as close to receiver as possible, with the fingers pulling rearward and thumb exerting a forward pressure on end of rod as indicated (D, fig. 24).

Caution: **Grip stock of rifle (D, fig. 24) during cleaning, to prevent damage of hand guard.** Pull rearward until brush clears chamber. Grasp operating rod handle, relieving tension on brush, and remove section and brush from receiver (D, fig. 24). Apply a light coat of PL special, lubricating oil to chamber, then close bolt.

Note. Use the following procedures when the rifle is DISASSEMBLED.

(i) Insert brush in chamber with thumb exerting pressure on base of brush.

(j) Move rod section from side to side several times.

(k) Remove brush and section from chamber and apply a light coat of PL special, lubricating oil.

(4) To clean gas spindle valve (fig. 15), insert rim of cartridge, blade portion of combination tool, or screwdriver, in slot of valve. Push in and rotate several times, until carbon is broken loose. Do not attempt to disassemble from rifle. If valve is heavily carboned, use a block of wood or a plastic hammer (not a steel hammer) to drive valve from side to side, until valve becomes loose and can be rotated.

(5) Use CR to clean all parts which have been exposed to powder fouling during the firing.

Note. This compound is not a lubricant. Parts which require lubrication will be wiped dry and oiled.

(6) CR will also be used to loosen and remove carbon from the gas cylinder, piston, and plug. These components are made from corrosion-resisting steel which

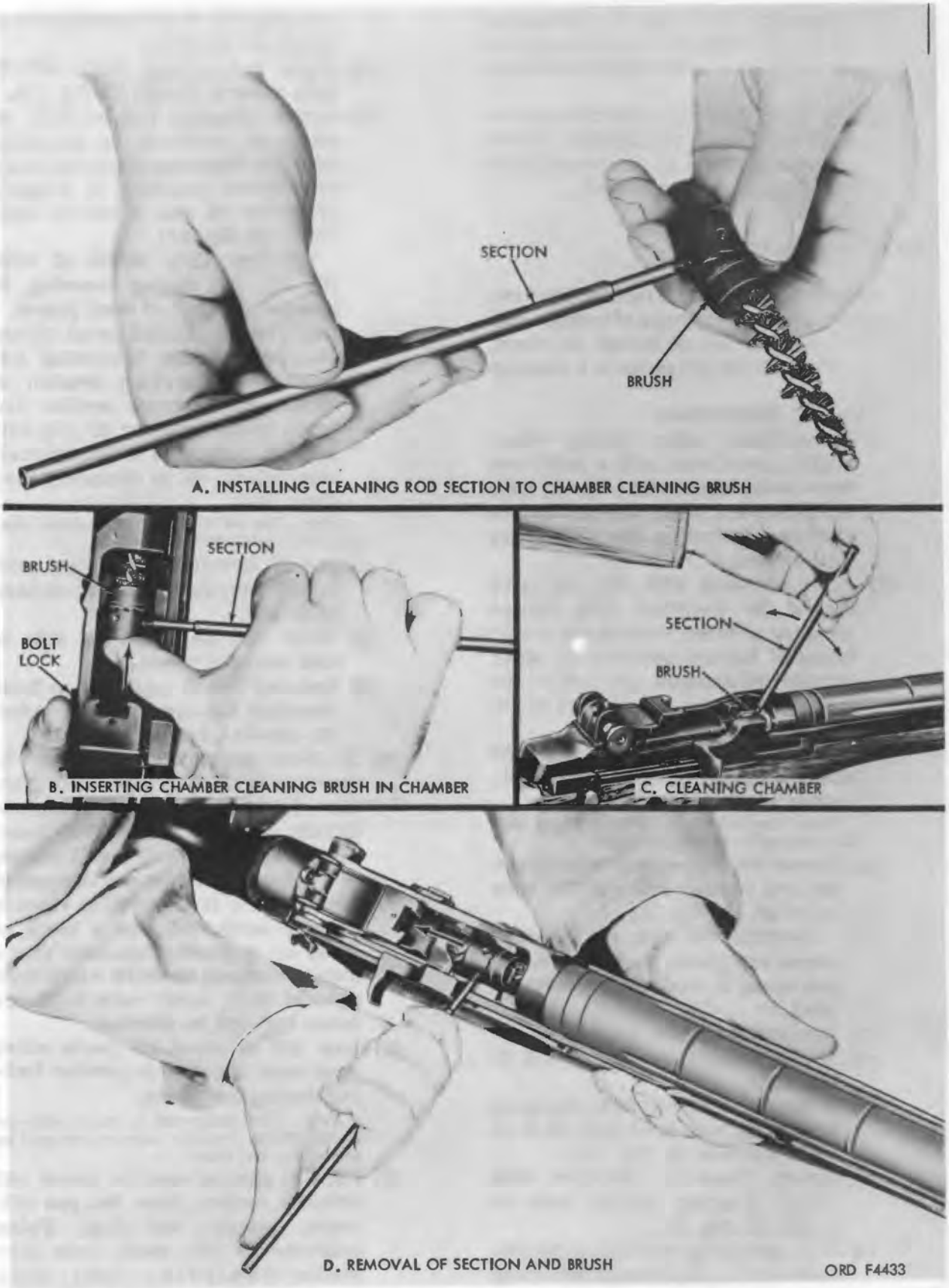


Figure 24. Procedures for cleaning chamber.

discolors as a result of firing. This is a normal condition and it is emphasized that none of these components are to be polished for a shiny appearance.

Caution: **Use of abrasives on these components changes critical dimensions that may cause the weapon to malfunction. Also, the application of lubricants to these components is prohibited.**

(7) For general usage, dry-cleaning solvent or mineral spirits paint thinner may be used to clean or wash grease and oil from all parts of this weapon and bipod. On component parts, which contain a hard carbon residue, such as flash suppressor, gas cylinder plug, gas piston and gas cylinder it may be necessary to clean these parts with carbon removing compound P-C-111A.

Warning: **Avoid skin contact. The compound should be washed off thoroughly with running water if it comes in contact with skin. A good lanolin base cream, after exposure to compound, is helpful. The cleaning of weapons is limited to personnel wearing rubber gloves and eye protection.**

(8) Cleaning instructions are as follows:

(a) Using a suitable container, fill with fresh compound.

(b) Before soaking a component in compound, remove all grease, dirt and oil as indicated above. Place parts to be cleaned in a container, making certain they are completely immersed.

(c) Soak for 2 to 16 hours. Remove parts and allow to drain. Rinse with water, kerosene, or solvent. To effectively remove carbon, brush with a stiff bristle brush under running water.

c. General Precautions in Cleaning.

(1) Dry-cleaning solvent and mineral spirits paint thinner are flammable and should not be used near an open flame. Fire extinguishers should be readily available when these materials are used. In addition, they evaporate quickly and have a drying effect on skin. If used without gloves, they may cause cracks in the skin and, in the case of some individuals, a mild irritation or inflammation. Use only in well-ventilated places.

(2) The use of gasoline, benzene (benzol) or the use of high-pressure water, steam, or air, for cleaning the weapon is prohibited.

(3) Do not dilute CR, rifle-bore cleaner solvent cleaning compound. Do not add antifreeze. Store cleaner in a warm place. Shake CR well before using.

(4) When using carbon removing compound P-C-111A, refer to paragraph 33*b*(7).

34. Care of Sling, Envelopes, Scabbards, and Stock Assembly

a. To prevent mildew, shake out and air web straps and canvas items for several hours at frequent intervals. Repair loose grommets or rips in canvas, without delay. Failure to make immediate repairs may allow a minor defect to develop into major damage. Mildewed canvas is cleaned by scrubbing with a dry brush. If water is necessary to remove dirt, it must not be used until mildew has been removed. If mildew is present, examine fabric carefully for evidence of rotting or weakening of fabric by stretching and pulling. If fabric shows indication of loss of tensile strength, it is probably not worth retreatment. Oil and grease may be removed by scrubbing with issue soap and water. Rinse well with water and dry.

Caution: **At no time is gasoline or any solvent to be used to remove oil or grease from canvas. Canvas should be dried thoroughly before folding.**

b. When cleaning wooden surfaces of the stock assembly, remove dirt, grease and carbon, by wiping with dry cloth. Wooden stocks should not be sanded, shaved, or scraped. Raw linseed oil should be rubbed into the wood to prevent dryness and prohibit absorption of moisture.

Caution: **Do not apply linseed oil to those surfaces adjacent to the barrel as application of oil to these surfaces creates a heavy smoking, caused by heat from barrel. This will obscure the operator's vision. Portions which swell due to high moisture content should be dried prior to application of the linseed oil. Do not allow linseed oil to contact and remain on metal parts.**

35. Basic Preventive Maintenance

The general preventive-maintenance procedures outlined in *a* through *e* below will be observed in addition to those referred to in tables I and II. Special maintenance of specific components of the materiel is covered, when necessary, in the sections pertaining to the components.

a. Rust, dirt, grit, gummed oil, and water cause rapid deterioration of internal mechanisms and outer surfaces. Particular care should be taken to keep all *bearing* surfaces clean and properly lubricated. Remove all traces of rust from bearing surfaces with crocus cloth, which is the coarsest abrasive to be used by the using organization for this purpose. Exterior surfaces of weapon (components) are not to be cleaned or polished with treated cloths or other commercial compounds.

b. Loose parts will be tightened and broken parts will be replaced or repaired.

c. At least every 6 months, check if all modifications have been applied. For a list of current modification work orders, see DA Pam 310-4. No alteration or modification will be made except as authorized by modification work orders.

d. Check equipment for completeness. Replace missing items and turn in for repair all damaged items. Use only tools that are provided and see that they are serviceable. After use, tools must be thoroughly cleaned, coated with a film of oil, and stored in their proper place.

e. Inspect and service the weapon, as described in paragraph 32, after any extended use of the weapon, as the tactical situation permits.

36. Schedule of Preventive Maintenance

a. Purpose. To insure mechanical efficiency, it is necessary that the materiel be systematically inspected at regular intervals, so defects may be discovered and corrected before they result in serious damage or failure. Certain scheduled maintenance services or unsatisfactory operating characteristics, beyond the scope of the operators to correct, must be reported at the earliest opportunity to the designated individual in authority.

b. Schedule. The item or points to be inspected and serviced by the operators are listed in table I.

Table I. Operators Preventive-Maintenance Checks and Services

1st echelon					
Daily schedule					
Interval and sequence			Items to be inspected	Procedure	Paragraph reference
Before operation	During operation	After operation			
1	———	7	Rifle ———	Clean chamber, bore, and all components and lubricate, with exception of gas cylinder and piston. These will remain dry.	33
*1	———	*7	Rifle ———	Lubricate with LAW.	
**1	———	**7	Rifle ———	Remove excessive oil.	
2	———	———	Rifle ———	Check gas cylinder plug for secure installation.	
	6	———	———	*Note:* Do not tighten gas cylinder plug when weapon is hot.	
3	———	———	Rifle ———	Hand function operating rod and bolt, they should not bind.	
4	———	———	Firing mechanism.	Actuate safety ———	9c
5	———	———	Barrel and receiver group.	Actuate windage knob and pinion assembly of rear sight, make certain they do not bind.	
		8	Barrel and receiver group.	Check front sight for secure installation. Must be tight.	
		9	Bipod ———	Check yoke jaws for functioning; they must hold securely to rifle.	12e
		10	Bipod ———	Clean and lubricate yoke and leg assemblies.	

*1 Indicates oil for below 0 degrees.
**1 Indicates for sandy or dusty conditions.

37. Preventive Maintenance by Armorer

a. Service by the armorer includes a systematic check to see that all operators preventive maintenance has been properly performed at the prescribed intervals, and that the materiel is in the best possible operating condition. The services set forth in table II are to be performed or supervised by the armorer at the designated intervals, in addition to any maintenance required as a result of the checks and services by the operator. The frequency of the preventive-maintenance services prescribed is considered a minimum requirement for operation of materiel under usual conditions. Under unusual operating conditions, such as extreme temperatures, mud, dust, or sand, extremely moist or salty atmosphere, or in rain or snow, it will be necessary to perform the maintenance services more frequently.

b. The operator should have the materiel in a clean condition for scheduled maintenance service by the armorer.

Table II. Preventive-Maintenance Checks and Services

2d echelon		Weekly schedule	
Sequence No.	Item to be inspected	Procedure	paragraph reference
1	Firing mechanism	Check for proper functioning of safety	9*c*
2	Firing mechanism	Inspect magazine latch; must hold magazine in rifle.	
3	Firing mechanism	Check housing of firing mechanism; must bear equal pressure on both sides of stock assembly.	
4	Stock with butt plate assembly and hand guard assembly.	Check for cracks, breakage or damage, and for dry condition of wood on stock.	48*b, c*
5	Stock with butt plate assembly and hand guard assembly.	Check butt plate assembly, must be secure to stock.	
6	Stock with butt plate assembly and hand guard assembly.	Inspect hand guard for cracks.	
7	Operating rod and connector group.	Remove operating rod spring and hand function operating rod, movement must be free (and in alinement with barrel, through operating rod guide).	
8	Operating rod and connector group.	Check for cracks in operating rod.	
9	Bolt assembly	Check for damaged firing pin and functioning of pin.	
10	Bolt assembly	Check bolt roller, extractor, and ejector for proper functioning.	
11	Barrel and receiver group	Check barrel for unusual wear, erosion, and damage to bore.	
12	Barrel and receiver group	Check rear sight for functioning; make certain it is secure to rifle.	62*c*
13	Barrel and receiver group	Check flash suppressor for alinement, cracks, and contact of round. Do not peen grooves.	62*f*
14	Barrel and receiver group	Check gas cylinder components; make certain they are clean.	62*b*
15	Barrel and receiver group	Check for free movement of gas piston, make certain it is assembled properly within gas cylinder.	63*a*(2) (fig. 43)
16	Bipod	Check for functioning of jaws, plunger, and leg assemblies.	70

Section IV. TROUBLESHOOTING

38. Scope

This section contains troubleshooting information and tests for locating and correcting some of the troubles which may develop in the rifle and bipod. Troubleshooting is the systematic study of trouble signs, testing to determine the defective component, and applying corrective action. Each malfunction is followed by probable causes and suggested procedures to be followed.

39. Troubleshooting

Table III is intended as a guide in troubleshooting. This table does not cover all possible malfunctions that may occur. Only

the more common malfunctions are listed. The tests and corrective actions are governed by the scope of the operator or organizational level of maintenance. When additional malfunctions occur, notify Ordnance maintenance personnel.

Table III. Troubleshooting

Malfunction	Probable cause	Corrective action
	7.62-mm Rifle M14	
Failure to load	Dirty or deformed ammunition	Clean or replace.
	Damaged magazine tube	Replace magazine (pars. 65 and 67).
	Dirty magazine	Clean.
	Damaged or broken spring	Replace magazine (pars. 65 and 67).
	Damaged or broken follower	Replace magazine (pars. 65 and 67).
	Loose or damaged floor plate	Replace magazine (pars. 65 and 67).
Magazine inserts with difficulty	Bent or deformed magazine	Replace magazine (pars. 65 and 67).
	Excessive dirt in receiver or on magazine.	Clean.
	Round not completely seated in magazine.	Remove round and insert properly.
	Deformed or damaged operating rod spring guide.	Notify Ordnance maintenance personnel.
	Deformed or damaged magazine latch.	Notify Ordnance maintenance personnel.
	Magazine latch movement restricted	Check movement; clean if necessary. If bent or distorted, notify Ordnance personnel.
Magazine not retained in weapon	Magazine latch damaged or deformed.	Notify Ordnance maintenance personnel.
	Magazine latch spring damaged or deformed.	Notify Ordnance maintenance personnel.
	Magazine latch plate damaged or missing.	Replace magazine (pars. 65 and 67).
	Deformed or damaged operating rod spring guide.	Notify Ordnance maintenance personnel.
	Locking recess at top front of magazine deformed.	Replace magazine (pars. 65 and 67).
	Magazine not fully installed	Remove and install properly (make certain latch clicks).
Failure to feed	Weak or broken magazine spring	Replace magazine (pars. 65 and 67).
	Damaged or deformed magazine	Replace magazine (pars. 65 and 67).
	Damaged or deformed stripping lug on bolt.	Notify Ordnance maintenance personnel.
	Short recoil	(See short recoil.)
	Dirty ammunition and or magazine	Clean ammunition and magazine as required.
	Weak or broken operating rod spring	Replace spring (pars. 51 and 53).
	Restricted movement of, or damaged operating rod.	Notify Ordnance maintenance personnel.
Bolt fails to close tightly	Cartridge case holding bolt out of battery.	Pull bolt to rear and remove deformed cartridge. Clean ammunition and/or barrel chamber.
	Dirty chamber	Clean barrel and chamber (par. 33).
	Extractor does not snap over rim of cartridge base.	Clean bolt assembly and extractor recess in breech face of barrel. Replace worn extractor and/or spring and plunger assembly (pars. 56 and 58).
	Frozen or blocked ejector spring and plunger.	Replace ejector (pars. 56 and 58).

