

CHAPTER 4

STOPPAGES AND IMMEDIATE ACTION

22. Stoppages

a. A stoppage is any unintentional interruption in the cycle of operation. The stoppage may be caused by improper functioning of the rifle or faulty ammunition.

b. Types of Stoppages.

- (1) *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, it should be considered as a possible delay in firing until this 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, oil and grease. These might create a partial mechanical restraint which, after some delay, is overcome by continued force applied by the spring, and the firing pin then striking the

primer. No round should be left in a hot weapon any longer than necessary because of the possibility of a cookoff.

- (2) *Hangfire.* A hangfire is a delay in the functioning of a propelling charge at the time of firing. The amount of delay is unpredictable. A hangfire cannot be distinguished immediately from a misfire.
- (3) *Cookoff.* A cookoff is the functioning of a chambered round 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.

c. *Common Stoppages.* The rifle will function efficiently if it is properly cared for. The firer must watch for defects and correct them before they cause a stoppage. Some of the more common stoppages, their usual causes, and remedies are shown in chart II.

Chart II. Stoppages: Their Causes and Remedies

Stoppages	Cause	Remedy
Failure to feed	Defective or worn parts. Dirty or dented magazine. Loose gas cylinder plug.	Replace parts. Clean or replace magazine. Tighten plug.
Failure to chamber	Lack of lubrication of operating parts. Defective ammunition.	Clean and lubricate parts. Replace ammunition.
Failure to lock	Dirty chamber. Lack of lubrication of operating parts. Dirty locking recesses.	Clean chamber. Clean and lubricate parts. Clean recesses.
Failure to fire	Weak operating rod spring. Spindle valve closed. Defective ammunition. Broken firing pin.	Replace spring. Open valve. Replace ammunition. Replace firing pin.
Failure to unlock	Defective or broken parts in firing mechanism. Dirty chamber. Lack of lubrication of operating parts. Insufficient gas.	Replace parts or entire firing mechanism. Clean chamber. Clean and lubricate parts. Tighten gas cylinder plug and check spindle valve.
Failure to extract	Dirty chamber. Dirty ammunition. Broken extractor.	Clean chamber. Replace ammunition. Replace extractor.
Failure to eject	Broken ejector or weak ejector spring.	Replace faulty part.
Failure to cock	Defective or broken parts in firing mechanism.	Replace parts or entire firing mechanism.

23. Immediate Action

Immediate action is the unhesitating application of a probable remedy to reduce a stoppage without investigating the cause. Immediate action is taught in two phases.

a. The first phase is taught as a drill so that the rifleman learns to perform it quickly and instinctively without thought as to the cause of the stoppage. To apply the first phase, with the right hand, palm up, pull the operating rod handle all the way to the rear. Release it, aim and attempt to fire. The palm is up to avoid injury to the hand in event of a cookoff or hangfire (fig. 39).

b. If the first phase of immediate action fails to reduce a stoppage, the second phase of immediate action is applied. The five key words used to help remember the steps in the second phase are: TAKE, PULL, LOOK, LOCATE, and REDUCE.

- (1) TAKE the rifle from the shoulder.
- (2) PULL the operating rod handle slowly to the rear.
- (3) LOOK in the receiver.
- (4) LOCATE the stoppage by observing, as the operating rod handle is pulled to the rear, what is in the chamber, and what has been ejected.
- (5) REDUCE the stoppage and continue to fire.

c. Hangfires and misfires will occur rarely. Normally, the firer will instinctively apply immediate action which in most instances reduces the stoppage even when caused by a hangfire or misfire.

d. The normal cause of a misfire is faulty ammunition. Therefore, further use of ammunition from that lot should be suspended and reported to maintenance for disposition.

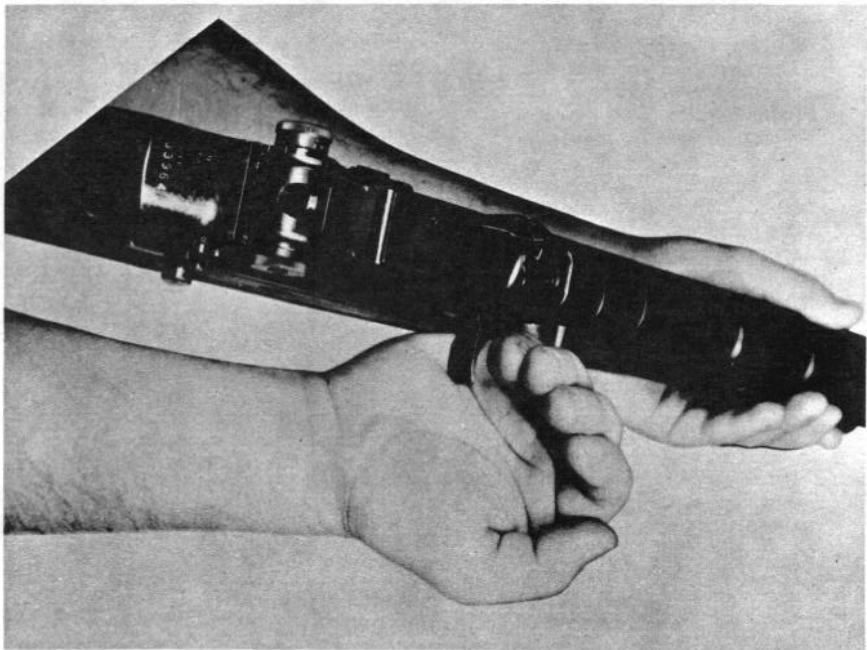


Figure 39. Applying immediate action.

CHAPTER 5

MAINTENANCE

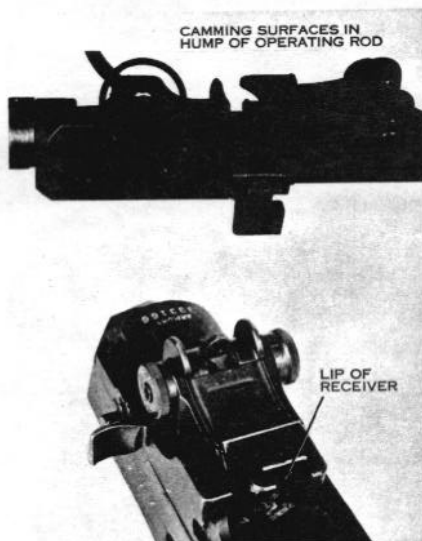
24. General

Maintenance includes all measures taken to keep the rifle in operating condition. This includes normal cleaning, inspection for defective parts, repair, and lubrication.

