TC 23-8

DEPARTMENT OF THE ARMY TRAINING CIRCULAR

RIFLE, 5.56-MM, M16

HEADQUARTERS, DEPARTMENT OF THE ARMY

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HEADQUARTERS
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RIFLE, 5.56-MM, M16

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Purpose and Scope. This training circular provides interim guidance for presenting instruction with the rifle, 5.56-mm M16. It contains a detailed description of the rifle and its general characteristics, procedures for disassembly and assembly, operation and functioning of the rifle, types of ammunition, and maintenance. When supplemented by FM 23–71 it provides information in sufficient detail for conducting marksmanship training with the rifle. This circular is applicable to both nonnuclear and nuclear warfare.

2. Responsibilities of Commanders. Users of this training circular are encouraged to submit recommended changes or comments to improve the circular. Comments should be keyed to the specific page, paragraph, and line of text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded direct to the Commandant, U.S. Army Infantry School, Fort Benning, Ga.

Section II. CHARACTERISTICS

3. Description of the Rifle. *a.* The rifle (fig. 1) is a 5.56-mm, magazine-fed, gas-operated, air-cooled, shoulder weapon. It is designed for either semiautomatic or full automatic fire through the use of a selector lever.

b. The rifle is equipped with a flash suppressor which also serves as a stationary piston permitting the launching of grenades without the use of supplementary attachments.

Caution: **At the present time use of this weapon for launching purposes has not been standardized and is not authorized.**
The barrel is surrounded by a heat resistant, fiberglass material that serves as a handguard and forearm.

c. A rubber recoil pad is attached to the butt of the stock to partially absorb the recoil. A sling is provided to carry the weapon.

4. General Data.

a. Weights.

Rifle without magazine and sling.	6.3 pounds.
Empty magazine (aluminum)	.2 pound.
Full magazine (20 rounds)	.7 pound.
Sling	.4 pound.
Firing weight (fully loaded with sling.	7.4 pounds.

b. Lengths.

Rifle overall with flash suppressor.	39 inches.
Barrel (with flash suppressor)	21 inches.
Barrel (without flash suppressor).	20 inches.

c. Rifling.

Number of lands	6.
Twist	Uniform right hand one turn in 12 inches.

d. Sighting Equipment.

Front	Adjustable click type Post. Each click equals 2.8 centimeters per every 100 meters of range.
Rear	Adjustable, flip type. Each notch of the windage drum equals 2.8 centimeters per every 100 meters of range.