Table III. Troubleshooting – Continued

Malfunction	Probable cause	Corrective action
	7.62-mm Rifle M14 — Continued	
Bolt fails to close tightly — Continued	Restricted movement of, or damaged operating rod.	Notify Ordnance maintenance personnel.
	Bolt not fully rotated and locked in receiver.	Remove burs or foreign substances restricting bolt movement.
	Weak or broken operating rod spring.	Replace spring (pars. 51 and 53).
	Damaged receiver	Notify Ordnance maintenance personnel.
Failure to fire	Bolt not fully forward and locked	(See bolt fails to close tightly.)
	Defective ammunition	Follow procedures for misfires, etc. (par. 17).
	Firing pin worn, damaged, or movement restricted.	Clean bolt as required or replace firing pin (pars. 56 and 58).
		Visually inspect firing pin protrusion at face of bolt.
	Broken hammer	Notify Ordnance maintenance personnel.
	Weak or broken hammer spring	Replace hammer spring (pars. 42 and 44).
	Hammer lugs, trigger lugs, or sear worn or broken sufficiently to cause hammer to ride the bolt forward.	Notify Ordnance maintenance personnel.
Short recoil	Gas plug loose or missing	Tighten plug or replace (pars. 61 and 63).
	Restricted movement of operating rod assembly.	Inspect for cause of interference, correct or notify Ordnance maintenance personnel.
	Bolt binding	Clean receiver, correct or notify Ordnance maintenance personnel.
	Gas cylinder lock not fully installed (Blocks gas port.)	Install properly.
	Gas piston restricted	Clean gas cylinder and piston (par. 33 (6)). Notify Ordnance maintenance personnel if damaged.
	Damaged connector assembly	Notify Ordnance maintenance personnel.
	Partially closed spindle valve	Turn valve to vertical position at right angle to bore.
	Improper lubrication in cold weather.	Clean and lubricate properly.
	Defective ammunition	Replace ammunition.
Failure to extract	Spindle valve closed	Open spindle valve.
	Cartridge seized in chamber (sheared rim).	Remove cartridge and clean chamber. Also clean ammunition if necessary.
	Short recoil	(See short recoil.)
	Damaged or deformed extractor	Replace extractor (pars. 56 and 58).
	Weak, deformed, or frozed extractor plunger assembly.	Replace plunger assembly.
	Ruptured or separated cartridge	Remove cartridge casing. Notify Ordnance maintenance personnel.
Failure to eject	Short recoil	(See short recoil.)
	Weak, deformed, or frozen ejector spring and plunger.	Replace ejector assembly (pars. 56 and 58).
Failure to hold bolt rearward	Damaged or deformed magazine follower.	Replace magazine (pars. 65 and 67).
	Damaged or deformed bolt lock	Notify Ordnance maintenance personnel.

Table III. Troubleshooting – Continued

Malfunction	Probable cause	Corrective action
	7.62-mm Rifle M14 — Continued	
Failure to hold bolt rearward-Continued	Bolt lock movement restricted ----	Clean bolt lock recess in receiver. If not corrected, notify Ordnanace maintenance personnel.
	Weak or broken magazine spring --	Replace magazine.
	Rifle Bipod M2	
Fails to clamp or lock securely ------	Heavy accumulation of grease, dirt or oil.	Clean and lubricate yoke assembly as required (par. 33).
	Locking bolt not tight ----------	Tighten as required. If threads are stripped, notify Ordnance maintenance personnel.
	Left hand jaw and right hand jaw assembly reversed.	Notify Ordnance maintenance personnel, to be disassembled and assembled properly.
	Excess wear or damage to yoke assembly clamps and/or gas cylinder and lock.	Notify Ordnance maintenance personnel.
Difficult movement or positioning of leg assemblies.	Heavy accumulations of grease, dirt, or oil..	Clean and lubricate yoke assembly and leg assemblies as required (par. 33).
	Components damaged ----------	Notify Ordnance maintenance personnel.

Section V. FIRING MECHANISM

40. General

The firing mechanism (2, fig. 25) consists of the trigger pin, trigger and sear assembly, hammer spring housing, hammer spring, hammer spring plunger, hammer pin, hammer, safety, safety spring, trigger guard, and housing assembly.

41. Removal

a. Remove magazine (fig. 17) by pressing magazine latch forward and withdrawing magazine from the weapon. Move operating rod rearward to unload the weapon.

Caution: **Make certain rifle is cocked before positioning safety.**

b. Place safety in safe position (fig. 14).

c. Disengage hooked end of trigger guard from firing mechanism housing.

d. Swing trigger guard away from stock but *do not rotate* more than 90 degrees (B, fig. 26) to withdraw firing mechanism from stock.

Caution: **Over 90 degrees rotational movement, towards the muzzle, can be felt when the cocking stud of the trigger guard engages point at base of hammer, working against hammer spring tension. The firing mechanism should be removed (A, fig. 26) before this position is reached. Partial withdrawal of firing mechanism combines with this added movement will cause damage to the rib or keyways on side of firing mechanism housing. This will result in difficult installation and removal of firing mechanism.**

42. Disassembly

Note. The key numbers shown below in parentheses refer to figure 27 unless otherwise indicated.

a. To disassemble the firing mechanism, close and latch the trigger guard.

b. Squeeze trigger, allowing hammer to move forward.

c. Hold firing mechanism within palm of right or left hand with trigger guard to the right (fig. 28). Place index and middle fingers over the back of the sear exerting pressure against the trigger and sear assembly. While exerting pressure, in this manner, use the point of a dummy round to drift the trigger pin and remove pin (1) from the mechanism. Release tension of hammer spring.

1—Magazine 7790183
2—Firing mechanism 7790195
3—Stock with butt plate assembly 7790702
4—Hand guard assembly 7791286
5—Operating rod and connector group
6—Bolt assembly 7790187
7—Barrel and receiver group

Figure 25. Group assemblies

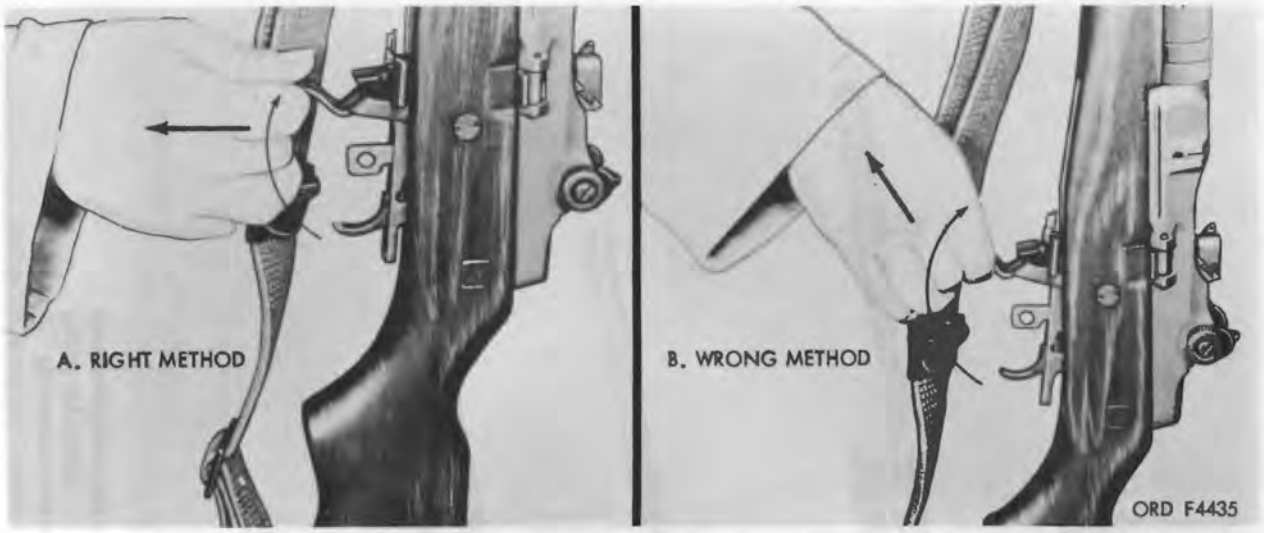
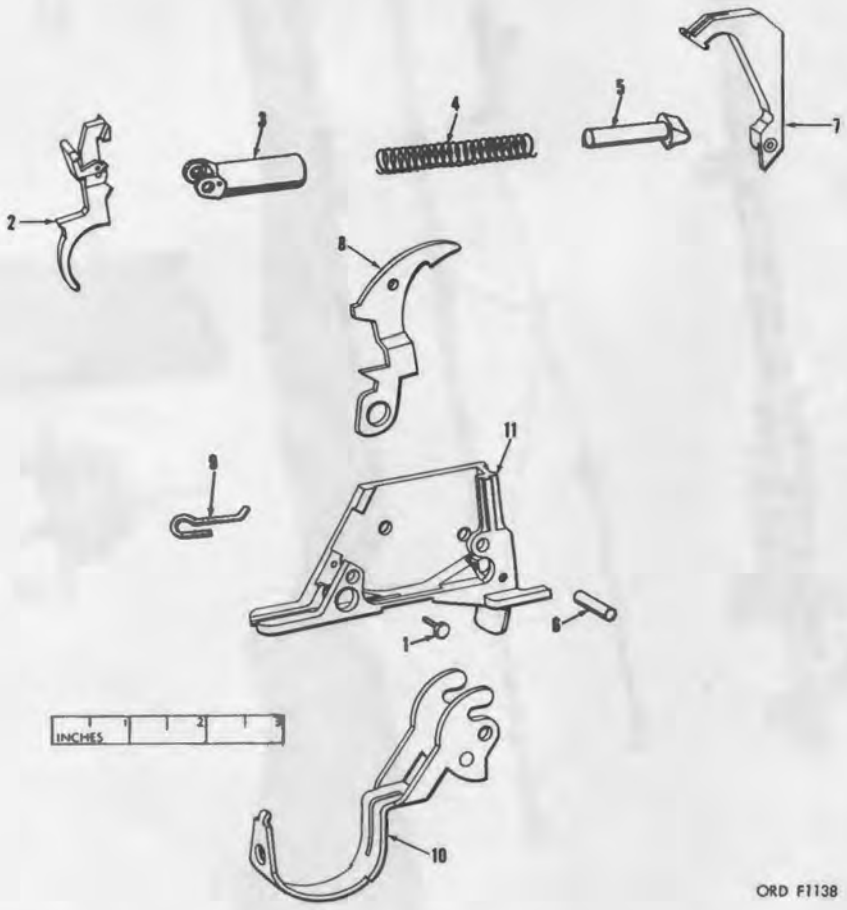


Figure 26. Removing firing mechanism.



1–Trigger pin 7791367
2–Trigger and sear assembly 7267090
3–Hammer spring housing 6008883
4–Spring 6008887
5–Hammer spring plunger 6008880
6–Pin 5013668
7–Hammer 5546008
8–Safety 5546015
9–Safety spring 7267080
10–Trigger guard 7790990
11–Housing assembly 7790196

Figure 27. Firing mechanism – exploded view.

Figure 28. Removing and installing trigger pin 7791367.

d. Lift out trigger and sear assembly (2); remove and separate hammer spring housing (3), spring (4) and hammer spring plunger (5).

e. Push out the pin (6) and move hammer (7) slightly to rear and lift out.

f. Unlatch and open the trigger guard (10).

g. Push out stud of the safety from hole in housing and remove safety (8) and safety spring (9).

h. Remove the trigger guard (10) by sliding it to the rear and rotating it upward to the right and away from housing.

43. Cleaning, Inspection, and Repair

a. Clean all parts with CR, rifle bore cleaner.

b. Inspect parts for burs, distortion, or breakage.

c. Replace unserviceable parts.

44. Assembly

Note. The key numbers shown below in parentheses refer to figure 27 unless otherwise indicated.

a. Install trigger guard (10) to base of housing assembly (11). Insert at a 90-degree angle; then rotate down.

b. Install safety spring (9) on stud in housing assembly with long end extending up.

c. Install safety (8) to housing assembly, compressing safety spring, and snapping stud of safety in hole in housing.

d. Install hammer (7) to housing assembly with slotted portion to rear. Position pointed base of hammer in front of hammer stop on trigger guard.

e. Aline holes of hammer, trigger guard, and trigger housing and secure with pin (6).

f. Release safety. Assemble hammer spring plunger (5) and spring (4) in the hammer spring housing (3). Install this group in the firing mechanism with the plunger seated in the groove at lower portion of the hammer.

g. Install trigger and sear assembly (2), engaging notched portion of trigger against housing assembly and top portion within yoke of hammer spring housing.

h. Hold firing mechanism (fig. 28) in palm of hand, compress spring, and install trigger pin (1). Head of trigger pin must be flush with housing.

45. Installation

a. To install the firing mechanism, unlatch and open the trigger guard and leave in the open position.

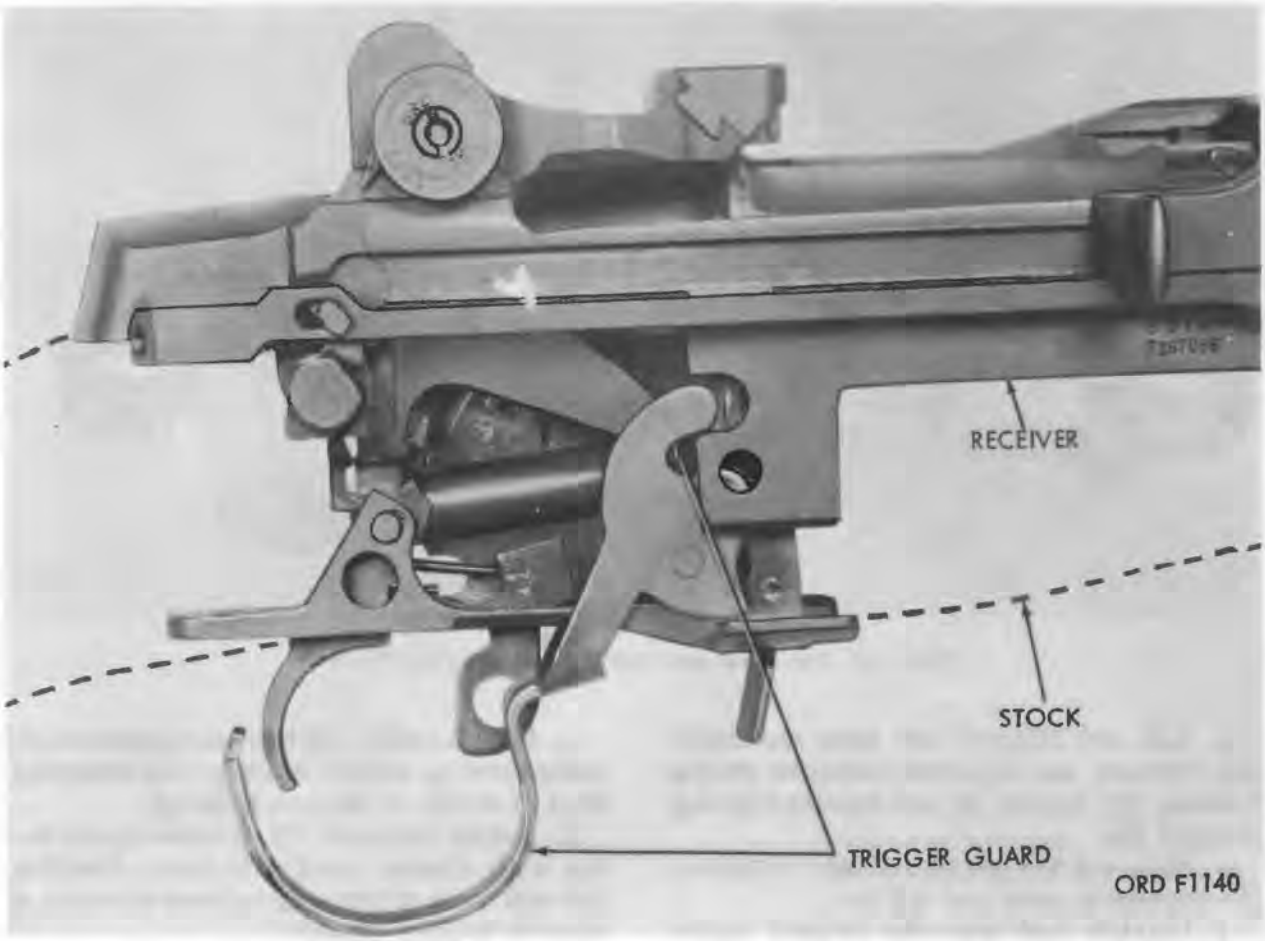


Figure 29. Trigger guard locking action with receiver.

b. Insert the mechanism through the underside of the stock. As the trigger guard is latched in the closed position, it engages the locking recesses in the bottom portion of the receiver (fig. 29).