25. Cleaning Materials, Lubricants, and Equipment

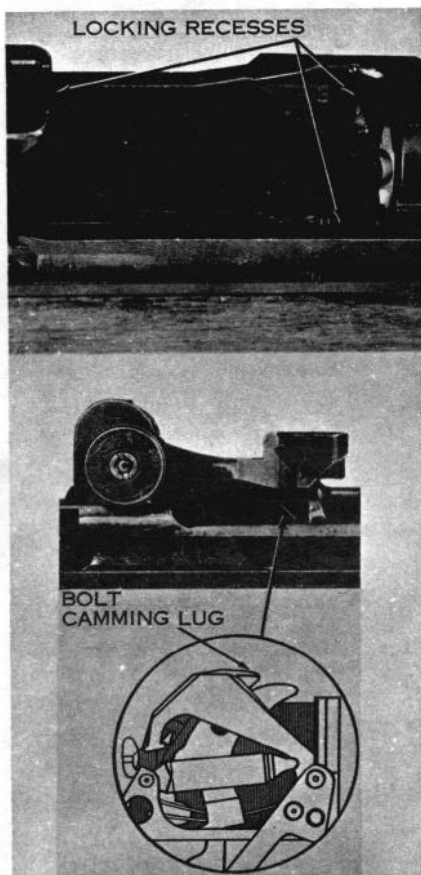
a. Cleaning Materials.

- (1) Bore cleaner (cleaning compound solvent (CR)) is used primarily for cleaning the bore; however, it can be used on all metal parts for a temporary (1 day) protection from rust.



1

Figure 40. Points to apply rifle grease.



2

Figure 40—Continued.

- (2) Hot, soapy water or plain hot water is no substitute for bore cleaner and *will only be used when bore cleaner is not available.*
- (3) Drycleaning solvent is used for cleaning rifles which are coated with grease, oil, or corrosion-preventive compounds.
- (4) Carbon-removing compound (PC111-A) is used on stubborn carbon deposits by soaking and brushing. This process must be followed by the use of drycleaning solvent.

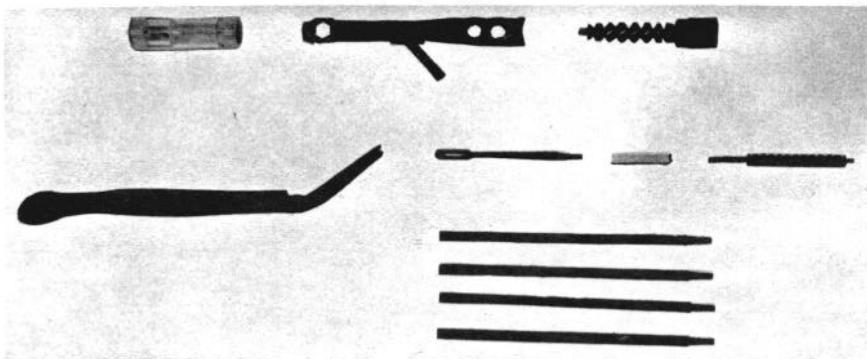
b. Lubricants.

- (1) Lubricating oil, general purpose, is used for lubricating the rifle at normal temperatures (PL special).
- (2) Lubricating oil, weapons (LAW) is used for low temperatures (below 0°).

- (3) OE 10 engine oil may be used as a field expedient under combat conditions when the oils prescribed in (1) and (2) above cannot be obtained. However, as soon as possible the weapon should be cleaned and lubricated with the proper, authorized lubricants.
- (4) Rifle grease should be applied to those working surfaces shown in figure 40.

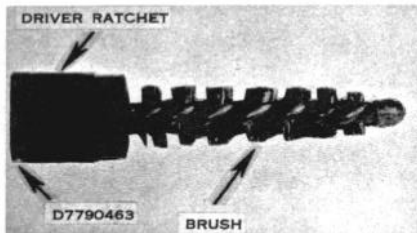
c. Equipment.

- (1) A complete set of maintenance equipment (fig. 41) is stored in the stock of the M14 rifle and consists of a—
 - (a) Combination tool.
 - (b) Chamber cleaning brush.*
 - (c) Plastic case lubricant.
 - (d) Small arms cleaning rod case.
 - (e) Small arms cleaning rod section (4 each).



1

Figure 41. Maintenance equipment.



2

Figure 41—Continued.

- (f) Cleaning patch holder.
- (g) Small arms bore cleaning brush.
- (2) The combination tool can be used as either a 20° offset screwdriver or as a gas plug wrench (figs. 42 and 43).
- (a) The handle of the combination tool is also used as the cleaning rod handle. To do this, allow the cleaning rod extension of the tool to fall from the tool handle so that it hangs perpendicular.

*Insure the M14 chamber brush is used to prevent barrel damage. The M14 brush is one-half inch shorter than the M1 chamber brush.

Assemble the four sections of the cleaning rod and screw into the threaded hole in the cleaning rod extension. Either the bore brush or the cleaning patch holder may be attached to the end of the cleaning rod.

- (b) The plastic lubricant case (fig. 44) is closed with a screw cap which has a stem (applicator) attached that is used to apply oil drop by drop on one end. The cap is fitted with a gasket to prevent oil leakage. The other end has another screw cap and contains rifle grease.

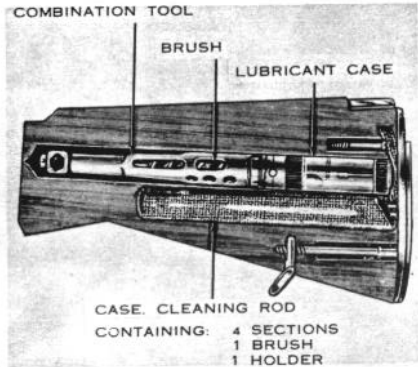
26. Cleaning the Rifle

a. Procedures for Cleaning Chamber and Bore. The rifle must be cleaned after it has been fired because firing deposits primer fouling, powder ashes, carbon and metal fouling. The ammunition has a noncorrosive primer which makes cleaning easier, but not less important. The primer still leaves a deposit that may collect moisture and promote rust if it is not removed. The procedures for cleaning the chamber and bore are described in figures 45 and 46. These procedures will insure that the bore is cleaned evenly and will prevent foreign matter from being pushed into the receiver from the bore. Upon completion of firing, bore cleaner should be applied for ease of further cleaning.

b. Gas Cylinder Plug. Pour a small quantity of bore cleaner in the plug, insert and rotate the bore cleaning brush. Remove the brush, clean and dry the plug with patches.

c. Gas Cylinder. Install the patch holder on a section of the cleaning rod. Put two patches in the holder, moisten them with bore cleaner and swab the cylinder bore. *Dry the cylinder bore with clean patches. Use no abrasives in cleaning the cylinder and do not oil the interior surfaces.*

d. Gas Piston. Saturate patches with bore cleaner and wipe the exterior surface of the piston



3

Figure 41—Continued.