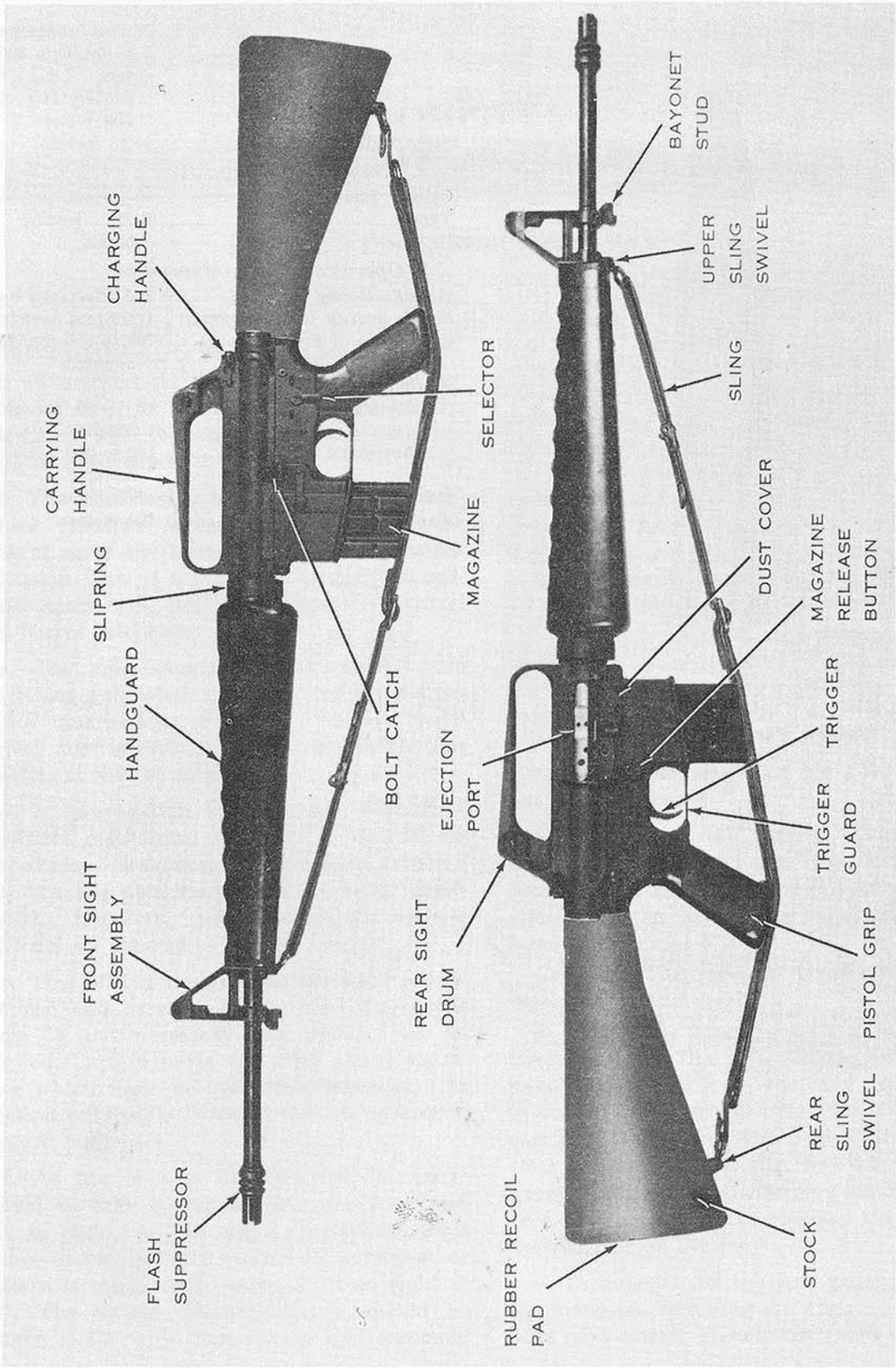

Figure 1. The rifle caliber 5.56-mm, M16, right and left side views.

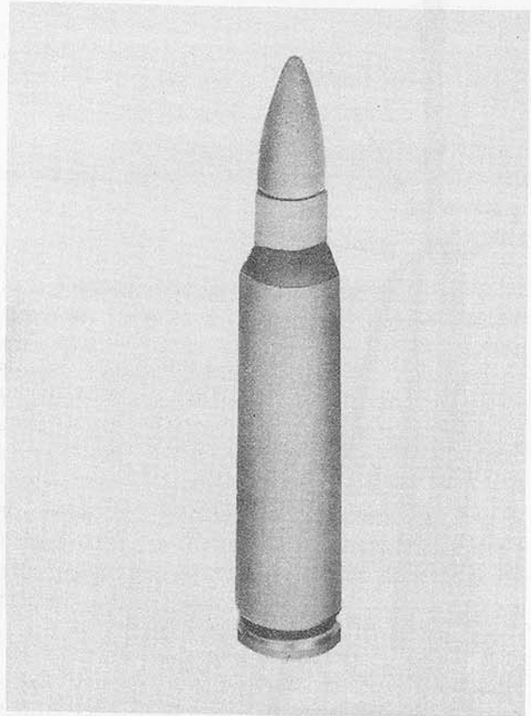

Figure 2. The 5.56-mm round.

Normal range setting is for 0 to 300 meters. Long range setting (L) 300 to 500 meters.

Sight radius ..... 19.75 inches.

e. Ammunition (fig. 2).

Caliber 5.56-mm ..... 55 grains.

Types ..... Ball, tracer, and blank.

f. Operational Characteristics.

Muzzle velocity ..... 3,150 feet per second.

Muzzle energy (at the muzzle) .. 1,328 foot pounds.

Cyclic rate of fire ..... 700 to 800 rounds per minute.

Maximum rate of fire:

Semiautomatic ..... 45 to 65 rounds per minute.

Automatic ..... 150 to 200 rounds per minute.

Maximum range ..... 2,653 meters.