Section VI. STOCK WITH BUTT PLATE ASSEMBLY AND HAND GUARD ASSEMBLY

46. General

The stock with butt plate assembly (3, fig. 25) and hand guard assembly (4, fig. 25) houses the components of the rifle. The butt end of the stock is drilled out to provide a stowage compartment for cleaning accessories (fig. 23). The butt plate assembly is provided with a hinged shoulder rest which moves outward and upward to a locked position. The shoulder rest aids in stabilizing the weapon during firing. The butt plate assembly also contains a hinged door for access to the stowage compartment in the stock. The butt plate assembly and butt swivel are attached to the stock. The bracket of the front swivel assembly is riveted to the front portion of the stock. The receiver well opening and recoil abutments in the stock are reinforced by the stock liner which is attached to the stock by two screws. The stock is locked to the barrel and receiver group by the firing mechanism. The hand guard assembly is secured to the barrel by the front band of the barrel and receiver group and the rear band hooks of the hand guard which engage in the slots of the barrel.

47. Removal

a. Stock With Butt Plate Assembly.

(1) Remove firing mechanism (par. 41).

(2) Separate the stock with butt plate assembly from rifle by grasping the receiver firmly in one hand and by striking sharply on the stock butt with the palm of the other hand.

(3) Lift stock from barrel and receiver group.

b. Hand Guard Assembly.

(1) Remove plug from gas cylinder.

(2) Unscrew gas cylinder lock.

(3) Slide gas cylinder and front band forward.

(4) Slide hand guard assembly forward and remove from barrel.

48. Cleaning and Inspection

a. Remove grease and dirt.

b. Check for cracks, breakage, or damage that would weaken the stock or hand guard assembly.

c. Check for dry or unoiled condition of wood. *Treat with raw linseed oil only.* Do not oil inside of stock.

49. Assembly

a. Engage hooks of band on hand guard assembly in slots on barrel and slide hand guard towards receiver.

b. Slide front band toward receiver, securing front end of hand guard assembly.

c. Slide gas cylinder rearward; install gas cylinder lock and gas plug.

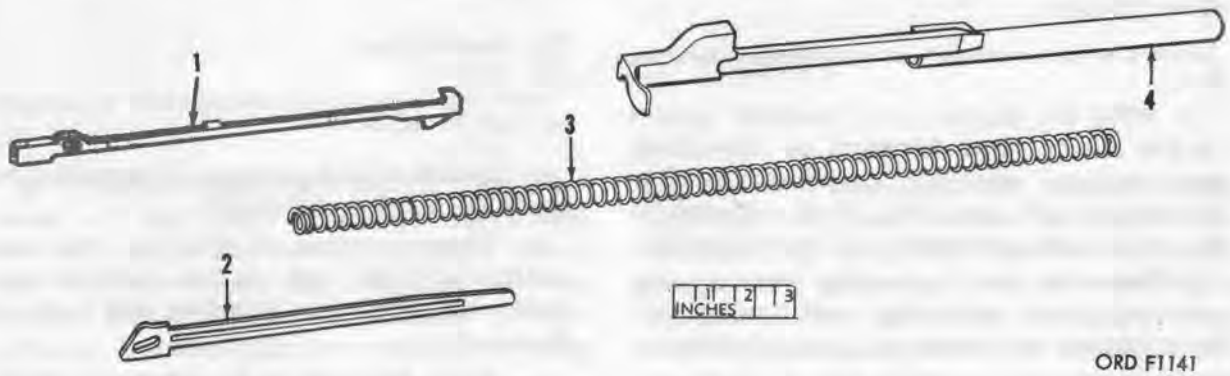
d. Assemble stock with butt plate assembly to receiver by inserting the ferrule on stock under the front band embedding the receiver within the stock and stock reinforcing liner.

e. Install firing mechanism securing stock to barrel and receiver (par. 45).

Section VII. OPERATING ROD AND CONNECTOR GROUP

50. General

The operating rod and connector group (5, fig. 25) consists of connector assembly, operating rod spring guide, operating rod spring and operating rod (fig. 30). The operating rod houses the operating rod spring and operating rod spring guide. The rod tube slides in the rod guide, which is fastened to the barrel and is latched to the receiver by the connector assembly. The end of the rod tube abuts the gas piston when the rod is in its forward position.



1–Connector assembly 7790424
2–Operating rod spring guide 7267027
3–Operating rod spring 7267079
4–Operating rod 7267064

Figure 30. Operating rod and connector group.

51. Removal

a. Depress rear sight to lowest position; turn the barrel and receiver group on its side with connector assembly upward.

b. When equipped with selector, press in and turn selector until the face marked A is toward the rear of sight knob, and the projection forward at an angle of approximately 35 degrees. Then press forward on connector assembly and remove as indicated in *c* and *d* below.

c. When equipped with lock, press forward on rear of connector assembly (fig. 31) with right thumb until the front end can be lifted off connector lock.

Figure 31. Disengaging of connector assembly.

d. Rotate the connector assembly (fig. 32) clockwise (approximately 35 degrees) until the slot at the rear is alined with elongated stud on the sear release.

Note. The key numbers shown below in parentheses refer to figure 30.

e. Lower the front end of the connector assembly (1) slightly and lift it from the sear release.

Note. Connector assembly should not be disassembled.

f. With the barrel and receiver group upside down, pull forward on operating rod spring, relieving pressure on the connector lock pin. Pull lock outward to disconnect the operating rod spring guide.

g. Remove the operating rod spring guide (2) and operating rod spring (3). Turn barrel and receiver group right side up.

h. Retract the operating rod until the key on its lower surface coincides with the notch in the receiver. Lift the operating rod (4) free and pull to the rear, disengaging it from operating rod guide.

52. Cleaning, Inspection, and Repair

a. Clean parts with CR, rifle bore cleaner.

b. Check for worn, distorted, or broken parts.

c. Replace broken or kinked operating rod spring.

53. Installation

Note. The key numbers shown below in parentheses refer to figure 30.

a. Install round portion of operating rod (4) in operating rod guide.

b. Place recess section of rod over roller on bolt; line up key on lower surface with notch in receiver and push rod forward.

c. Turn barrel and receiver upside down.

d. Install operating rod spring (3) in operating rod and operating rod spring guide (2) into spring; compress spring and set guide into slot of receiver. Secure

in place by engaging connector lock in slot at rear of guide.

e. Install connector assembly (1) by placing rear slot of connector assembly on stud of sear release and move connector assembly to left until parallel with receiver.

f. Press forward on connector while pushing down to snap assembly over connector lock.

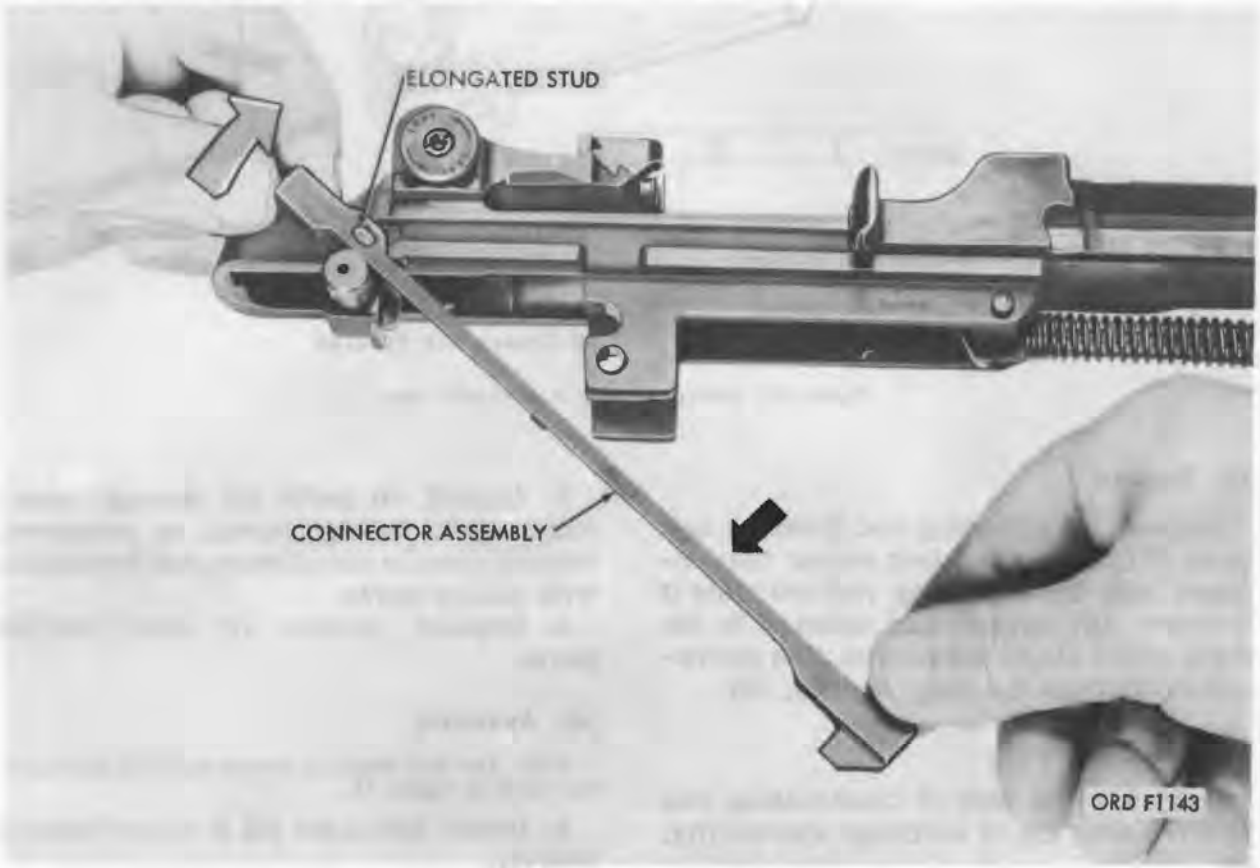


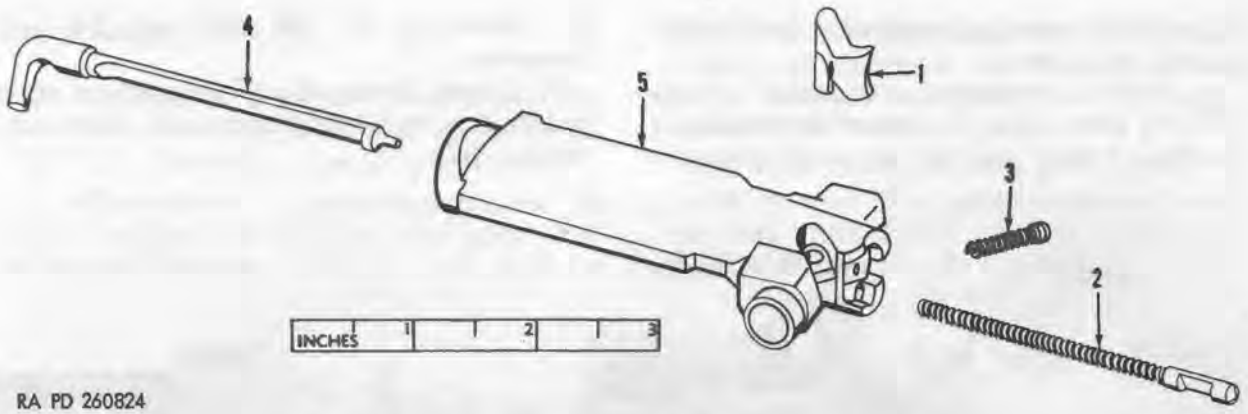
Figure 32. Removing connector assembly.

Section VIII. BOLT ASSEMBLY

54. General

a. The bolt assembly (6, fig. 25) consists of cartridge extractor, cartridge ejector, extractor spring plunger, firing pin and breech bolt (fig. 33). The bolt has a stud with a roller that reduces friction when in contact with the recess camming surfaces of the operating rod.

b. As the operating rod carries the bolt forward, the stripping lug at the bottom of the bolt face engages the base of the cartridge driving it foward out of the magazine and into the chamber of the barrel. As the bolt goes into the locked battery position, the base of the cartridge compresses the cartridge ejector. Simultaneously, the extractor overrides the rim of the cartridge. When the round has been fired, the holding action of the extractor on rim of cartridge and rearward movement of bolt withdraws the cartridge case from the chamber. As the spent round clears the chamber, the force of the ejector drives the casing up and out from the weapon, clearing the receiver (fig. 34).



RA PD 260824

1–Cartridge extractor 5546003
2–Cartridge ejector 7267015
3–Extractor spring plunger 6008618
4–Firing pin 7791417
5–Breech bolt 7790186

Figure 33. Bolt assembly – exploded view

55. Removal

Remove the operating rod from the bolt (par. 51). Grasp the bolt roller that engages with the operating rod and slide it forward; lift upward and outward to the right with a slight rotating motion and remove bolt from the receiver (fig. 35).

56. Disassembly

a. Position end of combination tool 7790769 over top of cartridge ejector (fig. 36).

b. Insert blade of combination tool between extractor and stripping lug on lower face of bolt.

c. Pry extractor upward. Cartridge ejector will snap against end of combination tool when extractor shaft is withdrawn from recess in bolt.

Note. The key numbers shown below in parentheses refer to figure 33.

d. Remove cartridge extractor (1), cartridge ejector (2), and extractor spring plunger (3) from breech bolt (5).

e. Remove firing pin (4) from rear of breech bolt.

Note. Exercise caution to prevent loss of extractor spring plunger.

57. Cleaning, Inspection, and Repair

a. Clean parts with CR, rifle bore cleaner.

b. Inspect all parts for damage, wear, burs, rust, foreign matter in recesses, deformation for functioning, and free action with mating parts.

c. Replace broken or unserviceable parts.

58. Assembly

Note. The key numbers shown below in parentheses refer to figure 33.

a. Install firing pin (4) in rear of breech bolt (5).

b. Install cartridge ejector (2) in recess slot of bolt with flat side of ejector facing to right.

c. Install extractor spring plunger (3) in its recess in bolt and install cartridge extractor (1).

d. Using combination tool (fig. 36) aline flat recess in face of tool with end of ejector. Press in on ejector and at the same time push down on extractor securing all parts within bolt.

59. Installation (fig. 35)

Hold bolt by bolt roller and insert the rear end of the bolt on the bridge of receiver. Rotate bolt slightly to the left, allowing the tang of the firing pin to clear the top of the bridge. Push bolt towards the rear, allowing the left locking lug to line up with the groove in receiver. Move

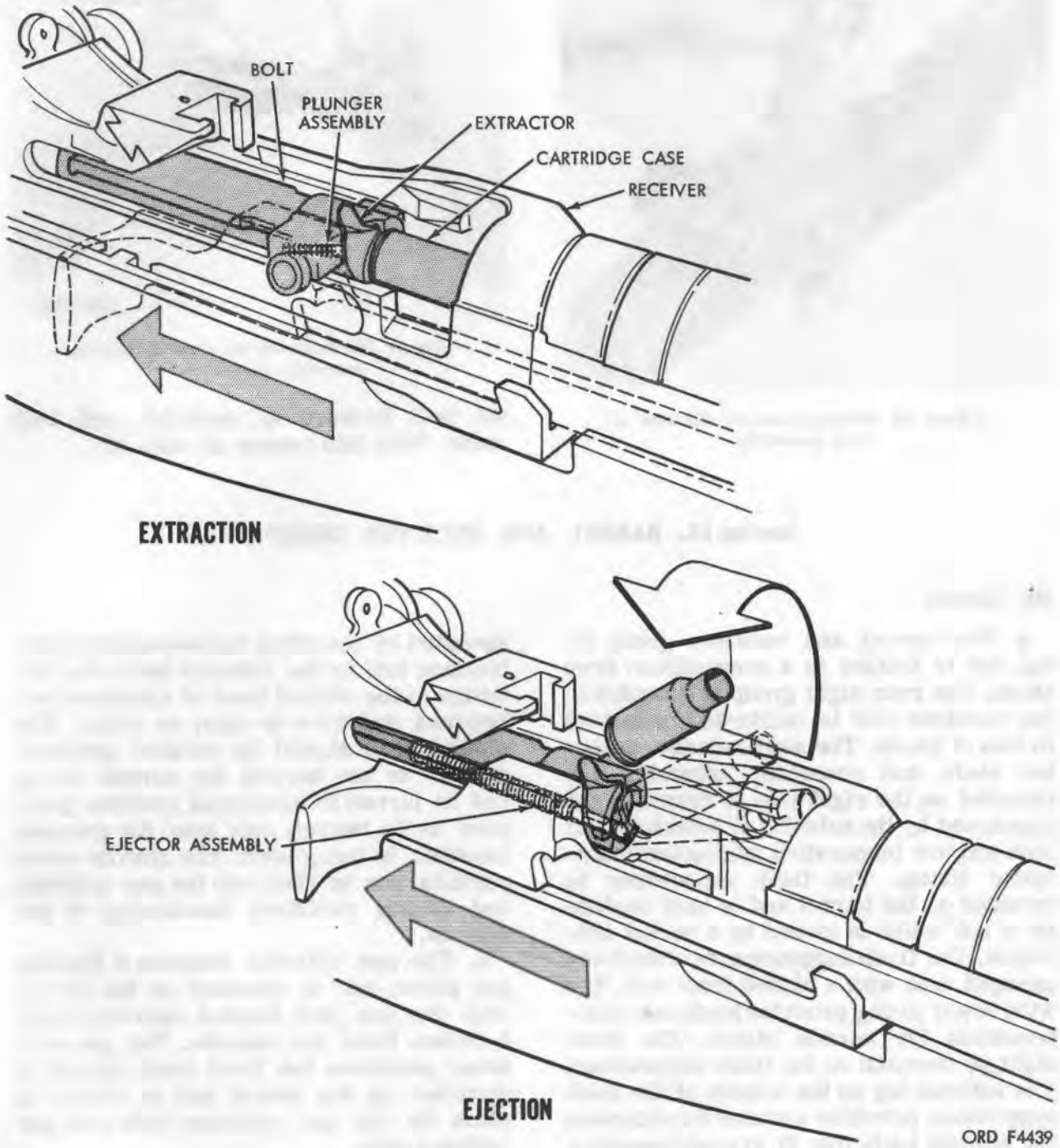


Figure 34. Extraction and ejection.