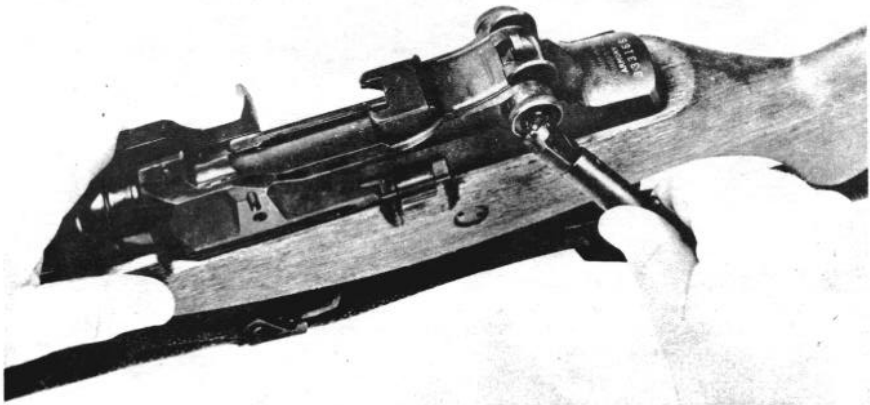


Figure 42. Combination tool used as a screwdriver.

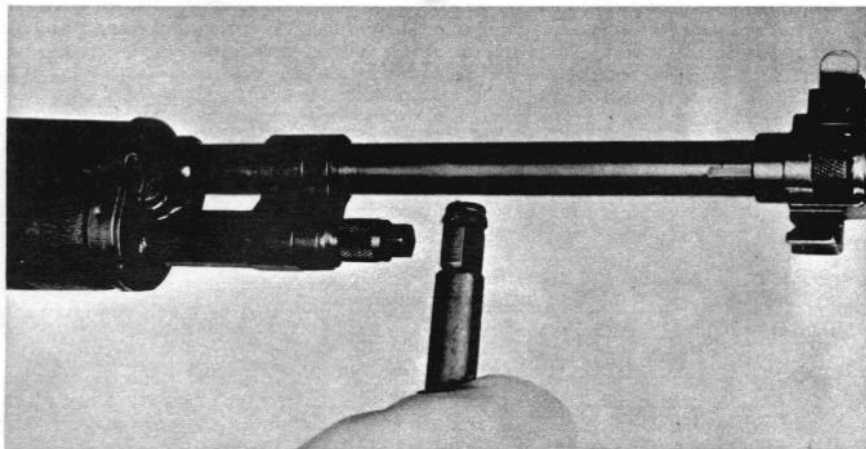


Figure 43. Combination tool used as a wrench.

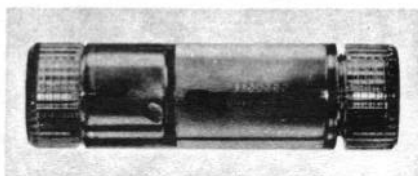


Figure 44. Plastic lubricant case.

as clean as possible. Install the bore cleaning brush on a section of the cleaning rod. Moisten the brush with bore cleaner and clean the interior of the piston. Wipe the piston dry, *but do not oil*. The gas system incorporates a self-cleaning section and functions within very close tolerances. A piston does not have to be shiny to function properly. *Do not use abrasives to clean the piston.*

e. Face of the Bolt. Clean the face of the bolt with a patch and bore cleaner, paying particular attention to its inside edges. Remove the bore cleaner with dry patches and oil the part lightly.

f. Spindle Valve. Depress the valve and rotate it several times after each day's firing. Do not disassemble it.

g. Magazine. Inspect the interior of the magazine by depressing the follower with the thumb. If the interior is dirty, disassemble the magazine and clean it, then lightly oil the component parts.

Otherwise, merely wipe the magazine assembly clean and dry, then oil it.

h. Stabilizer Assembly. The stabilizer assembly should be removed and cleaned with a stiff brush to remove all carbon or other particles which may block the gas ports.

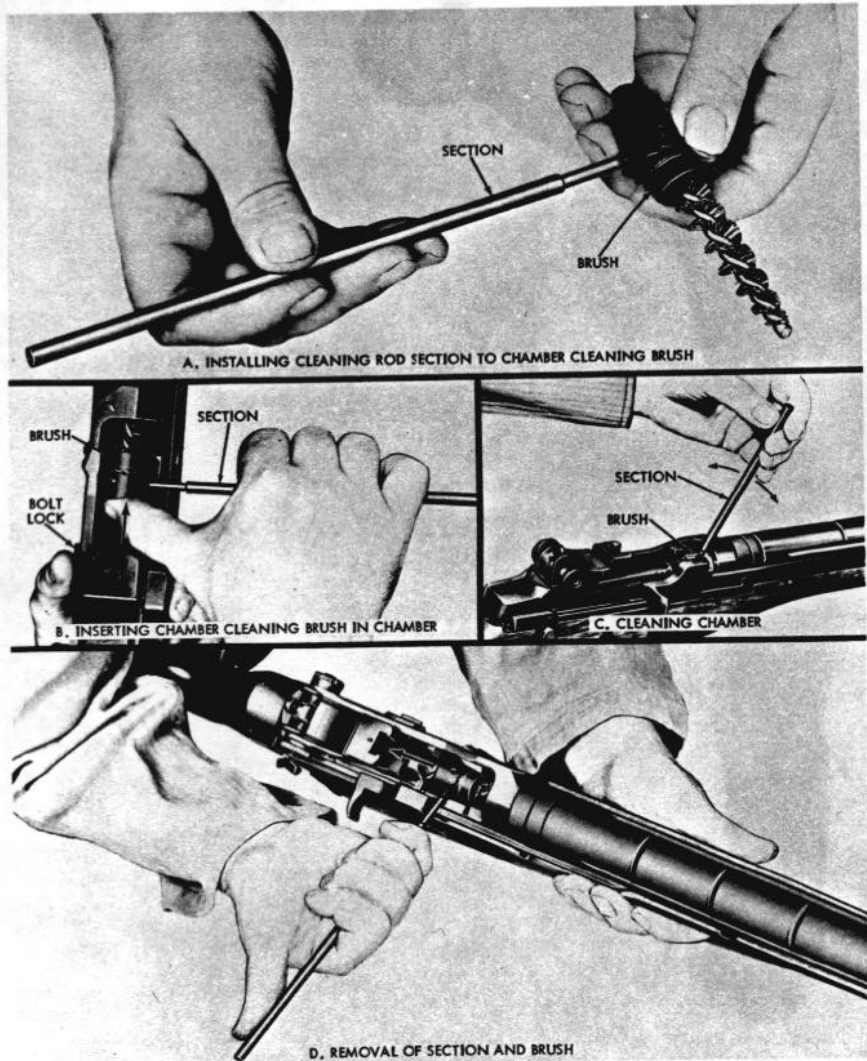
i. All Other Parts. Use a dry cloth to remove all dirt or sand from other parts and exterior surfaces. Apply a light coat of oil to the metal parts and rub *raw linseed oil* into the wooden parts. Care must be taken to prevent linseed oil from getting on metal parts.

j. After Firing. The rifle must be thoroughly cleaned no later than the evening of the day it is fired. For three consecutive days thereafter, check for evidence of fouling by running a clean patch through the bore and inspecting it. The bore should be lightly oiled after each inspection.