Maximum effective range ..... 460 meters.

CHAPTER 2
MECHANICAL TRAINING

Section I. DISASSEMBLY AND ASSEMBLY

5. General. *a.* The purpose of mechanical training is to give the rifleman a knowledge of the working parts of his weapon so that he will understand its operation and be able to properly care for it. With this knowledge the rifleman is able to locate and reduce malfunctions in the weapon.

b. The disassembly of the rifle by the individual rifleman is restricted only in the separation of the lower receiver and receiver extension. This is a job for only qualified ordnance specialists. *NEVER* separate the barrel and barrel extension.

c. The rifle should be disassembled and assembled only when necessary for instruction or for maintenance. While the weapon is designed for interchangeability of parts, this practice should be avoided.

d. In preparation for extended field duty, advanced mechanical training, or during extended night operations, the individual rifleman may practice disassembly and assembly blindfolded. However, timed exercises should *NEVER* be allowed.

e. The rifle is designed to be easily disassembled and assembled. The use of extreme force is not necessary and should not be allowed. Certain parts will offer slight resistance which must be overcome; however, this requires only slight force. If force is necessary, proceed with care.

f. As the M16 is disassembled the parts should be laid out on a clean surface, from left to right, in the order of removal. This makes assembly much easier, as a system or pattern is established. Assemble from right to left. The names (nomenclature) should be taught along with disassembly and assembly in order to make future instruction easier to understand.

6. Field Stripping. *a.* Place the rifle on a table or flat surface, muzzle to the left, dust cover open and up. Remove the magazine by pressing the magazine catch button on the right side of the receiver (fig. 1). Pull the charging handle to the rear and at the same time look into the chamber to insure the weapon is clear. Release the charging handle, allowing the bolt carrier to move to the closed position. Place the selector on the safe position and remove the sling.

b. Keeping the muzzle to the left, turn the weapon over. Use the nose of a round to press the takedown pin to the right until the upper receiver swings free of the lower receiver (figs. 3 and 4).

Caution: **The takedown pin does not come out of the receiver.**

c. Again using the nose of a round, press out the receiver pivot pin from left to right. Separate the upper and lower receiver groups and place the lower receiver group on the table (figs. 5 and 6).

Caution: **The receiver pivot pin does not come out of the receiver.**

d. Pick up the upper receiver group, keeping the muzzle to the left. Grasp the charging handle, pressing in on the latch, and pull to the rear (fig. 7) withdrawing the bolt and bolt carrier from the receiver. Pull the bolt carrier clear of the receiver (fig. 8). When the bolt group is removed, the charging handle will fall free of its groove in the receiver (fig. 9). Place the receiver on the table.

e. To disassemble the bolt group, press out the firing pin retaining pin (fig. 10), using the nose of a round. Elevate the front of the bolt