Figure 35. Removal and installation of bolt assembly.

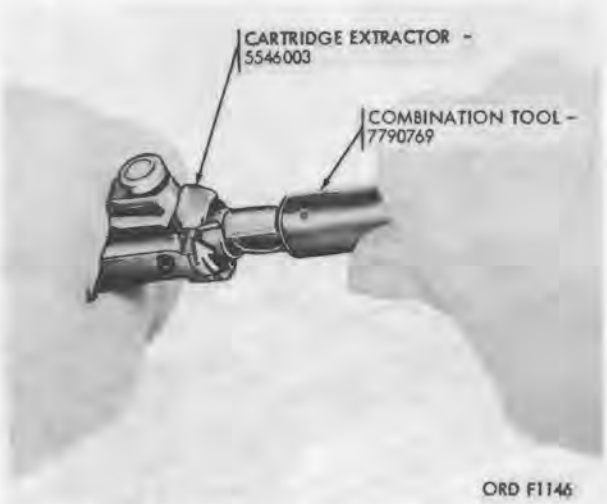


Figure 36. Removal and installation of cartridge extractor.

the bolt forward in receiver until bolt roller falls into recess of receiver.

Section IX. BARREL AND RECEIVER GROUP

60. General

a. The barrel and receiver group (7, fig. 25) is bedded in a conventional drop stock. The rear sight group is mounted on the receiver and is calibrated in meters in lieu of yards. The sear release, selector shaft, and connector assembly are mounted on the right side of receiver and positioned by the selector or selector shaft lock and are inoperative during semiautomatic firing. The flash suppressor is mounted on the barrel and is held in place by a nut which is locked by a socket setscrew. The flash suppressor is of the five-pronged type with a closed front end. The wide lower prong provides moderate compensation for muzzle climb. The front sight is mounted on the flash suppressor. The bayonet lug on the bottom of the flash suppressor provides a means for attaching the bayonet knife (fig. 3), grenade launcher (fig. 5), and a blank ammunition firing attachment (fig. 6) to the rifle.

b. The gas spindle valve (fig. 15) is located forward of the hand guard front band, midway between the barrel and gas cylinder. The gas spindle valve can be operated by inserting the blade of the combination tool or the rimmed base of a cartridge in the slotted head of spindle valve. Depress and turn to open or close. The slotted head should be vertical (perpendicular to the barrel) for normal firing and is turned to horizontal position (parallel to the barrel) only when the grenade launcher is being used. The spindle valve permits gas to flow into the gas cylinder and causes continual functioning of the weapon.

c. The gas cylinder contains a floating gas piston and is mounted on the barrel with the gas port located approximately 8 inches from the muzzle. The gas cylinder positions the front band against a shoulder on the barrel and is locked in place by the gas cylinder lock and gas cylinder plug.

d. For gas operation (fig. 37), the bullet passes the gas port in the barrel and the expanding propellant gases escape into the gas cylinder (when the spindle valve is open). The force of the expanding gases filling the cylinder, gas cylinder piston,

and gas cylinder plug, drives the piston to the rear, imparting a sharp rearward movement of the operating rod. When the gas cylinder piston has reached its rearmost position, the vent port at the forward part of the piston is slightly to the rear of the vent port in the bottom of the cylinder permitting the escape of excess gas pressure. Counterrecoil action of the operating rod and spring move the gas cylinder piston forward alining the piston with the intake gas port.

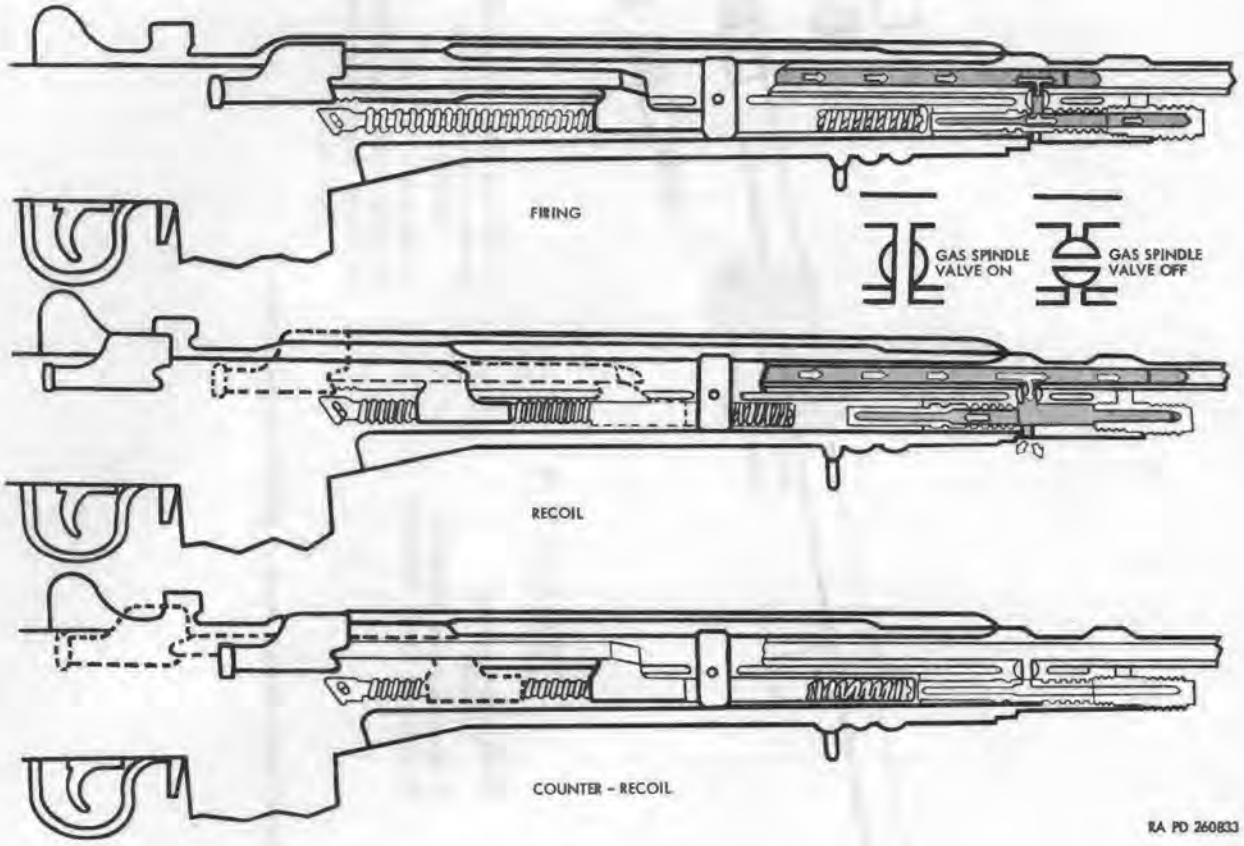


Figure 37. Cycle of gas operation.

61. Disassembly

a. Remove firing mechanism (par. 41*d*).

b. Remove stock with butt plate assembly (par. 47*a*).

c. Remove hand guard assembly (par. 47*b*).

d. Remove operating rod and connector assembly (par. 51).

e. Remove bolt assembly (par. 55).

f. Disassemble rear sight as follows:

Note. The key numbers shown below in parentheses refer to figure 38 except where otherwise indicated.

(1) Run aperture all the way down and record the reading for use in reassembling.

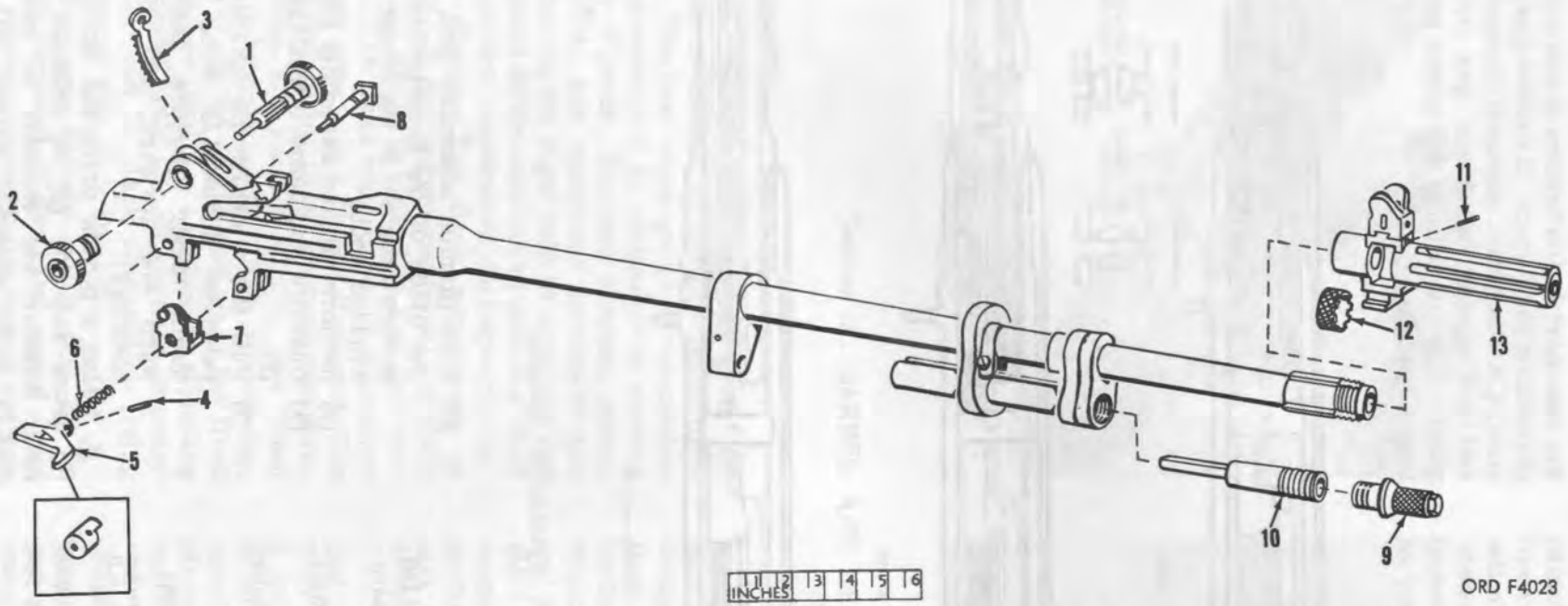
(2) Hold pinnion assembly and, using the blade of the combination tool, unscrew the nut in the center of the windage knob.

(3) Remove pinnion assembly (1).

(4) Unscrew and remove windage knob (2).

(5) Pull the aperture (3) up from the receiver about 1/2 inch. Place thumb under aperture, push upward and forward, and remove aperture.

g. Using a punch, drive out spring pin (4) from selector (5) or selector shaft lock. Remove the selector or selector shaft lock. selector spring (6), sear



1–Pinion assembly 7267099
2–Windage knob 7312737
3–Aperture 6008868
4–Spring pin MS 16562-107
5–Selector 7267071 or selector shaft lock 7267172

6–Selector spring 7267081
7–Sear release 7790192
8–Selector shaft 7267072

9–Gas cylinder plug 7267053
10–Gas cylinder piston 7267047
11–Setscrew 147457
12–Plain round nut 7267039
13–Flash suppressor with front sight

Figure 38. Barrel and receiver group – partial exploded view.

release (7), and selector shaft (8) from receiver.

Note. When removing selector, caution should be exercised not to lose the selector spring.

h. Using wrench end of combination tool (fig. 39), remove gas cylinder plug (9) from gas cylinder. Tilt muzzle end of rifle downward and remove gas cylinder piston (10) from gas cylinder.

Caution: **When loosening or tightening gas cylinder plug, do not hold rifle with hand on hand guard.**

Note. The gas cylinder assembly will be disassembled when inspection reveals that the piston will no longer move within the cylinder under its own weight when the barrel is tilted end for end in an upright position. The practice of disassembly after each firing and for routine inspection is not necessary.

i. Using a 1/16-inch socket head screw key, remove setscrew (11) in base below the front sight lug on the flash suppressor (A, fig. 40).

j. Using flash suppressor pliers (B, fig. 40), unscrew plain round nut (12) and slide flash suppressor with front sight (13) and nut from muzzle end of barrel. Separate nut from flash suppressor.

Note. The operations in *i* and *j* above are restricted to second-echelon armorer.

Figure 39. Removal and installation of gas cylinder plug.

62. Cleaning, Inspection, and Repair

a. Remove ruptured cartridge case from chamber of barrel as indicated in figure 41.

b. Clean all parts with CR, rifle bore cleaner. Make certain gas cylinder and piston are free of carbon. Discoloration of corrosion resisting steel in gas piston has no effect upon functioning and does not require polishing.

Caution: **Do not use abrasive, steel wool, wire brushes, or scrapers to clean the gas cylinder or piston.**

c. Inspect all parts for damage, wear, burs, rust, foreign matter is recesses, and deformation. Check rear sight for functioning and looseness.

d. Replace damaged selector, gas cylinder plug, and rear sight aperture.

e. When using barrel reflector for inspection of barrel, draw operating rod to rear; press in on bolt lock engaging bolt. Install barrel reflector in rear of barrel with reflector up. View condition of barrel through both muzzle and breech assuring adquate light source (fig. 42). Remove barrel reflector and release bolt lock to close the bolt.

f. If contact of round within bore of flash suppressor is observed, the face of the barrel and mating recess in the flash suppressor should be inspected for dirt or other foreign objects. Clean or remove foreign objects that would interfere with the mating surfaces.