27. Normal Maintenance

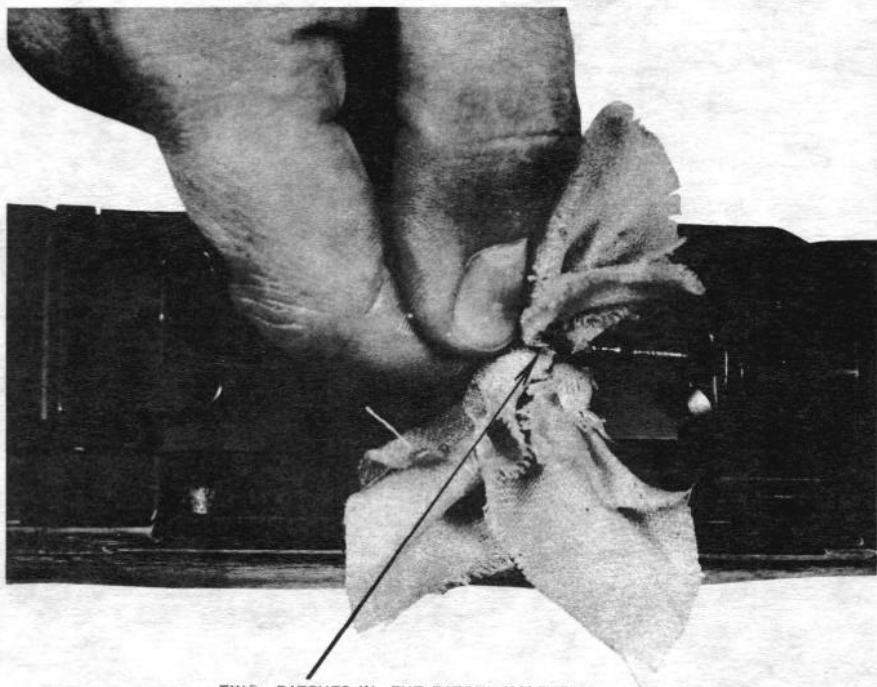
a. The rifle should be inspected daily, when in use, for evidence of rust and general appearance. A light coat of oil should be maintained on all metal parts, except the gas piston, interior of the gas cylinder, and the gas plug.

b. The daily inspection should also reveal any defects such as burred, worn or cracked parts. Defects should be reported to the armorer for correction.



1

Figure 45. Cleaning the chamber.

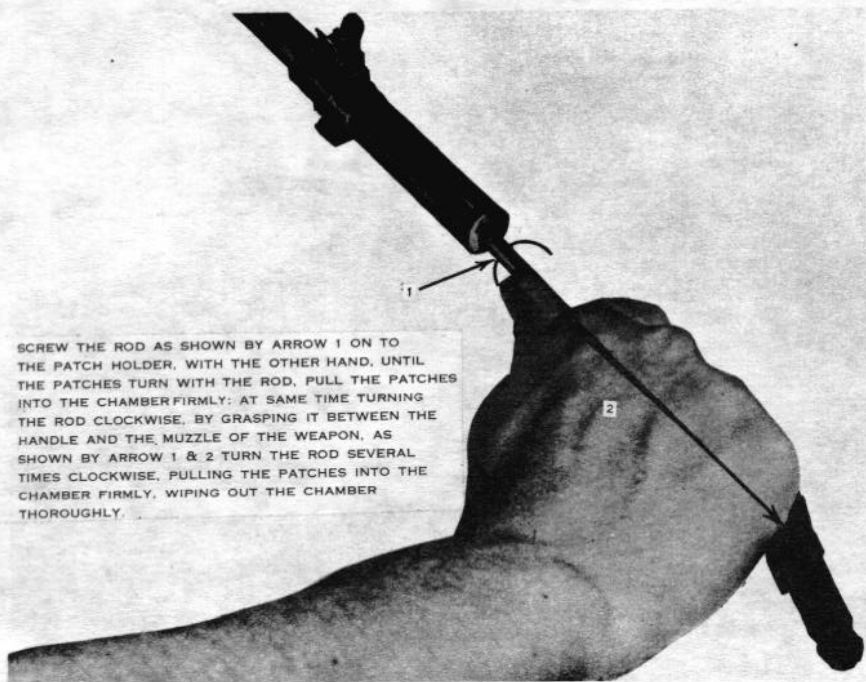


TWO PATCHES IN THE PATCH HOLDER

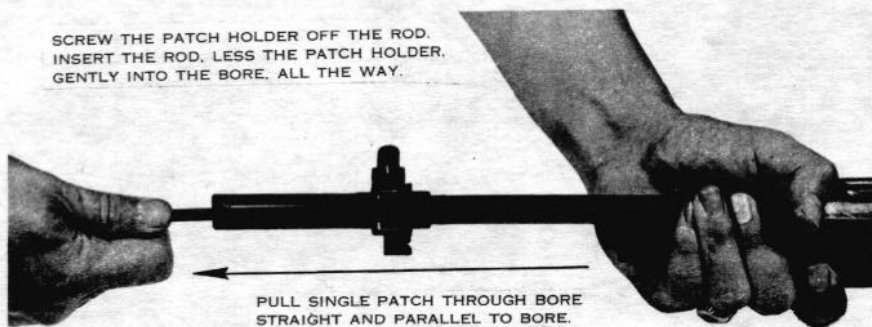
SCREW THE JOINTED CLEANING ROD TOGETHER FIRMLY (LESS THE PATCH HOLDER) GENTLY INSERT IT INTO THE BORE ALL THE WAY. (AN AUTHORIZED SOLID NONJOINTED ROD MAY BE USED). FLARE THE PATCHES OUT THEN INSERT THE PATCH HOLDER WITH WET PATCHES INTO THE CHAMBER. PUSH THE THREADED END INTO THE CHAMBER UNTIL IT TOUCHES THE CLEANING ROD. HOLD IT THERE WITH ONE HAND.