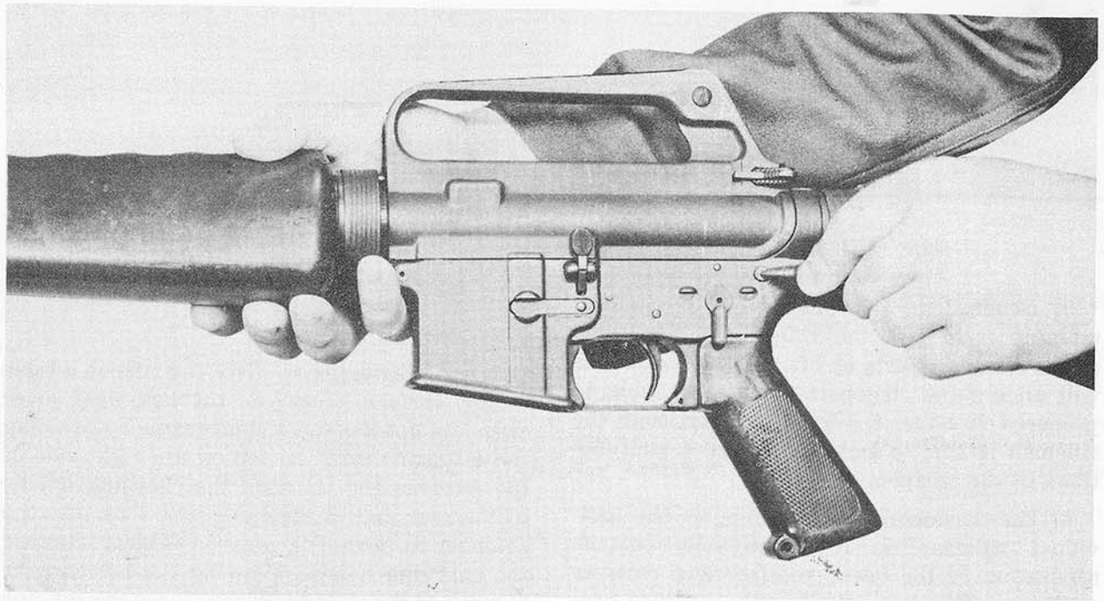

Figure 3. Pressing the takedown pin to the right.

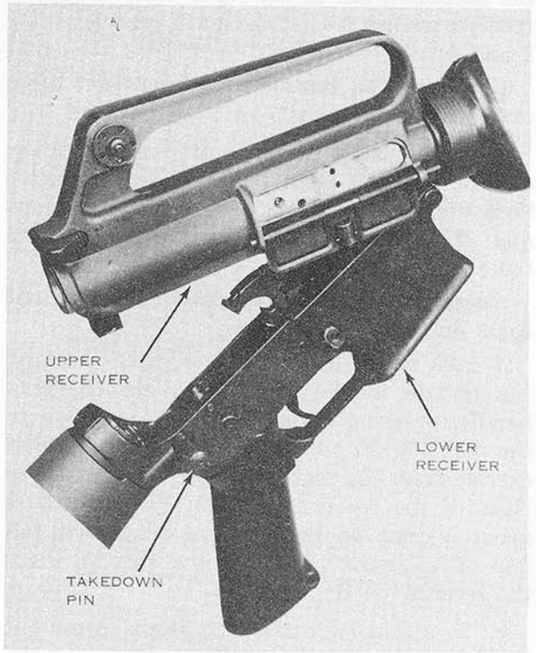

Figure 4. Breaking the upper receiver away from the lower receiver.

Figure 5. Pressing out the receiver pivot pin.

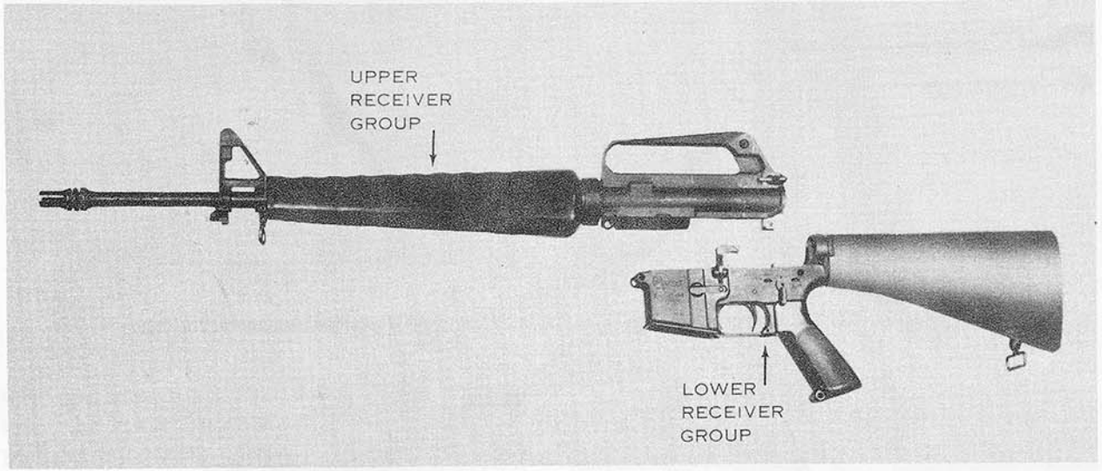

Figure 6. Upper and lower receiver groups.