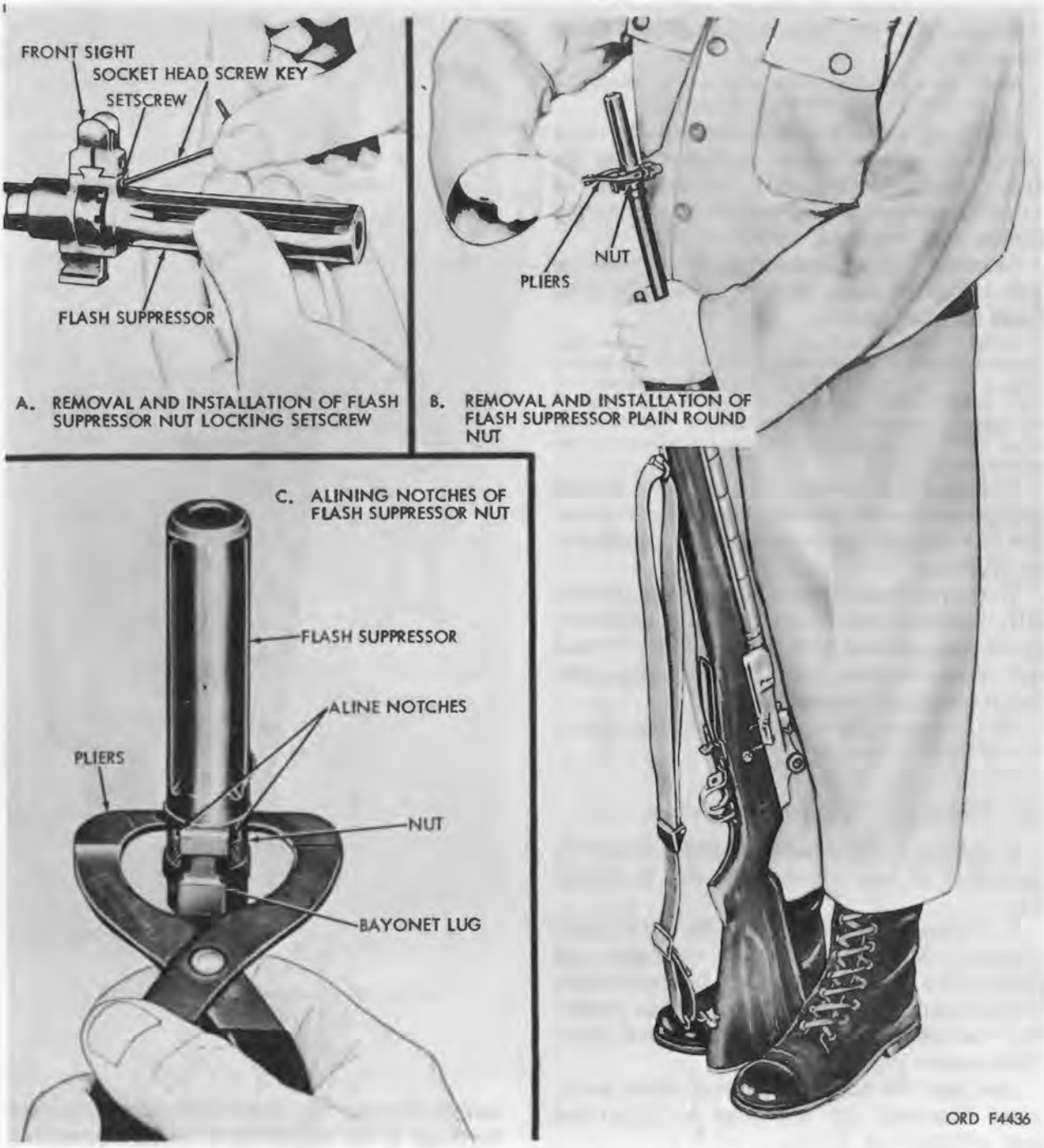


Figure 40. Procedures for removal and installation of flash suppressor.

63. Assembly

Note. The key numbers shown below in parentheses refer to figure 38 except where otherwise indicated.

a. Place plain round nut (12) within recess of flash suppressor with front sight (13) and install to muzzle end of barrel. Draw nut up fingertight; then use flash suppressor pliers (fig. 40) to seat and secure flash suppressor firmly to barrel.

Caution: **Face of barrel and mating recess in flash suppressor must be free of any damage or distortion and free of dirt or other foreign objects. When assembled,**

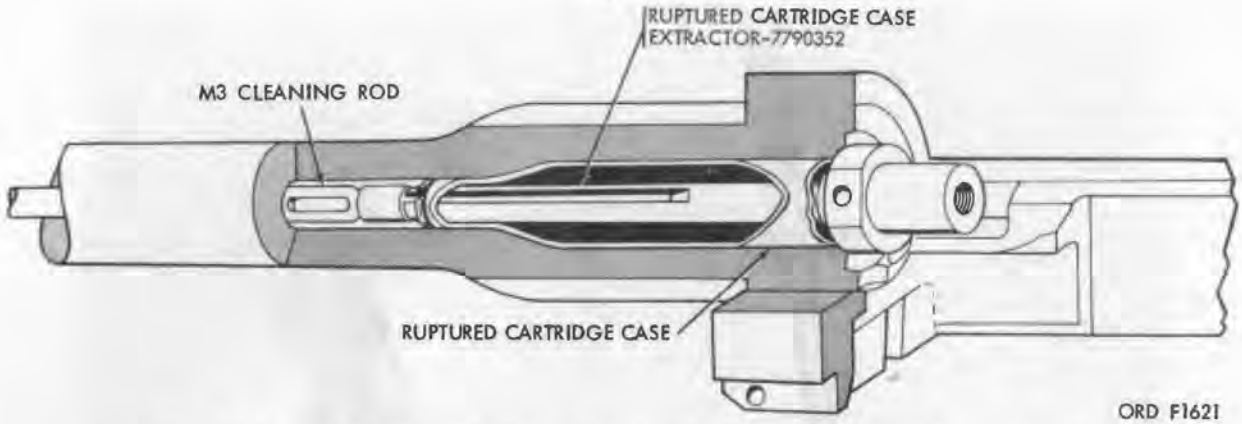


Figure 41. Removal of ruptured cartridge case using ruptured cartridge case extractor.

these surfaces must be flush so base of barrel and flash suppressor will be in perfect alinement. When tightening plain round nut, make certain equal portions of notches are visible to right and left of sight base and bayonet lug (C, fig. 40), thereby alining notches to permit installation of locking setscrew (A, fig. 50).

Note. Prior to installation of locking setscrew, make certain flash suppressor is firm to barrel and that no movement can be felt.

(1) Install setscrew (11) in top of suppressor below front sight (A, fig. 40) locking nut within flash suppressor.

(2) Insert gas cylinder piston (10) with flat portion facing upward, as indicated in figure 43, within gas cylinder making certain piston protrudes *through* rear of cylinder *before* installing and securing gas cylinder plug (9).

Note. Prior to installing gas piston, make certain gas cylinder, piston, and gas cylinder plug are thoroughly dried.

(3) Install and secure gas cylinder plug (9) using wrench portion of combination tool as indicated in figure 39.

b. Install selector shaft (8), sear release (7), selector spring (6), selector or selector shaft lock (5) and secure with spring pin (4) through selector and selector shaft.

c. Install aperture (3) into base pushing all the way down.

d. Press base forward with left thumb. Screw windage knob (2) into base.

e. Insert pinion assembly (1) into left side, position with same reading indicated as when disassembling.

f. Tighten nut in center of windage knob securing firmly, using blade of combination tool.

Note. The screw on the elevating knob is used to retain the zero setting. The nut in center of windage knob is used to adjust amount of tension required to rotate the elevation and windage knobs and prevent movement of the sight during firing.

g. Install bolt assembly (par. 59).

h. Install operating rod and connector group (par. 53).

i. Install stock with butt plate assembly and hand guard assembly (par. 49).

j. Install firing mechanism (par. 45).

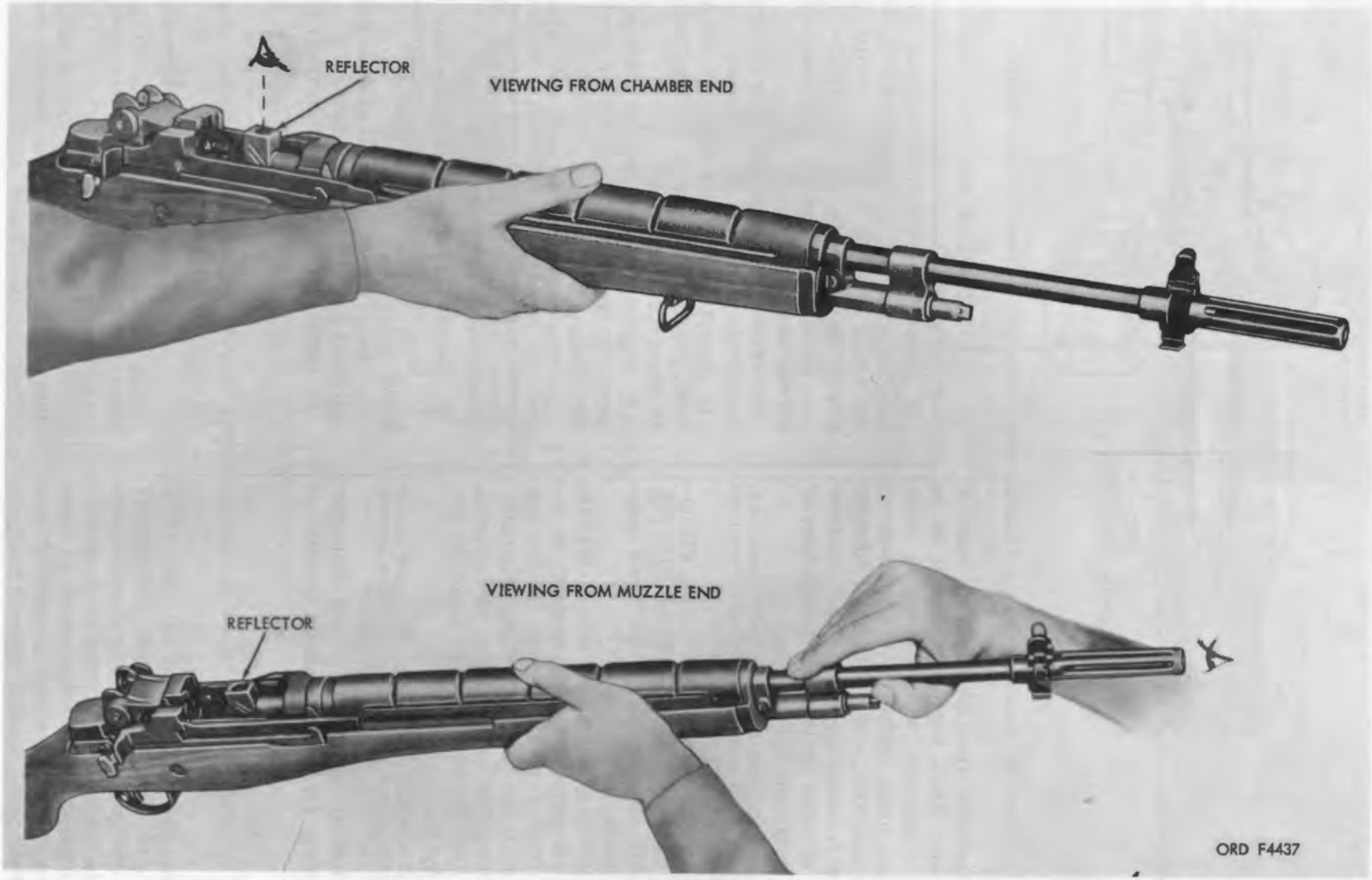


Figure 42. Inspection of barrel using barrel reflector 7790138.

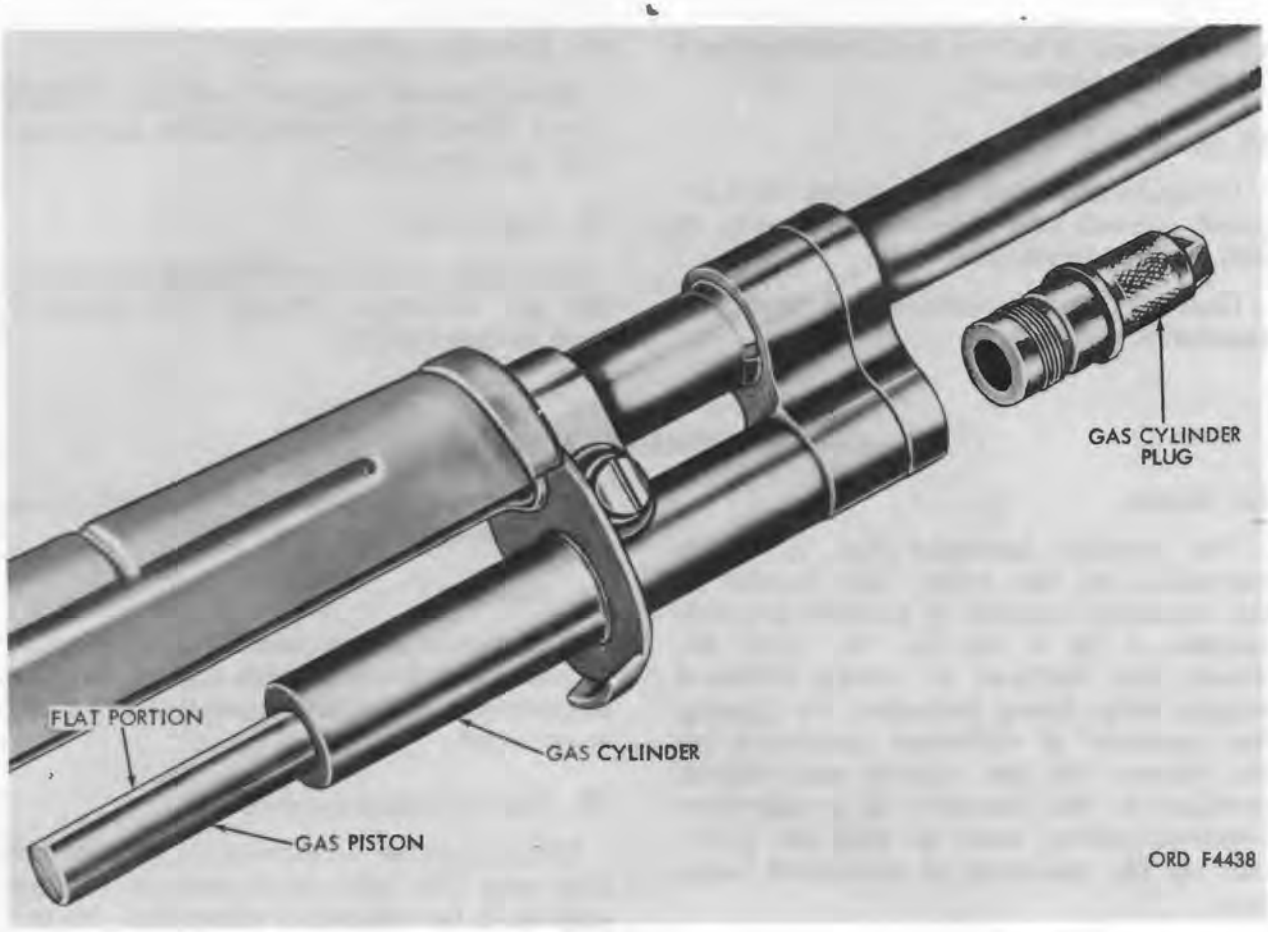


Figure 43. Installation of gas piston.

Section X. MAGAZINE

64. General

The magazine (1, fig. 25) consists of the magazine tube, base, spring, and follower. The magazine holes 20 cartridges, is inserted in the bottom of the weapon (through the stock and firing mechanism), and is held in place by the spring actuated latch (fig. 17) on the firing mechanism and the point of the operating rod spring guide.

65. Removal

Press magazine latch (fig. 17) forward and remove magazine.

66. Cleaning and Inspection

Remove excess dirt, oil, and grease. Check for bent or damaged magazine.

67. Installation

Insert magazine (fig. 17) into well at bottom of stock and receiver. Make certain latch clicks when installing.

Section XI. RIFLE BIPOD M2

68. General

The rifle bipod (fig. 8) consists of the yoke assembly and the left and right leg assemblies. The bipod connects to the gas

cylinder and is held in position by two jaws in the yoke assembly.

69. Removal

Using combination tool, loosen bolt located beneath yoke assembly base (fig. 8) and remove bipod from rifle.

Caution: **Do not remove bolt from jaw assembly.**

70. Cleaning and Inspection

Clean excess dirt, oil, and grease from bipod. Check functioning of jaws, plungers, and leg assemblies.

71. Installation

Install bipod to rifle with jaws encircling the gas cylinder. Tighten bolt securing jaws to gas cylinder.

Section XII. GRENADE LAUNCHER M76

72. General

The grenade launcher (fig. 9) is an extension to the rifle. The barrel of the launcher contains 9 annular grooves number 6 to 2 and 2a, 3a, and 4a. These are utilized to obtain different ranges when firing grenades, by placing the grenade at different positions on the barrel. On the muzzle end bottom portion of the launcher is a clip-type retainer spring used to hold the grenade on the launcher at a desired position.

73. Installation

Install barrel end of launcher containing clip latch to flash suppressor. Push clip latch rearward, securing it to bayonet lug of the flash suppressor.

74. Removal

Pull downward on handle of clip latch, to release it from bayonet lug on the flash suppressor and slide launcher from flash suppressor.

75. Cleaning and Inspection

Clean launcher of excess oil, grease, and dirt with CR, rifle bore cleaner. Inspect clip latch for cracks or distortion. To insure retention of plunger retaining pin, an area around the pin hole should be lightly staked with a center punch, moving metal inward and thus preventing loss of pin.

Section XIII. GRENADE LAUNCHER SIGHT M15

76. General

The grenade launcher sight (fig. 5) provides an angular measurement of elevation for firing rifle grenades and can be used for both low angle (direct firing) and high angle firing.

77. Installation (fig. 44)

Install sight to mounting plate, alining notches of plate with click spring tips of the sight as indicated in A, figure 44. Turn clockwise (B, fig. 44) until sight mark lines up with 0 degrees on mounting plate. At this position the leveling bubble should be positioned at level (C, fig. 44).