2

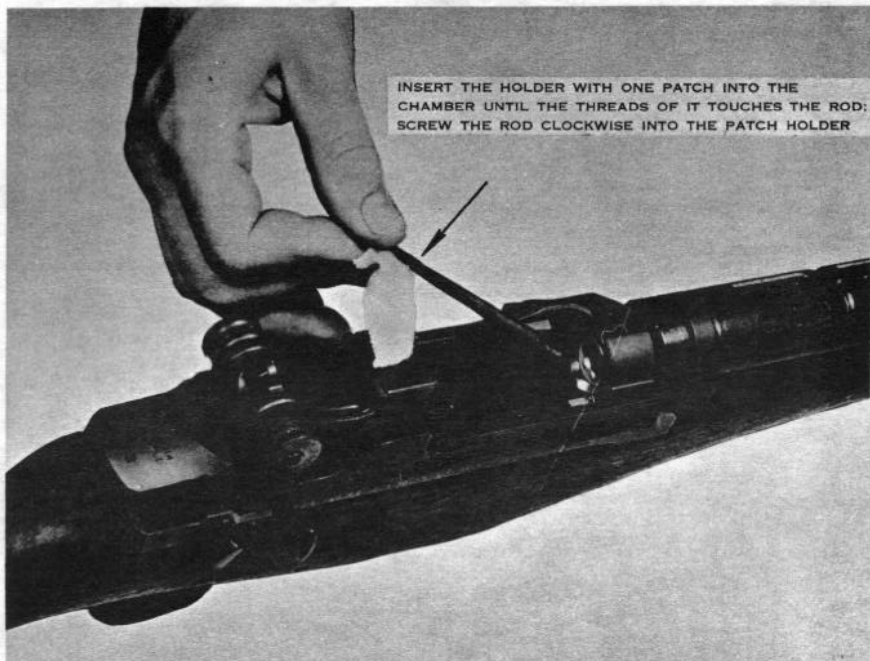
Figure 45—Continued.



3
Figure 45—Continued.

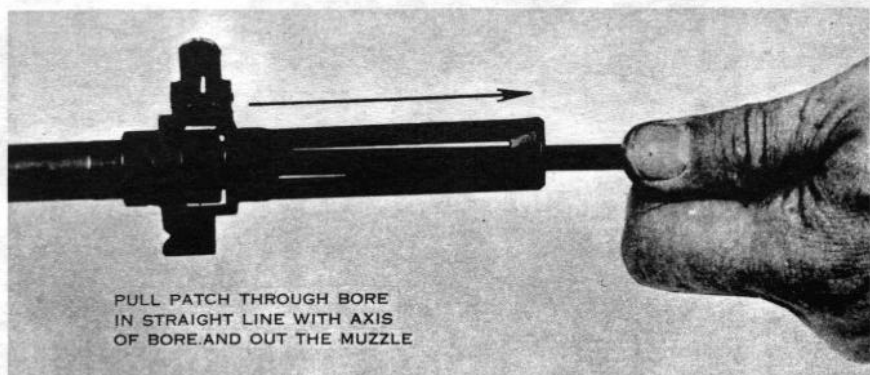


1
Figure 46. Cleaning the bore.



2

Figure 46—Continued.



3

Figure 46—Continued.

c. A muzzle plug should never be used on the rifle. It causes moisture to collect in the bore forming rust and creating a safety hazard.

d. Obtaining the proper rear sight tension is extremely important; without it, the sight will not hold its adjustment in elevation. During normal maintenance, and prior to firing, the rear sight must be checked for correct sight tension. The indications of improper sight tension are:

- (1) Elevation knob extremely difficult to turn.
- (2) Elevation knob turns freely without an audible click.
- (a) If the elevation knob is extremely difficult to turn, rotate the *windage* knob nut counterclockwise *one click at a time* with the screwdriver portion of the combination tool. After each click attempt to turn the *elevation* knob. Repeat this process until the *elevation*

knob can be turned without extreme difficulty (1, fig. 47).

- (b) If the elevation knob is extremely loose and the rear sight aperture will not raise, the *windage* knob nut must be turned in a *clockwise* direction, one click at a time, until the aperture can be raised
- (c) To check for proper tension, the procedures listed below should be followed:
 1. Raise the aperture to its full height.
 2. Lower the aperture two clicks.
 3. Grasp the rifle with the fingers around the small of the stock and exert downward pressure on the aperture with the thumb of the same hand (2, fig. 47).



1

Figure 47. Adjusting sight tension.

- (d) If the aperture drops, sight tension must be adjusted. To do this, the *windage knob nut* must be turned in a clockwise direction, one click at a time, until the aperture can no longer be pushed down as indicated in (c)3 above. If the proper tension cannot be obtained, the rifle must be turned in to the unit armorer.

28. Special Maintenance

a. Before firing the rifle, the bore and the chamber should be cleaned and dried. A light coat of oil should be placed on all other metal parts, except those which come in contact with ammunition, the gas piston, interior of the gas cylinder, and the gas plug.

b. Before firing, rifle grease should be applied to the parts indicated in figure 40. A small amount of grease is taken up on the stem of the grease container cap and is applied at each place. Rifle grease is *not* used in extremely cold temperatures or when the rifle is exposed to extremes of sand and dust.

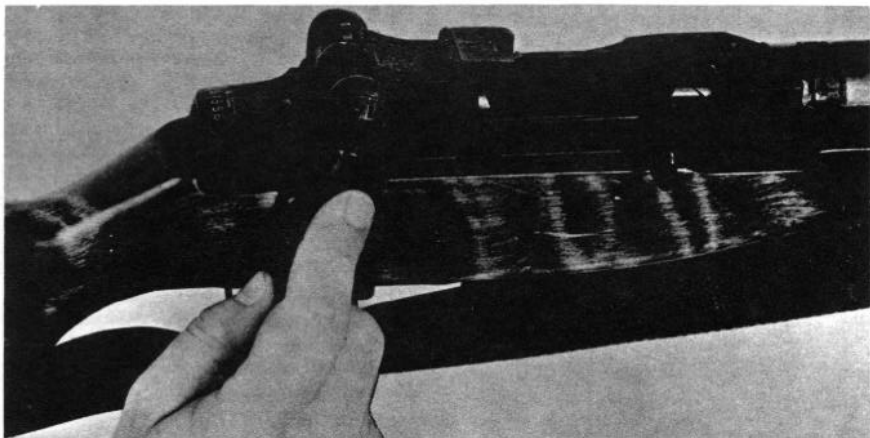
c. In cold climates (temperatures below freezing) the rifle must be kept free of moisture and excess oil. Moisture and excess oil on the working parts cause them to operate sluggishly or fail completely. The rifle must be disassembled and wiped with a clean dry cloth. Drycleaning solvent may

be used if necessary to remove oil or grease. Parts that show signs of wear may be wiped with a patch lightly dampened with lubricating oil (LAW). It is best to keep the rifle as close as possible to outside temperatures at all times to prevent the collection of moisture which occurs when cold metal comes in contact with warm air. When the rifle is brought into a warm room, it should not be cleaned until it has reached room temperature.

d. In hot, humid climates or if exposed to salt water or salt water atmosphere, the rifle must be inspected thoroughly each day for moisture and rust. It should be kept lightly oiled with special preservative lubricating oil. *Raw linseed oil* should be frequently applied to the wooden parts to prevent swelling.

e. In hot, dry climates, the rifle must be cleaned daily or more often to remove sand and/or dust from the bore and working parts. In sandy areas, the rifle should be kept dry. The muzzle and receiver should be kept covered during sand and dust storms. Wooden parts must be kept oiled with *raw linseed oil* to prevent drying. The rifle should be lightly oiled when sand or dust conditions decrease.

f. Special instructions on caring for the rifle when it is subject to nuclear, biological or chemical contamination can be found in TM 3-220 and FM 21-40.