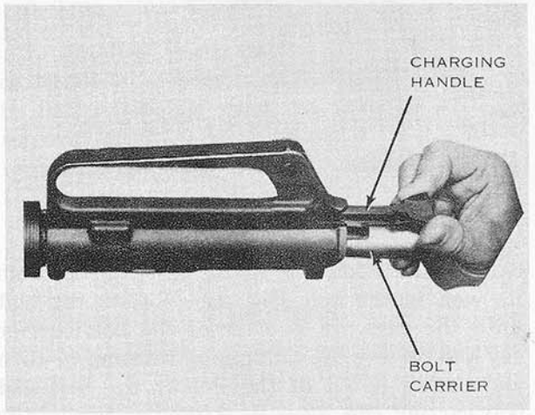

Figure 7. Pulling charging handle to the rear.

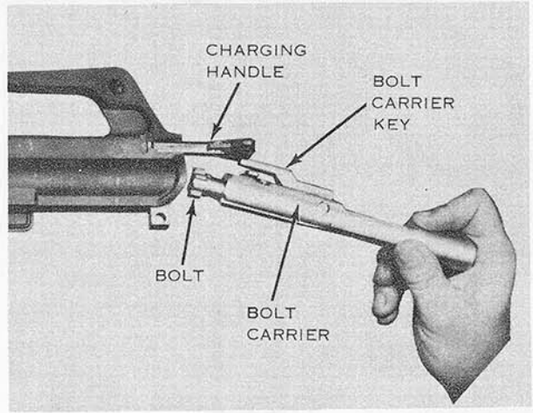

Figure 8. Removing bolt carrier from receiver.

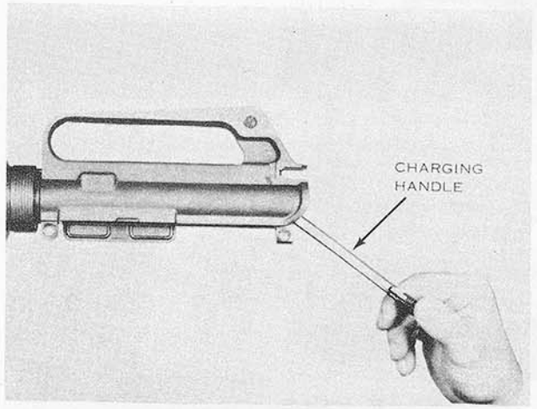

Figure 9. Removing the charging handle.

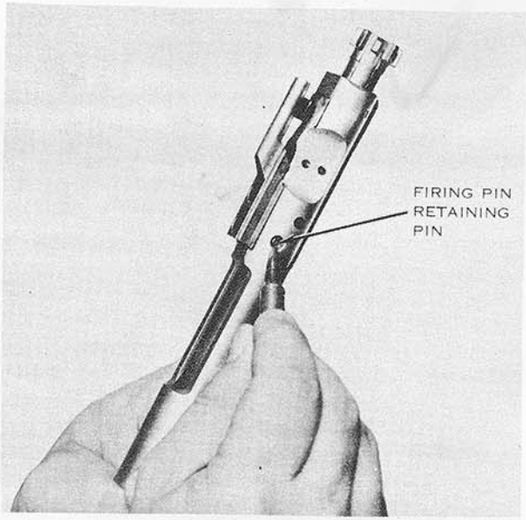

Figure 10. Pressing out firing pin retaining pin.

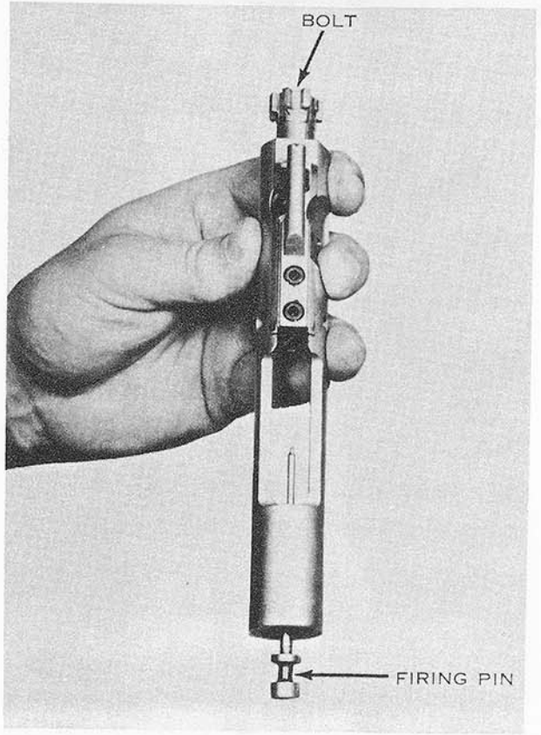

Figure 11. Removing the firing pin.