78. Removal

Turn sight counterclockwise until clip spring tips of sight aline with notches in mounting plate; remove sight from mounting plate (A, fig. 44).

Note: Do not remove mounting plate from stock.

79. Cleaning and Inspection

Clean sight of dirt, oil, and grease. Clean glass of leveling bubble. Clean mounting plate and scale. Inspect mounting plate and notches and clip spring tips for burs.

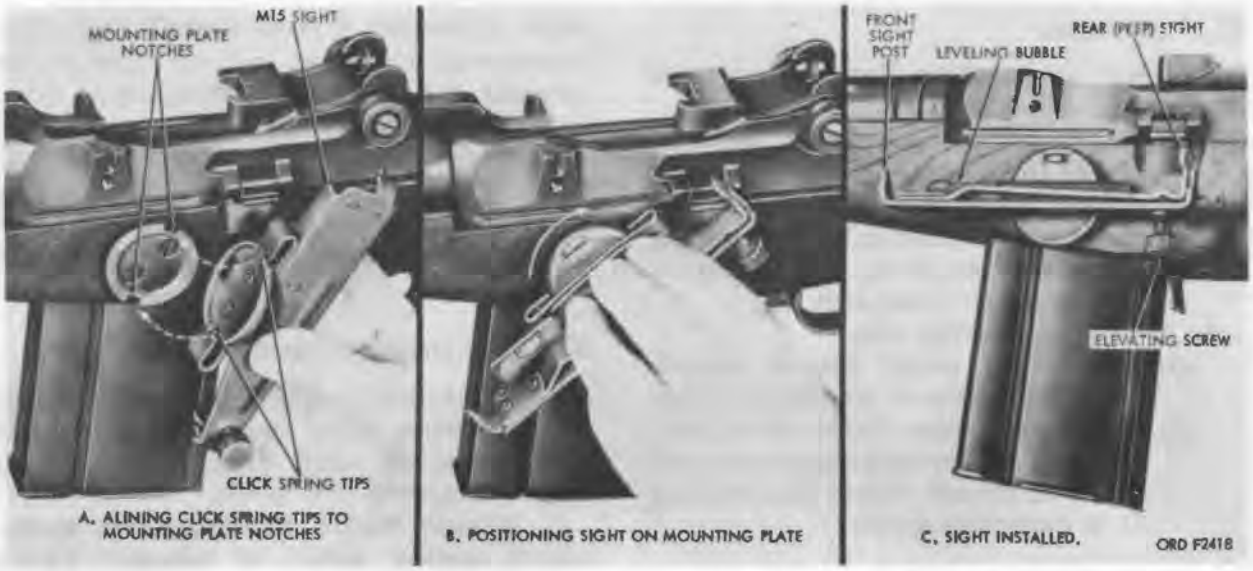


Figure 44. Installation of grenade launcher sight M15.

Section XIV. BAYONET-KNIFE M6; BAYONET-KNIFE SCABBARD M8A1

80. General

The bayonet knife (fig. 10) is utilized for close combat, guarding of prisoners, riot duty, etc. It also can be used as a general utility knife. The blade has a cutting edge the full length on the bottom and 3-1/2 inches to the rear of the top point on the top edge. The handle fits comfortably and has a knurled surface for a firm grip. The bayonet-knife scabbard is used to carry the bayonet-knife when not being used on the rifle.

81. Installation

Install bayonet-knife to rifle engaging groove of rifle handle to bayonet lug on front sight and loop of top portion of handle over flash suppressor. Slide rearward until lugs of latching lever snap over bayonet lug.

82. Removal of the Bayonet-Knife

Grasp handle of bayonet and depress latching lever on handle releasing bayonet lug from groove in handle. Slide bayonet from rifle.

83. Cleaning and Inspection

Clean bayonet of dirt or grease. Refer to paragraph 34 for cleaning scabbard. Inspect latching lever lugs in bayonet handle for burs.

Section XV. BLANK AMMUNITION FIRING ATTACHMENT M12 AND BREECH SHIELD M3

84. General

The blank ammunition firing attachment and breech sheild (fig. 11) are designed for the rifle for training purposes only and are used when firing blank cartridges. The attachment consists of an orifice tube and a spring clip latch which secures the attachment to the bayonet lug of the flash suppressor. The breech sheild is used with the attachment and is composed of a deflector shield and a guide lug with a spring plunger which secures the shield to the cartridge guide.

Note. The blank ammunition firing attachment and breech shield are packaged together and are requisitioned under FSN 1005-893-0902. See appendix III basic issue item list.

85. Installation

a. Blank Ammunition Firing Attachment (fig. 45).

(1) Insert orifice tube in muzzle opening of flash suppressor.

(2) Press out on spring clip latch and down on attachment; release spring slip latch securing grooved portion of latch to bayonet lug.

b. Breech Shield (fig. 46).

(1) Insert the guide lug of breech shield into slot of cartridge guide.

(2) Using an empty blank cartridge, press in on spring plunger and push down on breech shield thus locking it to cartridge guide.

86. Removal

a. Blank Ammunition Firing Attachment (fig. 45). In removing the attachment from the rifle, press outward on spring clip latch releasing it from bayonet lug. Turn attachment either to left or right of the bayonet lug and slide attachment from flash suppressor.

b. Breech Shield (fig. 46). Using an empty blank cartridge, press in on spring plunger located on the guide lug of breech shield. Lift breech shield from cartridge guide.

87. Cleaning and Inspection

a. Blank Ammunition Firing Attachment. Clean carbon from orifice tube. Inspect for cracks in weld area. Check spring action of spring clip latch.

b. Breech Shield. Remove dirt or gease. Check spring action of plunger. Check cartridge guide lug of breech shield for burs. Remove burs with crocus cloth or fine file.

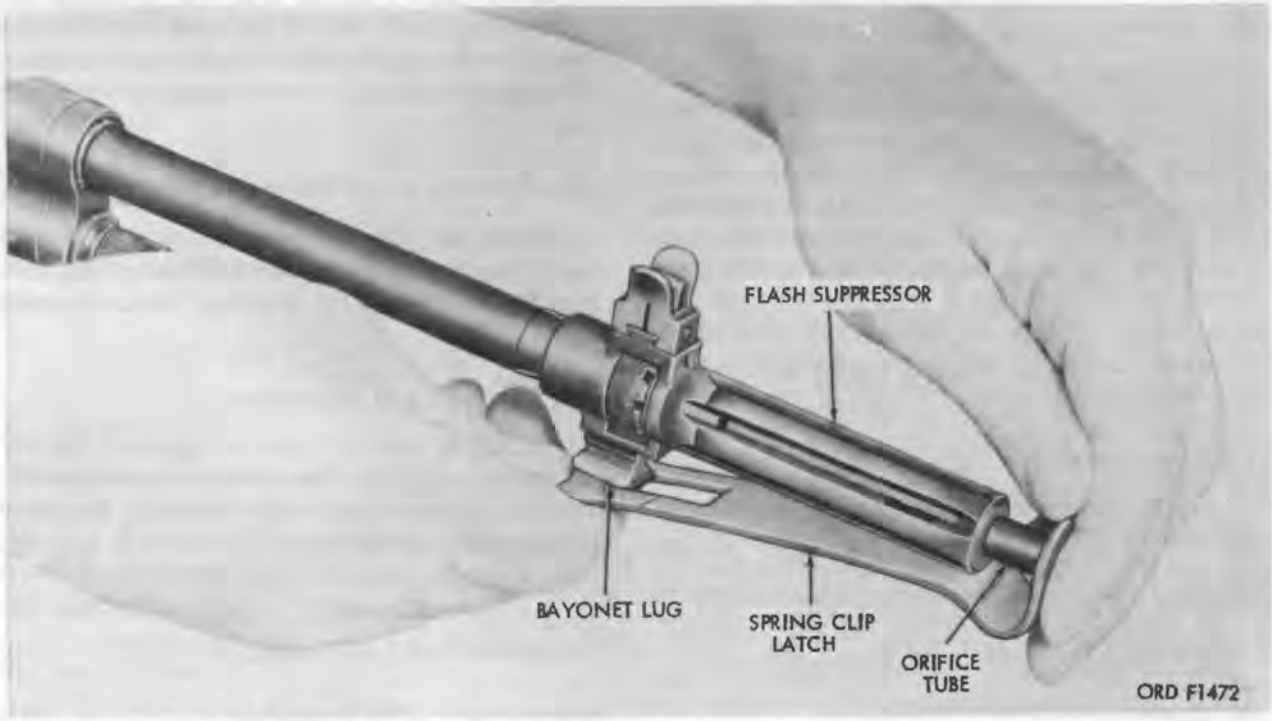


Figure 45. Removing and installing blank ammunition firing attachment.

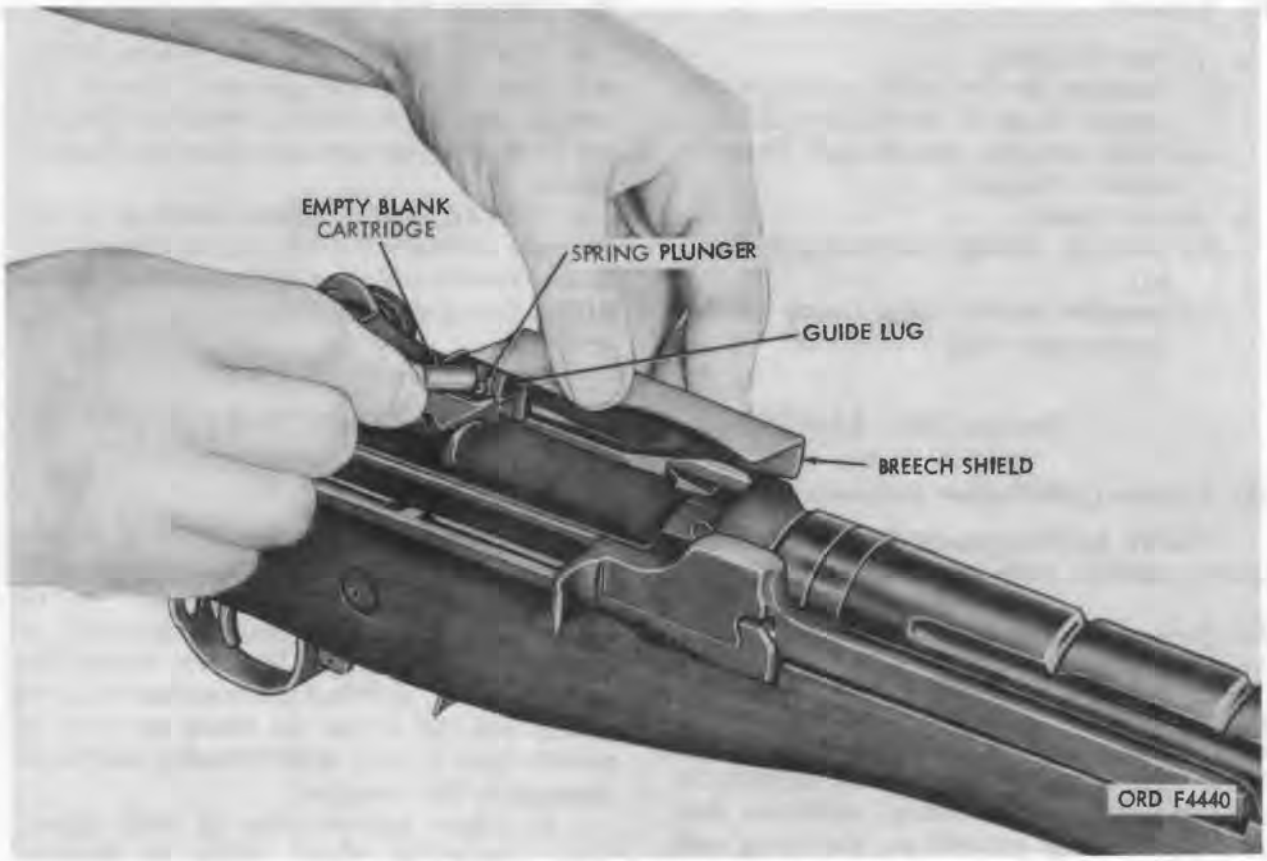


Figure 46. Removing and installing breech shield.

Section XVI. WINTER TRIGGER KIT

88. General

The winter trigger kit (fig. 7) is utilized only during cold weather and arctic operations and by special authorization of the area commander. It consists of two wood screws, a winter trigger assembly and winter safety (fig. 12). The winter trigger is composed of a hinge, lever, and cam. The hinge of the trigger fastens to the bottom portion of the stock assembly (fig. 7) and is secured by two wood screws. The lever slides within the trigger guard and the cam of the lever actuates the trigger and sear assembly when the lever is depressed. The trigger can be easily functioned by the operator wearing heavy gloves or mittens because of its long protruding tang which extends approximately 1-1/2 inches below firing mechanism.

89. Installation

a. Winter Safety.

(1) Refer to paragraph 44c for installation of safety to firing mechanism.

(2) Refer to paragraph 45 for installation of firing mechanism.

b. Winter Trigger.

(1) Install trigger to stock assembly and secure hinge with two wood screws.

(2) Open trigger guard and lower lever with cam positioned forward of trigger and sear assembly. Close trigger guard and secure lever within guard.

Note. On new stocks it will be necessary to mark and drill holes for installation of winter trigger. This should be accomplished at a higher echelon.

90. Removal

a. Winter Trigger.
(1) Remove the two wood screws which secure hinge to stock assembly.
(2) Open trigger guard and remove winter trigger.

b. Winter Safety.
(1) Remove firing mechanism (par. 41).
(2) Remove safety from firing mechanism (par. 42g).

91. Cleaning and Inspection

a. Winter Trigger. Clean hinge, lever, and cam of oil and grease. Inspect for cracks and wear. Make certain lever does not bind at hinge and cam does not bind on lever.

b. Winter Safety. Clean safety of oil and grease. Inspect for cracks or distortion. Make certain safety will function properly within firing mechanism.

Section XVII. MAINTENANCE UNDER UNUSUAL CONDITIONS

92. Extreme Cold-Weather Maintenance

Refer to paragraph 22 for information on extreme cold-weather maintenance.

93. Extreme Hot-Weather Maintenance

a. Corrosive or deteriorating action on all parts of the rifle and bipod may occur and be accelerated in areas having hot damp climates. Evidence will appear in the form of rust on metal surfaces and mildew or fungi growth on the sling and scabbard.

b. Protect unfinished exposed metal surfaces with general purpose PL special, lubricating oil.

c. Make weekly inspections of inactive weapons.

94. Maintenance After Immersion

a. General. During hand-carried fording, water seepage into bolt and firing mechanism receiver and operating rod assembly and bipod will occur. It is advisable, therefore, that the service outlined in *b* below be accomplished on all weapons which have been immersed or completely submerged in water, especially in salt water, and that precautions outlined in (1) and (3) below be taken as soon as practicable to halt deterioration and avoid damage to the weapon.
(1) After submersion in salt water, wash in clear water to remove corrosive salts.
(2) Drain all trapped moisture and wipe dry.
(3) Assemblies which require disassembly for proper lubrication must be disassembled, dried, and lubricated as soon as the situation permits.

b. Cleaning and Lubrication. Clean all exposed parts and perform a complete lubrication service (par. 30).

Figure 47. Cartridges for 7.62-mm rifle M14.

Figure 48. 7.62-mm rifle grenade cartridge M64.

is included in the marking on the packing container. Under the present system, a model designation consists of the letter M followed by an arabic numberal: for example, M61. Modifications are indicated by adding the letter A and appropriate arabic numeral. Thus, M61A1 indicates the first modification of an item for which the original designation was M61. Similarly, a system applied to development items involves use of a T designation to indicate the basic design and an E to indicate modifications thereof. Thus, "T102E1" indicates the first modification of a development item originally designated T102.

f. Ammunition Lot Number. At the time of manufacture, an ammunition lot number, which becomes an integral part of the marking, is assigned in accordance with pertinent specifications. This lot number is marked on all packing containers. Since it is impracticable to mark the ammunition lot number of each cartridge, every effort should be made to maintain the ammunition lot number of cartridges removed from their original packings. Cartridges for which the ammunition lot number has been lost are automatically classified grade 3.

98. Care, Handling, and Preservation

a. Ammunition for the 7.62-mm rifle (small arms), as compared with other types of ammunition, is not dangerous to handle.

b. Ammunition is packed to withstand conditions ordinarily encountered in the field. Care must be exercised to keep packings from becoming broken or otherwise damaged. All broken packings must be repaired immediately; all markings must be transferred to the new parts. Ammunition may be packed in metal-lined wooden boxes or metal boxes. Damaged boxes containing metal liners should be air tested and sealed, if equipment for this work is available.

c. Place ammunition which must be left in the open on dunnage, leaving enough space (at least 6 inches from the ground) for circulation of air. Where practicable, dunnage strips should be placed under each layer of boxes. Suitable trenches should be dug to prevent water from running under the pile. Protect ammunition with paulin or other cover.

d. Since ammunition and explosives are adversely affected by moisture and high temperature, due consideration should be given to (1) and (2) below.