2

Figure 47—Continued.

CHAPTER 6

AMMUNITION

29. General

The M14 rifle fires several types of ammunition. The rifleman should be able to recognize them and know which type is best for certain targets. He should also know how to care for the ammunition.

a. Figure 48 shows the parts of a typical cartridge.

b. The term "bullet" refers only to a small arms projectile; the term "ball" was originally used to describe the ball-shaped bullet of very early small arms ammunition. The term "ball ammunition" now refers to a cartridge with a general purpose solid core bullet intended for use against personnel and material targets.

30. Description

The types of ammunition can be identified by their individual markings (fig. 49).

a. *Armor Piercing.* The M61 armor piercing cartridge is used against lightly armored targets. The cartridge can be identified by its black tip.

b. *Ball.* The three types of ball ammunition (M59, M80 and M198 duplex) are used against personnel and unarmored targets. The M59 and M80 cartridges can be identified by their unpainted tips. The M198 duplex round can be identified by its green tip.

c. *Tracer.* The M62 tracer cartridge is used for indicating target areas and adjusting fire. The cartridge can be identified by its orange tip.

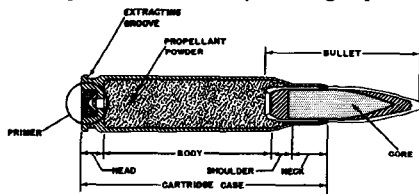


Figure 48. Parts of a cartridge.

d. *Grenade Cartridge.* The M64 rifle grenade cartridge is used for launching grenades and pyrotechnics. The cartridge can be identified by its five-pointed, star-crimped end.

e. *Blank.* The M82 blank cartridge is used to aid realism in training. It can be identified by its long narrow neck.

f. *Dummy.* The M63 dummy cartridge has six longitudinal corrugations approximately one-third the length of the case. There are no markings on the bullet and there is no primer in the base of the cartridge. It is used in training for dry firing exercises.

31. Packaging

a. *5-Round Cartridge Clip.* Ammunition is prepacked in 5-round cartridge clips. Twelve clips are packed in a cloth bandoleer. Seven bandoleers are packed in a can and two cans are packed in a case.

b. *20-Round Carton.* Ammunition is also packed in 20-round cartons. Twenty-three cartons are packed in a can and two cans are packed in a case.

c. *Magazine Filler.* The magazine filler is an adapter which fits over the top of an empty magazine (when the magazine is *not* in the weapon) and makes it easier to load. One magazine filler is packed in each case of ammunition.

32. Care, Handling, and Preservation

a. Care should be taken to prevent ammunition boxes from becoming broken or damaged.

b. Ammunition should not be exposed to the direct rays of the sun. If the powder is heated, excessive pressure may develop. This condition will affect ammunition performance and creates a safety hazard.

c. Ammunition should be kept clean and dry.



Figure 49. Types of ammunition for the M14 and M14E2 rifles.

CHAPTER 7

ACCESSORIES

33. M2 Bipod

The M2 bipod (fig. 50) is a light, folding mount which clamps onto the gas cylinder and gas cylinder lock of the rifle.

a. Installation (fig. 51). Place the jaws of the yoke assembly so that they encircle the gas cylinder at the gas cylinder lock. Tighten the self-locking bolt with the combination tool, securing the jaws to the gas cylinder.

b. Removal. Using the combination tool, loosen the bolt located beneath the yoke assembly and remove the bipod from the rifle.

Caution: Do not remove the cap screw from the jaw assembly.

34. M6 Bayonet Knife and M8A1 Bayonet Knife Scabbard

The M6 bayonet knife (fig. 52) is utilized for close combat, guarding prisoners and riot control. The M8A1 bayonet scabbard is used to carry the bayonet knife.

a. Installation. Install the bayonet knife to the rifle by aligning the groove of the bayonet handle with the bayonet lug on the flash suppressor and the loop of the top portion of the handle on the flash suppressor. Slide the knife rearward until the lugs of the latching lever snap over the bayonet lug (fig. 53).

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

35. M76 Grenade Launcher

The M76 grenade launcher (fig. 54) is attached to the barrel of the rifle for launching grenades. The barrel of the launcher contains nine annular grooves, numbered 6 to 1, 2A, 3A and 4A. When firing grenades, these are utilized to obtain different ranges by placing the grenade at different

positions on the launcher. On the bottom portion of the muzzle end of the launcher, there is a clip-type retainer spring used to hold the grenade on the launcher at the desired position prior to firing. The unmarked groove located above the retainer spring is a safety groove that prevents the grenade from slipping off the launcher if the retainer clip breaks.

a. Installation. To install the grenade launcher, slide the launcher over the flash suppressor. Push the clip latch rearward securing it to the bayonet lug of the flash suppressor (fig. 55).

b. Removal. To remove the grenade launcher, pull downward on the handle of the clip latch, releasing it from the bayonet lug on the flash suppressor, and slide the launcher from the flash suppressor.

36. M15 Grenade Launcher Sight

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

a. Installation. Install the sight to the mounting plate, aligning notches of the plate with the click spring tips of the sight (fig. 56). Turn sight clockwise until the index line is aligned with the 0° index on the mounting plate. At this position, the leveling bubble should be level. If the bubble cannot be leveled, the rifle should be turned in to the unit armorer.

Note. The mounting plate for the M-15 sight is installed by support maintenance ONLY.

b. Removal. Turn sight counterclockwise until the tips of the clip springs are aligned with the notches in the mounting plate; remove the sight from the mounting plate (fig. 56). When not in use, retain the sight in its carrying case.

Note. Removal and mounting of the mounting plate from the stock is accomplished by support maintenance personnel ONLY.

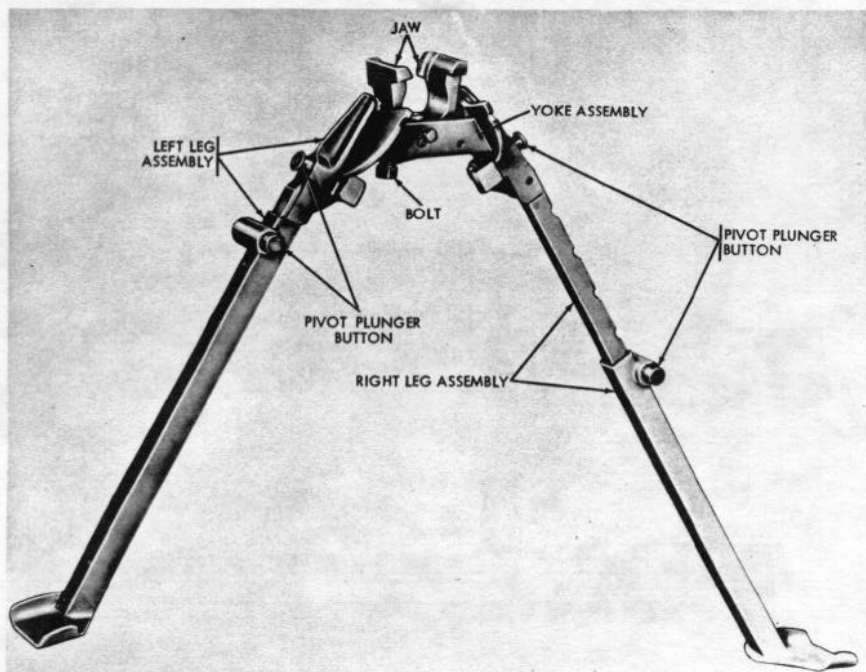


Figure 50. M2 bipod.