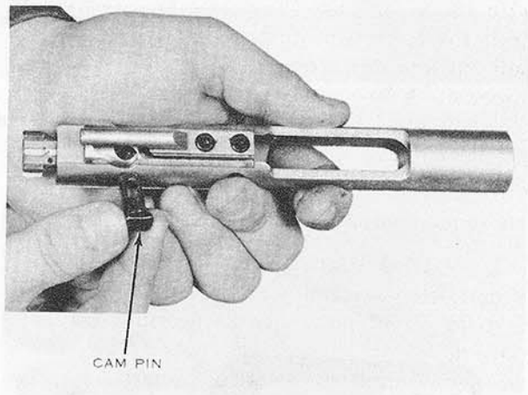

Figure 12 ①. Removing the cam pin.

carrier and allow the firing pin to drop from its well in the bolt (fig. 11). Rotate the bolt until the cam pin is clear of the bolt carrier key and remove the cam pin by rotating ¼-turn and lifting it out of the well in the bolt and bolt carrier (fig. 12 ①). After the cam pin is removed, the bolt will easily slide out of its recess in the bolt carrier (fig. 12 ②). This completes disassembly of the bolt carrier group.

f. The last parts to remove are the handguards. Place the upper receiver on the table

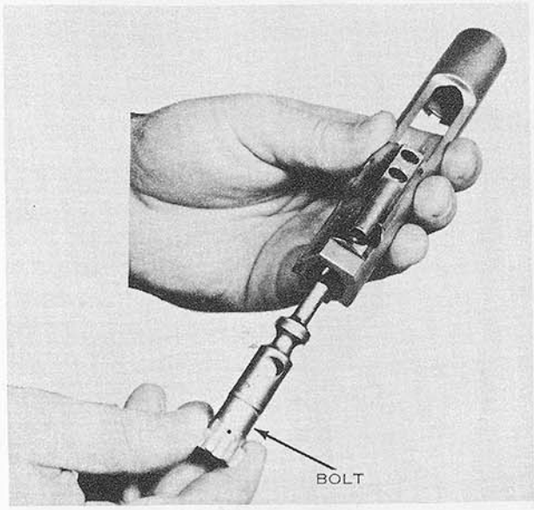

Figure 12 ②. Removing the bolt.

with the muzzle up. Pull down on the slipring until the lower lip of the handguard is clear; pull out and down on the handguard until the upper lip is free of the handguard cap. Repeat the same operation to remove the second handguard (fig. 13). Considerable pressure must be used to force slipring down.

g. This completes field stripping (fig. 14).

7. Detailed Disassembly. *a*. The first steps of detailed disassembly of the rifle are identical to field stripping (par. 6*a* through *f*). The removal of the operating parts in the lower receiver completes detailed disassembly (fig. 15).

b. After completing disassembly of the upper receiver (par. 6*a* through *f*), position the lower receiver butt to the right, trigger down. Turn the selector lever to the SEMI position; place the thumb of the left hand on top of the hammer and pull the trigger with the index finger of the right hand (fig. 16). Let the hammer move slowly until it is fully forward. Using the nose of a round, press out the hammer pin from right to left (fig. 17).

Note. The firing pin may be used to push the hammer pin completely out of its recess once the initial movement is begun. Care should be used when removing the