(1) Keep boxes closed until ammunition is to be used. Ammunition removed from airtight containers, particularly in damp climates, is apt to corrode, and become unserviceable.

(2) Protect ammunition from high temperature and direct rays of the sun. More uniform firing is obtained if rounds are at the same temperature. The combination of high temperature and humid atmosphere is particularly detrimental to stability of the propellent powder and to tracer mixtures in tracer ammunition.

e. Do not attempt to disassemble the cartridge or any of its components.

f. The use of oil or grease on cartridges is prohibited.

g. Ammunition should be protected from sand, mud, moisture, frost, snow, ice, grease, and other foreign matter. Wipe off wet or dirty ammunition at once. If verdigris or light corrosion forms on cartridges, it should be wiped off with a clean, dry cloth. However, brass components of cartridges are NOT to be polished.

h. Brass cartridge cases, which dent easily, should be protected from hard knocks or blows. Dented cartridge cases may cause incomplete obturation, jamming in the chamber, and difficulty in extraction.

i. In storing ammunition, segregate by caliber, type, and ammunition lot number. See TM 9-1903.

j. Ammunition remaining in a box from which part of the contents has been removed should be protected against unauthorized handling and use by firmly fastening the box cover in place.

99. Authorized Rounds

Ammunition authorized for use in the 7.62-mm rifle M14 is listed in table IV. Standard nomenclature used in the listing completely identifies each item, except for ammunition lot number. Only authorized cartridges will be used in the weapon; unauthorized assembly and use of cartridges are extremely dangerous. Ordinarily, issue of this ammunition is in proportion by types to meet tactical requirements, so that substitution of unauthorized rounds in the field is not required.

Table IV. Authorized Rounds

Standard nomenclature	Complete round		Projectile	
	Length (in.)	Weight (grains) (approx)	Length (in.)	Weight (grains) (approx)
CARTRIDGE, 7.62-MILLIMETER: AP, NATO, M61.	2.80	387	1.28	150
CARTRIDGE, 7.62-MILLIMETER: ball, NATO, M59.	2.80	388	1.28	150.5
CARTRIDGE, 7.62-MILLIMETER: ball, NATO, M80.	2.80	388	1.140 (approx)	149
CARTRIDGE, 7.62-MILLIMETER BLANK: NATO, XM82.	2.61	225		
CARTRIDGE, 7.62-MILLIMETER DUMMY: NATO, M63.	2.80	253	1.35	68
CARTRIDGE, 7.62-MILLIMETER: tracer, NATO, M62.	2.80	382	1.35	141
CARTRIDGE, GRENADE: rifle, 7.62-millimeter, NATO, M64.	2.0	231		

AP ---------- armor-piercing
approx ---------- approximate
in. ---------- inch
NATO ---------- North Atlantic Treaty Organization

100. Preparation for Firing

After removal from packing materials, cartridges for this weapon are ready for firing. Cartridges prepared for firing, but not fired, will be returned to their original packings or packed in suitable packing boxes. (Such cartridges will be used first in subsequent firings, so as to reduce stocks of opened packings.) Packing boxes should be appropriately marked with the nomenclature of the cartridges, the quality of cartridges therein, and the appropriate ammunition lot number.

101. Precautions in Firing

The precautions listed below should be closely observed in order to prevent injury to personnel or damage to materiel.

a. Cartridges, especially those to be loaded into the magazine, should be free of sand, mud, moisture, frost, snow, ice, grease, or other foreign matter.

b. Corroded ammunition should not be fired.

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

d. Cartridges having loose bullets, or otherwise damaged, should not be used.

e. Blank cartridges should be visually inspected before firing, for evidence of any foreign matter within the cartridge case mouth. Such foreign matter would be expelled as a projectile in firing. For semiautomatic or automatic firing, weapons must be equipped with blank firing attachments and cartridge deflectors.

f. Blank cartridges should not be fired at a representative enemy at distances less than 20 feet, as the disk may fail to break up. The intact disk and/or unburned pro-

pellant grains may cause injury within this distance.

g. Ammunition should not be fired unless it has been identified by ammunition lot number and its grade, as published in TB 9-AMM-4, is known.

h. Do not fire cartridges overheated by exposure to the direct rays of the sun or other sources of high temperature. In firing such cartridges, hazardous chamber pressures may develop.

i. A cartridge in the chamber of a hot weapon, when firing is interrupted, should be removed promptly to preclude cookoff (par. 17).

j. Misfires, hangfires, and cookoffs will be handled as indicated in paragraphs 17*a*, *b*, and *c*, and AR 385-63.

k. Only the grenade cartridge M64 may be used to launch rifle grenades or adapted hand grenades.

***Warning:* Do not use a bulleted cartridge to project a grenade or ground signal from a launcher, under any circumstances. Refer to TM 3-300, FM 23-30, and AR 385-63 for more detailed information concerning safety precautions to be observed in firing grenades.**

102. Packing and Marking

a. Individual cartridges for this weapon are packed in cartons or clips in bandoleers (table V). Cartridges are then packed into metal boxes in wirebound boxes or into cans in wooden boxes. Complete data are published in SM 9-5-1305.

b. The following information is marked in black on unpainted wooden packing boxes of 7.62-mm ammunition:

(1) Interstate Commerce Commission (ICC) shipping designation.
(2) Federal Stock Number (FSN) and Department of Defense (DOD) Ammunition Code or Ammunition Identification Code (AIC) symbol.
(3) Ammunition lot number.
(4) Gross weight of packing and contents.
(5) Cubical displacement of packing box.
(6) Descriptive nomenclature of packed item.
(7) Caliber and weapon designation.
(8) Ordnance insignia.
(9) Name and address of box manufacturer and date manufactured.
(10) NATO- design mark.

Table V. Packing Data for 7.62-mm Ammunition

Data	Volume (cu ft)	Weight (lb)
Packed 20/ctn, 30 ctn/can M21, 2 can (1,200 ctg)/wdn bx M23:		
Dimensions of bx: 15-1/8 x 13-1/4 x 11-1/8	1.28	86.0
Packed 20/ctn, 20 ctn (400 ctg) wdn bx:		
Dimensions of bx: 10-3/4 x 10-1/4 x 8-1/2	0.54	28.0
Packed 20/ctn, 12 ctn/mtl bx M19 or M19A1, 4 bx (960 ctg) wrbnd bx:		
Dimensions of bx: 17-1/2 x 11-1/2 x 7-7/8	0.91	72.0
Packed 20/ctn, 26 ctn/can M21, 2 can (1,040 ctg) wdn bx M23:		
Dimensions of bx: 15-1/8 x 13-1/4 x 11-1/8	1.28	78.0
Packed 5/clip, 12 clip/bandoleer M1, 7 band/mtl bx M2A1, 2 bx (840 ctg)/ wrbnd bx:		
Dimensions of bx: 14-1/2 x 12-3/4 x 8-3/8	0.90	68.2
Packed 5/clip, 12 clip/bandoleer M1, 7 band and 1 magazine filler/mtl bx M2A1, 2 bx (840 ctg and 2 magazine filler)/wrbnd bx:		
Dimensions of bx: 14-1/2 x 12-3/4 x 8-3/8	0.90	68.5
Packed 20/ctn, 23 ctn/mtl bx M2A1, 2 bx (920 ctg)/wrbnd bx:		
Dimensions of bx: 14-1/4 x 12-3/4 x 8-3/8	0.90	51.0
Packed 5/clip, 12 clip/bandoleer, 4 band/mtl bx M1 or M19 series, 4 bx (960 ctg)/wrbnd bx:		
Dimensions of bx: 17-3/8 x 11-1/2 x 8-1/8	0.93	80.0
Packed 5/ctn in heat-sealed env, 2 env/can M13, 20 can (200 rd) modified chest for overseas shipment:		
Dimensions of bx: 7-1/4 x 10-3/4 x 11-1/8	0.50	16.0

bx - box
ctg - cartridge
ctn - carton
cu ft - cubic foot
lb - pound
wdn - wooden
wrbnd - wirebound

CHAPTER 5

DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE

103. General

a. Rifle M14 and bipod M2, subject to capture or abandonment in the combat zone, will be destroyed by the using army only, when, in the judgment of the unit commander concerned, such action is necessary in accordance with orders of, or policy established by the Army Commander.

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 similar implement.
Burning	Requires gasoline, oil, incendiary grenades, or other flammables or welding or cutting torch.
Demolition*	Requires suitable explosives or ammunition.
Gunfire*	Includes artillery, machine guns, rifles using 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.

Ordinarily, destruction of essential parts by mechanical means will render the rifle and bipod useless. However, selection of the particular method of destruction requires imagination and resourcefulness in utilizing facilities at hand under existing conditions. Time is usually critical.

c. If destruction to prevent enemy use is resorted to, the rifle and bipod must be so badly damaged that it cannot be restored to a usable condition in the combat zone either by repair or cannibalization. Adequate destruction requires that all parts essential to the operation of the rifle and bipod, including essential spare parts, be destroyed or damaged beyond repair. However, when lack of time and personnel prevents destruction of all parts, priority is given to destruction of those parts most difficult to replace. It is equally important that the same essential parts must be destroyed on all like materiel, so that the enemy cannot construct one complete unit from several damaged units.

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

104. Destruction of the 7.62-mm Rifle M14 and Bipod M2

a. Method No. 1 — by Mechanical Means. Using an axe, pick mattock, sledge, or other heavy implement, destroy the rifle by smashing the receiver assembly, front and rear sights, trigger and trigger guard, magazine, stock, controls, yoke assembly, and left- and right-hand leg assemblies of the bipod. Also, bend the barrel of the rifle and cut the sling into several pieces. Elapsed time: about 3 minutes.

b. Method No. 2 — by Burning.

(1) Place the rifle and bipod on a suitable pile of combustible. Pour gasoline or oil over the rifle, bipod, and combustible. Ignite and take cover. A hot fire is required to render the rifle useless.

Warning: **When igniting gasoline, due consideration should be given to its vapor and highly flammable**

*Generally applicable only when the rifle and bipod are to be destroyed in conjunction with other equipment.

nature. Carelessness may result in painful burns. Elapsed time: about 3 minutes.

(2) If a welding or cutting torch is available, burn through the barrel and receiver assembly of the rifle. Also, burn through the yoke assembly and leg assemblies of the bipod. Destroy the stock and sling as described in *a* above. Elapsed time: about 3 minutes.

c. Method No. 3 — by Disposal. Disassemble, scatter, and bury the rifle, bipod, and component groups in a suitable hole or dump into a stream. Elapsed time: about 3 minutes.

APPENDIX I
REFERENCES

1. Publication Indexes

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

Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings.	DA Pam 108-1
Military Publications:	
Index of Administrative Publications	DA Pam 310-1
Index of Blank Forms	DA Pam 310-2
Index of Graphic Training Aids and Devices.	DA Pam 310-5
Index of Supply Manuals; Ordnance Corps	DA Pam 310-29
Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.	DA Pam 310-4
Index of Training Publications	DA Pam 310-3

2. Supply Manuals

The following manuals of the Department of the Army Supply Manual pertain to this materiel:

a. Ammunition.	
Ammunition and Explosives: (Class 1375 Explosives, Bulk Propellants, and Explosive Devices).	SM 9-5-1375
Ammunition and Explosives: (Class 1305 Ammunition, through 30 millimeter).	SM 9-5-1305
b. Destruction to Prevent Enemy Use.	
Grenades, Hand and Rifle, and Related Compoents.	SM 9-5-1330
c. General.	
Introduction	ORD 1
d. Maintenance.	
Organizational Maintenance Repair Parts and Special Tools List for 7.62-mm Rifle, M14 and Rifle Bipod M2.	TM 9-1005-223-20P

3. Forms

The following forms pertain to this materiel:

DA Form 9-79, Parts Requisition
DA Form 9-80, Job Order File
DA Form 1115, Property Turn-in Tag
DA Form 1296, Stock Accounting Record
DA Form 2028, Recommended Changes to DA Technical Manuals Parts Lists or Supply Manuals 7, 8, or 9.
DD Form 6, Report of Damaged or Improper Shipment

4. Other Publications

a. Ammunition.

Ammunition for Training	TA 23-100
Ammunition, General	TM 9-1900
Ballistic Data, Performance of Ammunition	TM 9-1907
Care, Handling, Preservation and Destruction of Ammunition.	TM 9-1903
Demolition Materials	TM 9-1946
Disposal of Supplies and Equipment: Ammunition.	AR 755-140-1
Explosives and Demolitions	FM 5-25
Grenades and Pyrotechnics	FM 23-30
Ground Chemcial Munitions	TM 3-300
Gun, machine, 7.62-mm, M60 on mount, machine gun, 7.62-mm M122 and rifle 7.62-mm, M14.	FT 7.62-A-2
Qualification in Arms: Qualification and Familiarization.	AR 370-5
Safety: Identification of Inert Ammunition and Ammunition Components.	AR 385-65
Small-Arms Ammunition	TM 9-1305-200
Small-Arms Ammunition: Lots and Grades	TB 9-AMM-4

b. General.

Dictionary of United States Army Terms	AR 320-5
Logistics (General): Malfunctions Involving Ammunition and Explosive (Reports Control Symbol ORD-43).	AR 700-1300-8
Maintenance of Supplies and Equipment: Maintenance Planning, Allocation and Coordination.	AR 750-6
Military Symbols	FM 21-30
Military Terms, Abbreviations, and Symbols: Authorized Abbreviations and Brevity Codes.	AR 320-50
Military Training	FM 21-5
Ordnance Direct Support Service	FM 9-3
Organization, Policies, and Responsibilities for Maintenance Operations.	AR 750-5
Research and Development of Materiel: Army Research and Development.	AR 705-5
Safety:	
Accident Reporting and Records	AR 385-40
Regulations for Firing Ammunition for Training, Target Practice, and Combat.	AR 385-63
Small Arms Accidents, Malfunctions, and Their Causes.	TM 9-2210
Special Operations: Basic Cold Weather Manual	FM 31-70
Techniques of Military Instruction	FM 21-6

c. Packaging and Shipping of Materiel.

Issue of Supplies and Equipment: Requisitioning Receipt and Issue System.	AR 725-50

d. Shipment and Limited Storage.

Protection of Ordnance General Supplies in Open Storage	TB ORD 379

APPENDIX II

MAINTENANCE ALLOCATION CHART

1. Purpose

To allocate specific maintenance operations to the proper echelon on the basis of time, tools, and skills normally available to various echelons in combat situation and influenced by maintenance policy and sound maintenance practices.

2. Explanation and Definitions

The maintenance allocation chart designates overall responsibility for the maintenance function on an end item or assembly. Repair and/or overhaul of major assemblies is designated by authority of the Army commander representative, except for the specific repair subfunctions listed in the maintenance allocation charts. Deviation from maintenance operations allocated in the maintenance allocation charts is authorized only upon approval of the Army commander representative.

SERVICE — To clean, to preserve, and to replenish lubricants.

REPAIR — To restore to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to inspecting, cleaning, preserving, adjusting, replacing, welding, riveting, and straightening.

REPLACE — To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

OVERHAUL — To restore an item to a serviceable condition by complete disassembly and inspection to determine the condition of each component part, making necessary corrections, and reassembling it using serviceable parts, subassemblies, and assemblies as prescribed by maintenance serviceability standards.

SYMBOL X — The symbol X placed in the appropriate column indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(1) Group No.	(2) Component and related operations	(3) Echelons					
		1st	2d		3d	4th	5th
	7.62-mm Rifle M14						
1	Magazine						
	Service	X					
	Repair				X		
	Replace	X					
	Overhaul					X	
2	Firing mechanism:						
	Service	X					
	Repair		X				
	Overhaul					X	
3	Stock assembly:						
	Service	X					
	Repair				X		
	Replace				X		
	Overhaul						X
3	Butt plate assembly:						
	Service	X					
	Repair						X
	Replace				X		
4	Hand guard assembly:						
	Service	X					
	Replace		X				
	Overhaul						X
5	Operating rod and connector group:						
	Service	X					

(1) Group No.	(2) Component and related operations	(3) Echelons					
		1st	2d		3d	4th	5th
	Repair		X				
	Overhaul						X
6	Bolt assembly:						
	Service	X					
	Repair		X				
	Overhaul						X
7	Barrel and receiver group:						
	Service	X					
	Repair				X		
	Overhaul						X
7	Rear sight group:						
	Service	X					
	Repair		X				
	Overhaul					X	
7	Gas cylinder group:						
	Service	X					
	Repair		X				
	Overhaul					X	
7	Flash suppressor with front sight:						
	Service		X				
	Repair				X		
	Overhaul						X
	Rifle Bipod M2						
	Service	X					
	Repair				X		
	Overhaul						X

APPENDIX III

BASIC ISSUE ITEMS LIST

Section I. PREFACE

1. General

This appendix is a list of the basic issue items that are required for stockage by first echelon. It includes rifle, tools and equipment and repair parts, and the quantities thereof, which constitute the major end item of equipment. It also includes material for cold weather operation and instructional articles to be requisitioned at discretion of area commander.