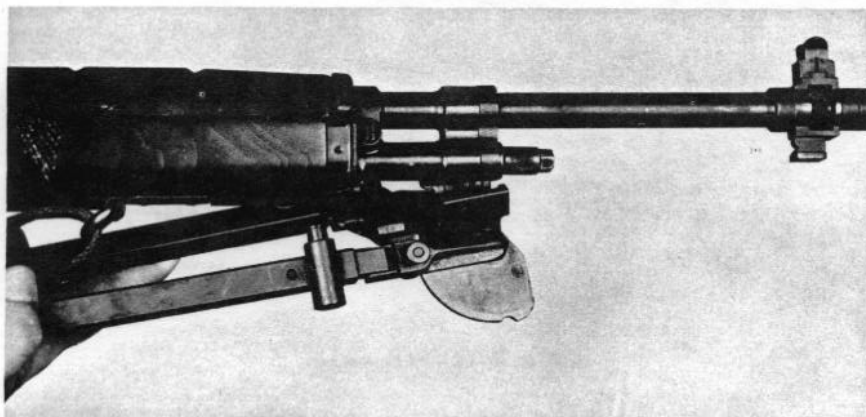


Figure 51. Installation of M2 bipod.

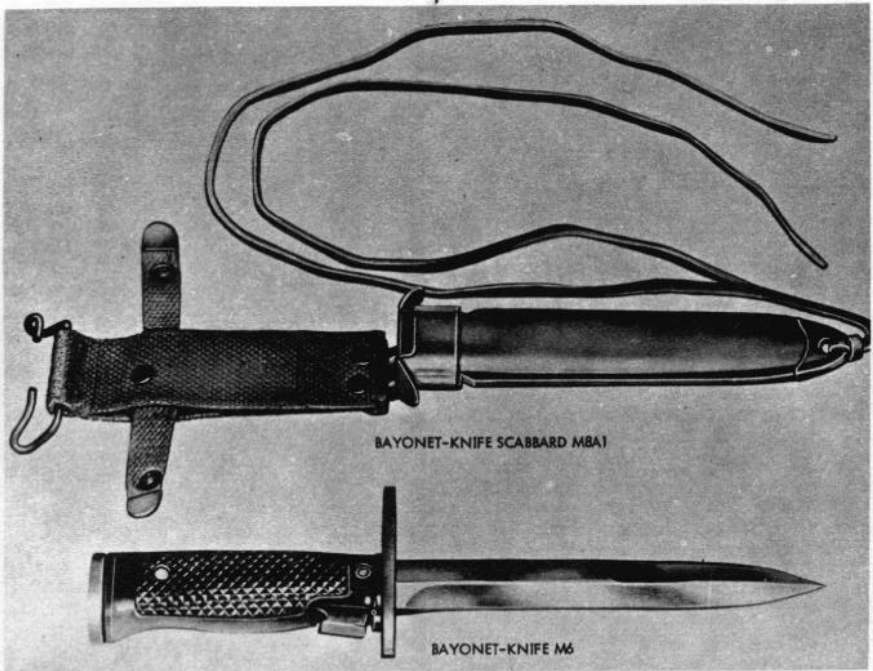


Figure 52. M6 bayonet knife and M8A1 bayonet scabbard.



Figure 53. M14 rifle with bayonet knife.

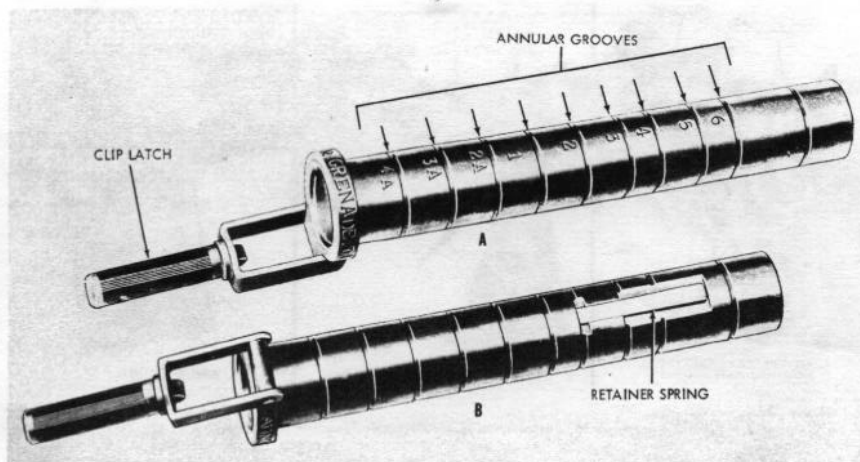


Figure 54. M76 grenade launcher.



Figure 55. M14 rifle with M76 grenade launcher.

37. M12 Blank Firing Attachment and M3 Breech Shield

The blank firing attachment and breech shield (fig. 57) are designed for use when firing blank cartridges. The blank firing attachment, which secures the attachment to the bayonet lug of the flash suppressor, consists of an orifice tube and a spring clip latch. The breech shield, which secures the shield to the cartridge clip guide, is used with the blank firing attachment and consists of a

deflector shield and a guide lug with spring plunger.

a. Installation (fig. 58).

- (1) *Blank firing attachment.* Insert the orifice tube in the muzzle opening of the flash suppressor. Pull out on the clip latch and push down on the top of the orifice tube of the blank firing attachment. Release the clip spring latch securing the cut away portion of the latch to the bayonet lug.