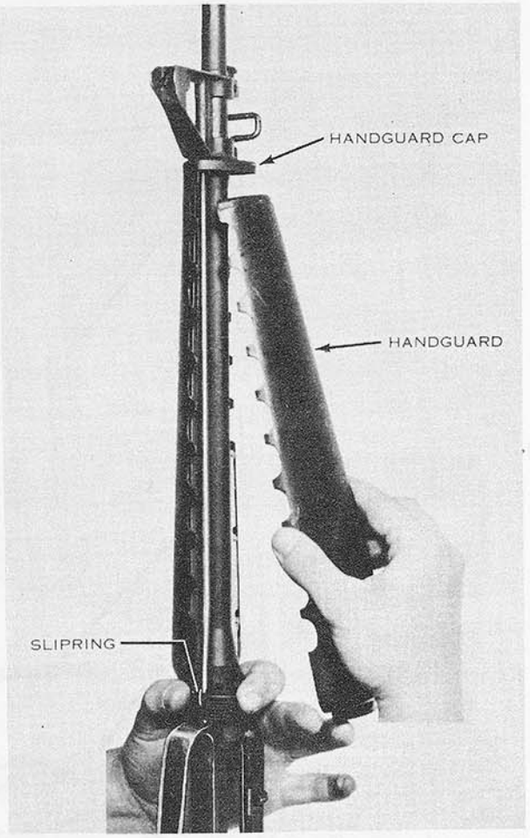

Figure 13. Removing the handguards.

hammer pin to prevent the hammer from jumping out of the receiver. Allow the hammer to ride up until no pressure is felt on the hammer spring. Remove the hammer from the receiver.

Caution: **The hammer spring is attached to the hammer and should not be removed (fig. 18).**

c. Using the index finger of the right hand, push in on the buffer cap with the index finger of the left hand. Push down on the buffer retainer, allowing the action spring guide assembly to move forward slowly until clear of the buffer retainer and remove from the lower receiver along with the action spring (fig. 19). Place the action spring guide assembly and action spring on the table.