2. Explanation of Columns

a. Source, Maintenance, and Recoverability Code (Col. 1).

(1) *Technical service number (col. 1a).* This column indicates the technical service, other than Ordnance, assigned supply responsibility for the listed item. Technical services responsible for supply of items in this list are:

Code	*Technical Service*
12	The Adjutant General

(2) *Source (col. 1b).* This column indicates the selection status and source for the listed item. Source codes used in this list are:

Code	*Explanation*
P	Requisition from the depot system of the responsible technical service (applies to high mortality parts).

(3) *Maintenance level (col. 1c).* This column indicates the lowest maintenance echelon authorized to install the listed item. Maintenance level codes used in this list are:

Code	*Explanation*
O	Organizational maintenance (1st and 2d echelon).

(4) *Recoverability (col. 1d).* This column indicates whether unserviceable items should be returned for recovery or salvage. When no code is indicated, the item is expendable and not recoverable. Recoverability codes used in this list are:

Code	*Explanation*
R	Items which are economically repairable at field maintenance activities (3d and 4th echelon) and are normally furnished by supply on an exchange basis.

b. Federal Stock Number (Col. 2). This column indicates the Federal stock number which has been assigned by the Cataloging Division, Defense Logistics Services Center.

c. Description (Col. 3). This column indicates the Federal item name (shown in capital letters) and any additional description required for supply operations. The abbreviation "w/e" (with equipment), when used as a portion of the nomenclature, indicates that the end item (major item) or major combination includes all armament, equipment, accessories, and repair parts issued with the item. The technical service or manufacturer's part number is also included for reference.

d. Unit of Issue (Col. 4). This column indicates the smallest package quantity to be requisitioned (singly or in multiples thereof).

e. Quantity Authorized (Col. 5). This column indicates the quantity of the listed item authorized for stockage to constitute the prescribed load.

f. Illustration (Col. 6). This column indicates the figure number of the illustration that depicts the listed item. When more than one item appears on an illustration, the item number is also indicated.

3. Abbreviations

cot.	cotton
ctg	cartridge
ctn	carton
dia	diameter(s)
fin.	finish
id	inside diameter

lg	length (long)
NATO	North Atlantic Treaty Organization
NC	American National Coarse Thread
o/a	over-all
S	steel
stk	stock
thk	thick
w	wide, width
wdn	wooden
w/e	with equipment

4. Suggestions and Recommendations

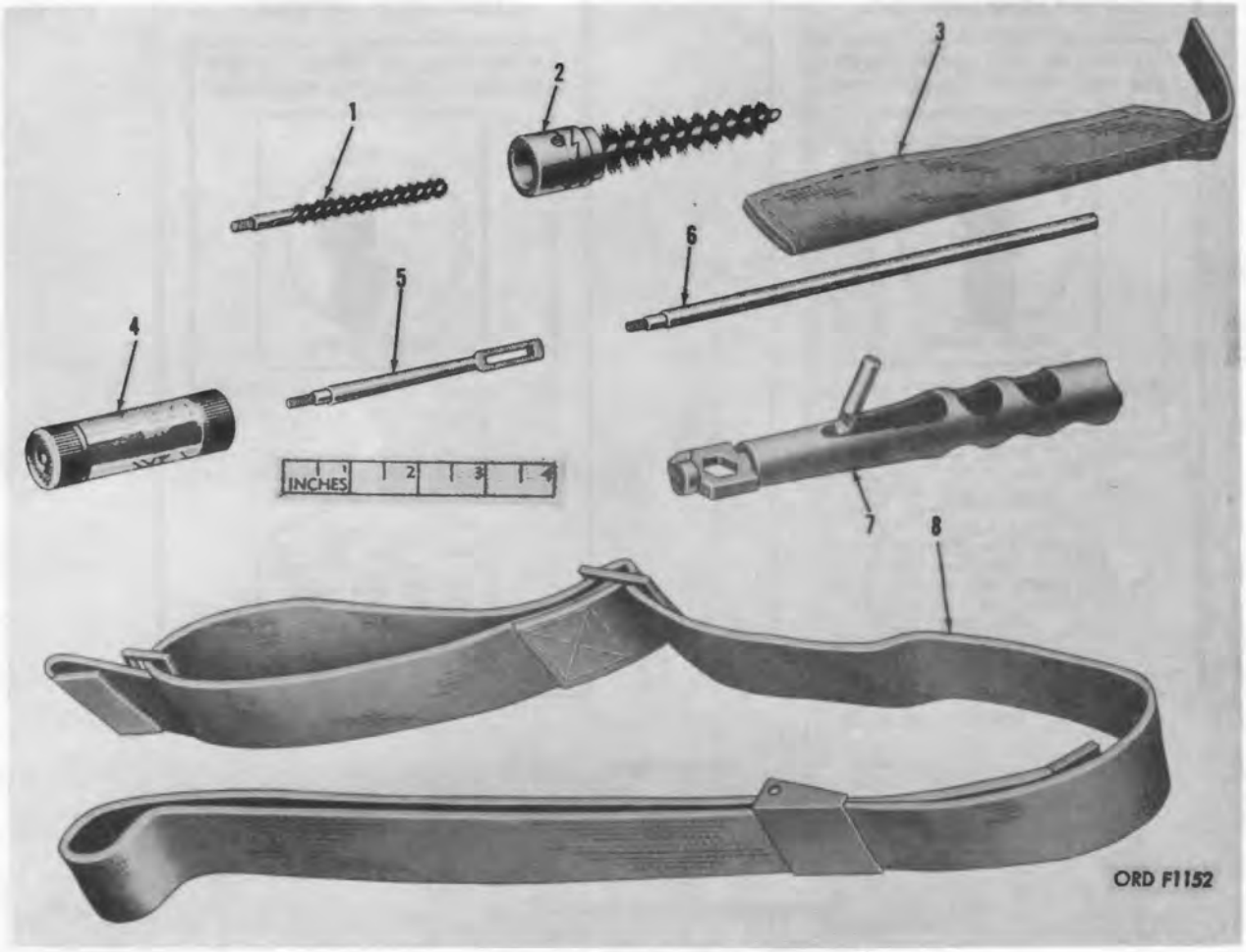
Notice of discrepancies and recommendations for additions and deletions of repair parts and special tools should be forwarded on DA Form 2028 direct to Commanding General, Headquarters, U.S. Army Weapons Command, Rock Island Arsenal, Rock Island, Illinois, ATTN: AMSWE-SMM.

Section II. BASIC ISSUE ITEMS

(1) Source, maintenance, and recoverability code				(2)	(3)	(4)	(5)	(6) Illustration	
(a) Technical service No.	(b) Source	(c) Maintenance level	(d) Recoverability	Federal stock No.	Description	Unit of issue	Quantity authorized	(a) Figure No.	(b) Item No.
					MAJOR ITEMS				
					The major items listed below are requisitioned for initial issue only.				
			R	1005-589-1271	RIFLE, 7.62-MM: M14, w/e (8413866).	1			
			R	1005-711-6202	BIPOD, RIFLE: M2 (7790688)------	1			
					COMPONENTS OF MAJOR ITEMS				
					The items listed below are issued as components of the major items for initial issue. Replacement items will be requisitioned separately under their individual stock numbers.				
					RIFLE, 7.62-MM, M14 (7267000)				
					REPAIR PARTS FOR:				
					Rifle, 7.62-mm, M14				
	P	O	-----	1005-628-9048	MAGAZINE, CARTRIDGE: 20 cartridge capacity (7790183).	1	4		
					ALTERNATE REPAIR PARTS FOR:				
					Rifle, 7.62-mm, M14				
					The following items are authorized and installed only in accordance with directive by tactical unit commander.				
	P	O	-----	1005-587-8408	SELECTOR: automatic and semi-automatic firing (7267071).	1	1	38	5
	P	O	-----	1005-587-8415	SPRING, SELECTOR: S, 0.036 stk dia, 4-3/4 coils, 0.190 id, 0.500 o/a lg, selector (7267081).	1	1	38	6
					REPAIR PARTS FOR:				
					Bipod, Rifle, M2				
					None authorized.				
					MATERIAL REQUIRED FOR COLD WEATHER CLIMATES				
					The following items are issued or requisitioned only by special authorization of the area commander.				
			R	1005-777-1369	KIT, WINTER TRIGGER: for arctic handwear (5910520).	1	-----	12	
					Consisting of:				
				1005-778-0580	1-SAFETY, WINTER: for arctic handwear (7790903).	1	-----	12	2
				1005-775-0364	1-TRIGGER ASSEMBLY, WINTER: M5 (7790808).	1	-----	12	1
					TOOLS AND EQUIPMENT				
				1005-556-4174	BRUSH, CLEANING, SMALL ARMS: bore (5564174).	1	-----	49	1

(1) Source, maintenance, and recoverability code				(2)	(3)	(4)	(5)	(6) Illustration	
(a) Technical service No.	(b) Source	(c) Maintenance level	(d) Recoverability	Federal stock No.	Description	Unit of issue	Quantity authorized	(a) Figure No.	(b) Item No.
					TOOLS AND EQUIPMENT — Continued				
				1005-690-8441	BRUSH, CLEANING, SMALL ARMS: chamber (7790463).	1	1	49	2
				1005-650-4510	CASE, SMALL ARMS CLEANING ROD: (7267754).	1	1	49	3
				1005-791-3377	CASE, LUBRICANT: (7790995)------	1	1	49	4
				4933-768-0211	COMBINATION TOOL: (7790769) ----	1	1	49	7
				1005-726-6110	HOLDER, CLEANING PATCH: S, 0.164- 32NC-2A, 3.500 o/a lg (7266110).	1	1	49	5
				1005-726-6109	ROD SECTION, CLEANING, SMALL ARMS: S, 0.164-32NC-2A one end, 0.164-32NC-2B other end, 6.305 o/a lg (7266109).	1	4	49	6
				1005-654-4058	SLING, SMALL ARMS: M1 cot. webbing, olive drab, clampkeeper type adjustment (6544058).	1	1	49	8
					MISCELLANEOUS MATERIEL				
					The items listed under the subheadings below are not issued with the major items but are requisitioned and issued in accordance with tables of organization and equipment, tables of allowances or as otherwise authorized.				
					Ammunition				
					Ammunition for use with this rifle is shown in SM 9-5-1305 and SM 9-5-1330.				
					Articles for Instructional Purposes				
					The following items WILL BE TAKEN into the field upon permanent change of station and into the theater of operation.				
				1305-540-5627	CARTRIDGE, 7.62-MM, DUMMY: NATO, M63 packed 20/ctn, 20 ctn (400 ctg)/wdn bx (7553706).	ctn	-----	47	
				1005-617-4998	DEVICE, AIMING: M2 (6174998) ----	1	-----	51	
				6910-716-0903	TRAINER, RIFLE SIGHTING: M15, cardboard, hard fin., 3-1/2 w, 0.016 thk, 7 o/a lg (7160903).	1	-----	50	
					The following item WILL NOT BE TAKEN into the field upon permanent change of station or into the theater of operations. Units will turn in all equipment to the commanding officer of the station from which it departs. The receiving officer will make a report to the Army commander, without delay, showing number, type, and condition of item received.				

(1) Source, maintenance, and recoverability code				(2)	(3)	(4)	(5)	(6) Illustration	
(a) Technical service No.	(b) Source	(c) Maintenance level	(d) Recoverability	Federal stock No.	Description	Unit of issue	Quantity authorized	(a) Figure No.	(b) Item No.
					MISCELLANEOUS MATERIEL — Continued				
					Articles for Instructional Purposes — Continued				
				1005-893-0902	FIRING ATTACHMENT, BLANK AMMUNITION: M12 w/breech shield M3 (5910570).	1	-----	11	
					MATERIEL ISSUED BY OTHER TECHNICAL SERVICES				
					The following items are issued by The Adjutant General in accordance with distribution formula and AR 310-1. Additional copies, when required, shall be requisitioned from The Adjutant General.				
12	-----	-----	-----	----------	TECHNICAL MANUAL, TM 9-1005-223-12. Operator and Organizational Maintenance Manual.	1			
12	-----	-----	-----	----------	TECHNICAL MANUAL, TM 9-1005-223-20P. Organizational Maintenance Repair Parts And Special Tool Lists.	1			



1–Brush 5564174
2–Brush 7790463
3–Case 7267754
4–Case 7790995
5–Holder 7266110
6–Section 7266109
7–Combination tool 7790769
8–Sling 6544058

Figure 49. Tools and equipment for 7.62-mm rifle M14.

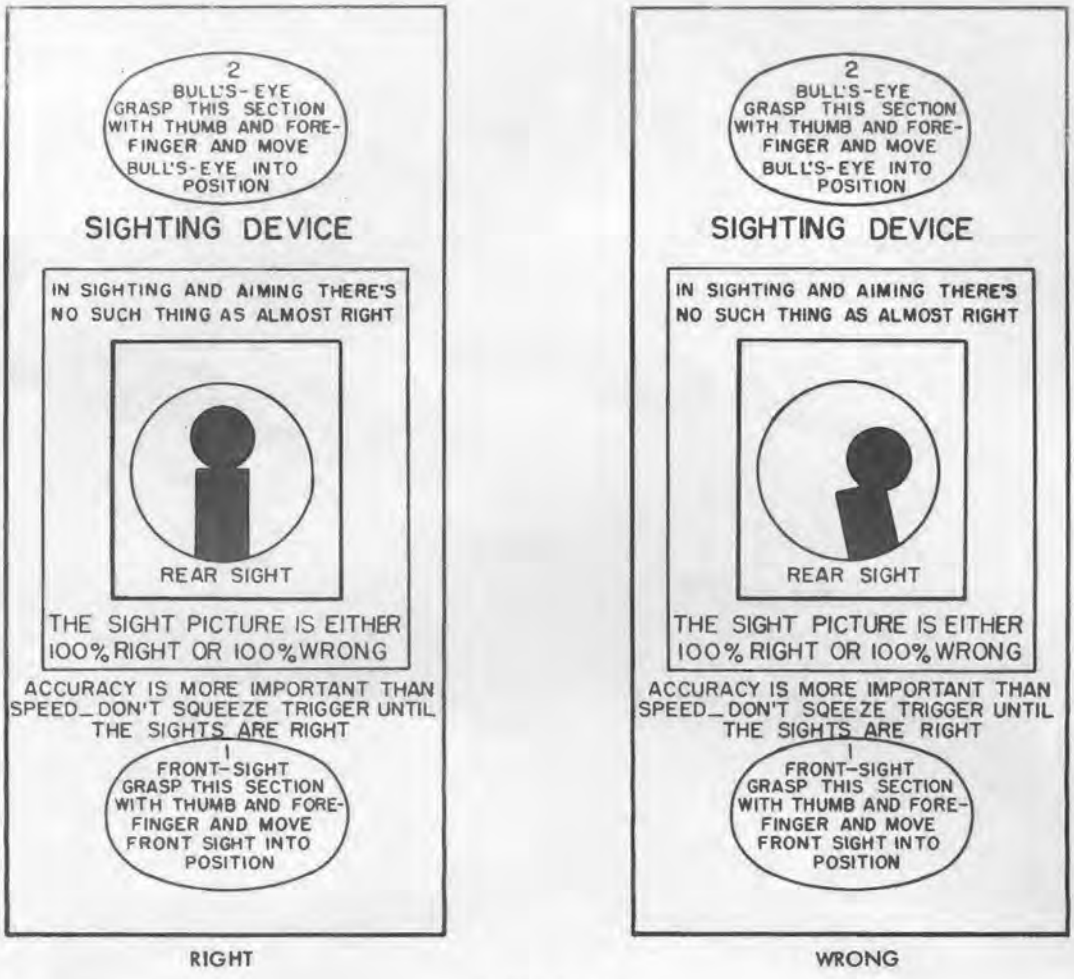


Figure 50. Rifle sighting trainer.

Figure 51. Aiming device.

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By Order of Secretary of the Army:

EARLE G. WHEELER,
General, United States Army,
Chief of Staff.

Official:
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Major General, United States Army,
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  Cincinnati (none)
Br Svc Sch (2) except
  USA Ord Sch (50)

NG: State AG (3).
USAR: Same as active army except allowance is one (1) copy to each unit.
For explanation of abbreviations used see AR 320-50.