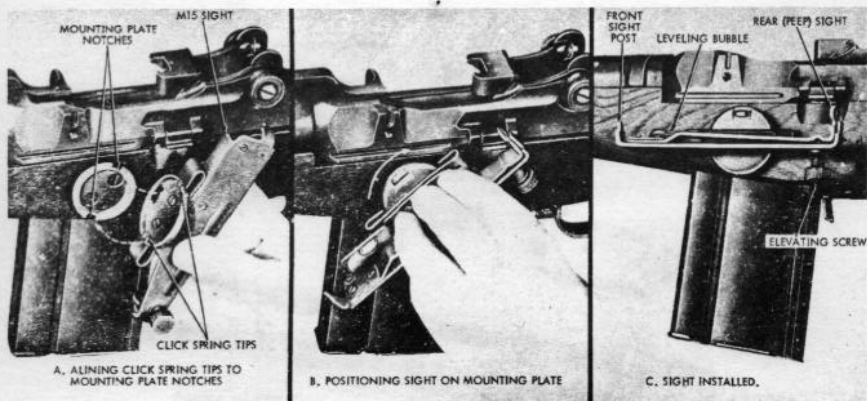


Figure 56. Installation of M15 grenade launcher sight.

- (2) *Breech shield.* Insert the guide lug of the breech shield into the slot of the cartridge clip guide. Using an empty blank cartridge, press in on the spring plunger and push down on the breech shield, locking it to the cartridge clip guide.

b. Removal.

- (1) *Blank firing attachment.* In removing the blank firing attachment from the rifle, pull outward on the spring clip latch releasing it from the bayonet lug. Turn the attachment either to the left or the right of the bayonet lug and slide the attachment from the flash suppressor.
- (2) *Breech shield.* Using an empty blank cartridge, or any suitable object, press in on the spring plunger located on the guide lug of the breech shield. Lift the breech shield from the cartridge clip guide.

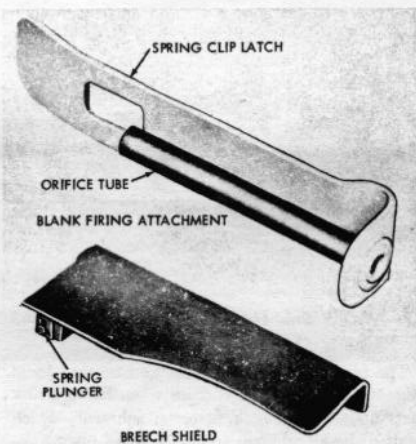


Figure 57. M12 blank firing attachment and M3 breech shield

38. Winter Trigger Kit

The winter trigger kit (figs. 59 and 60) is utilized during cold weather and arctic operations by special authorization of the theater commander. It consists of two woodscrews, a winter trigger assembly and a winter safety. The safety can be easily operated by the firer while wearing heavy gloves or mittens because of its long protruding tang which extends approximately one and one-half inches below the firing mechanism.

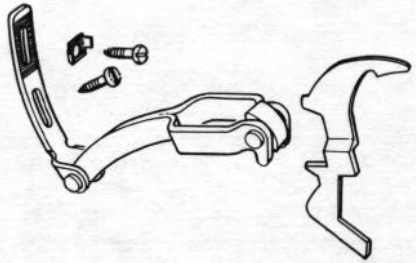


Figure 59. Winter trigger kit.



Figure 60. M14 rifle with winter trigger kit.

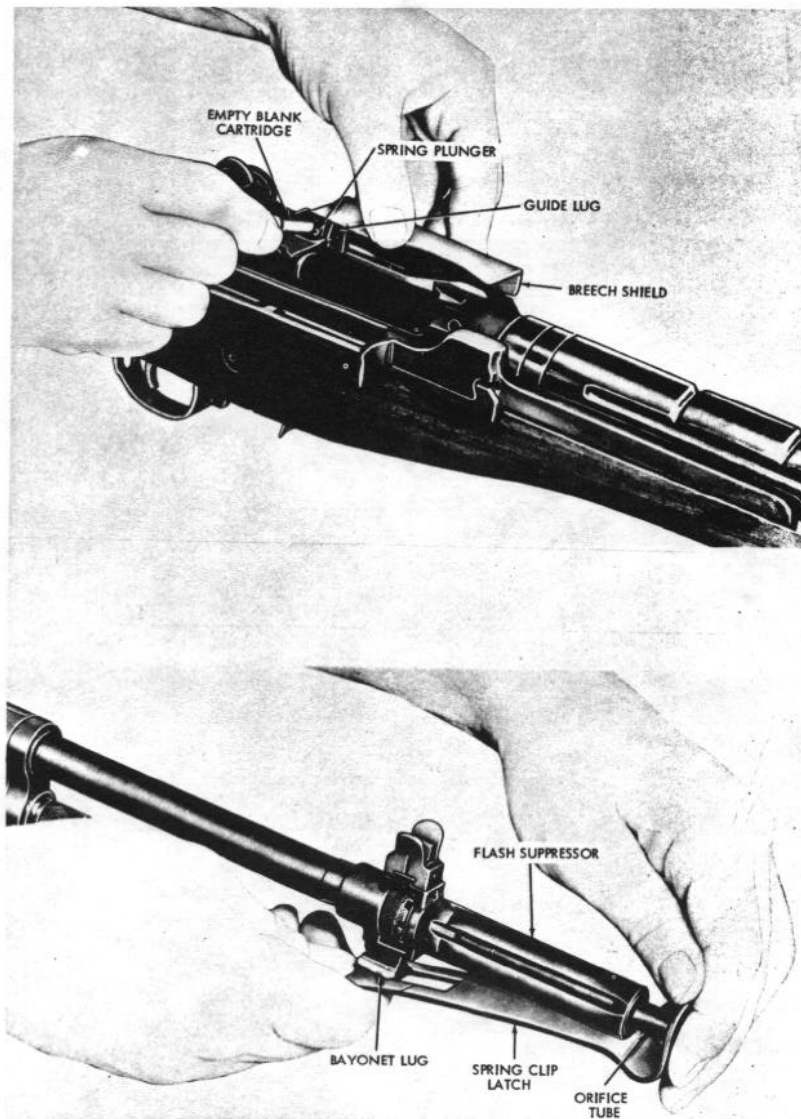


Figure 58. Installation of blank firing attachment and breech shield.

APPENDIX

REFERENCES

FM 21-5	Military Training Management.
FM 21-6	Techniques of Military Instruction.
FM 21-40	Small Unit Procedures in Chemical, Biological, and Radiological (CBR) Operations.
FM 22-5	Drill and Ceremonies.
FM 23-71	Rifle Marksmanship.
TM 3-220	Chemical, Biological, and Radiological (CBR) Decontamination.
TM 9-1005-223-12	Operator and Organizational Maintenance Manual 7.62-mm Rifle M14 and Rifle Bipod M2.
TM 9-1005-223-20P	Organizational Maintenance Repair Parts and Special Tool Lists.
TM 9-1305-200	Small-Arms Ammunition.
TM 9-2205	Fundamentals of Small Arms.
TM 38-230	Preservation, Packaging, and Packing of Military Supplies and Equipment.
AR 385-40	Accident Reporting and Records.
AR 385-83	Regulations for Firing Ammunition for Training, Target Practice, and Combat.

By Order of the Secretary of the Army:

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Major General, United States Army,
The Adjutant General.

HAROLD K. JOHNSON,
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For explanation of abbreviations used, see AR 320-50.