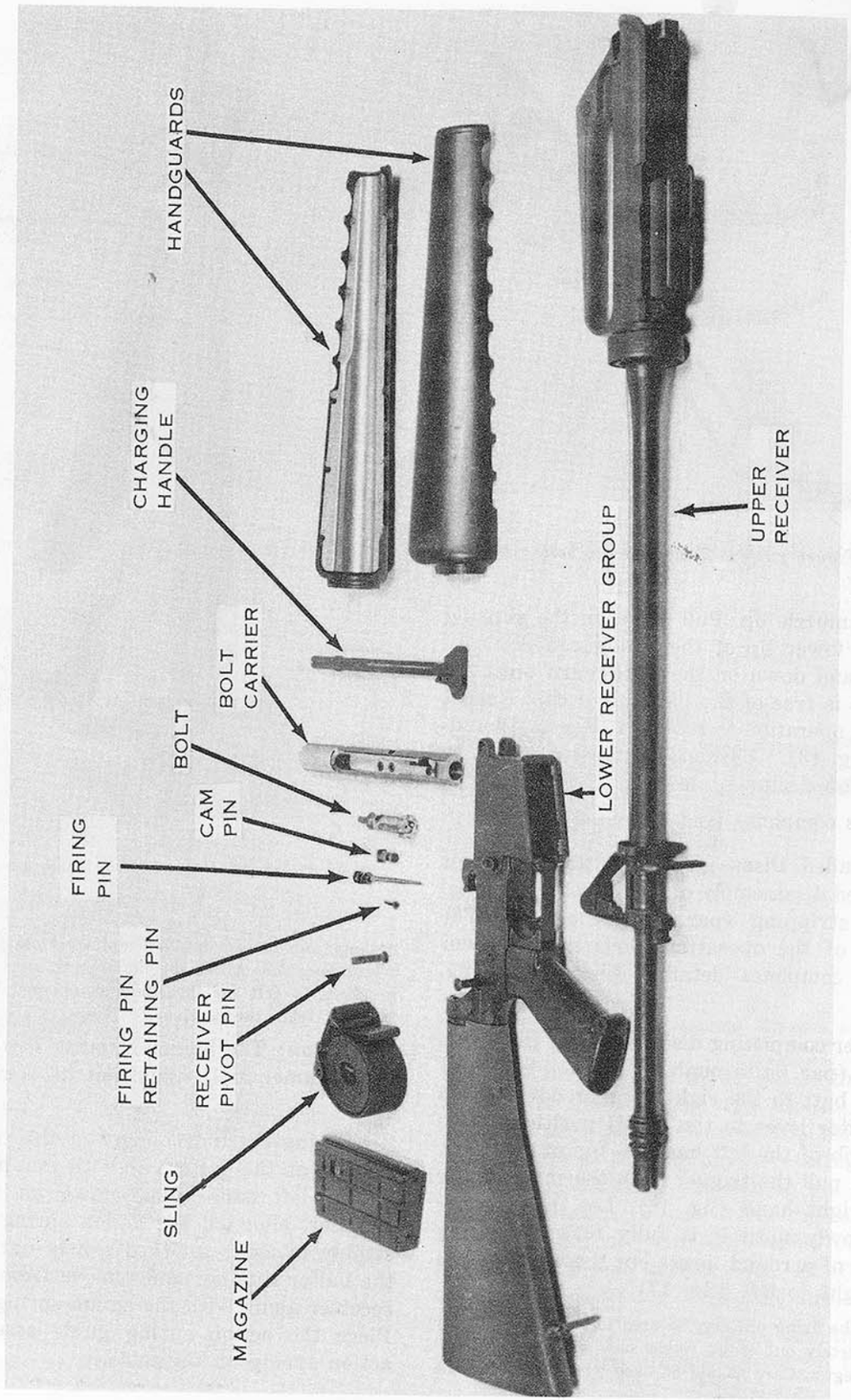

Figure 14. Field stripping.

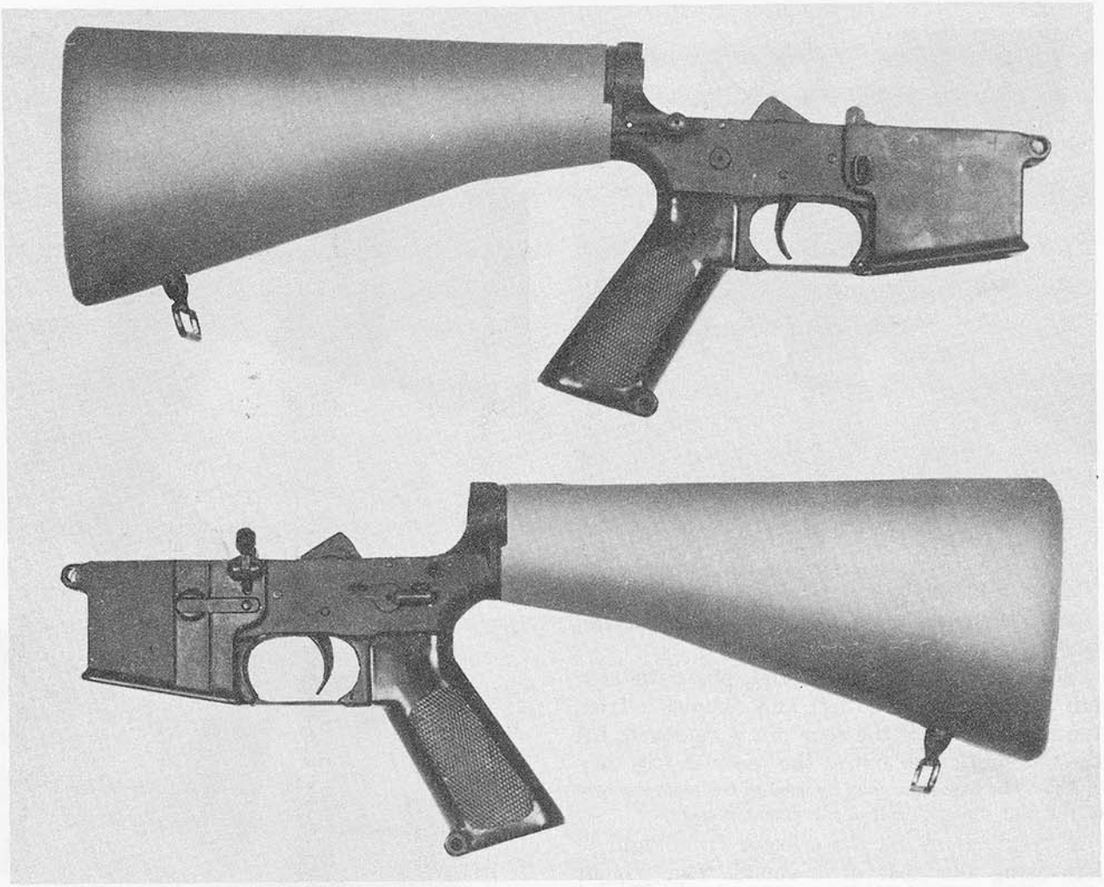

Figure 15. Lower receiver group.

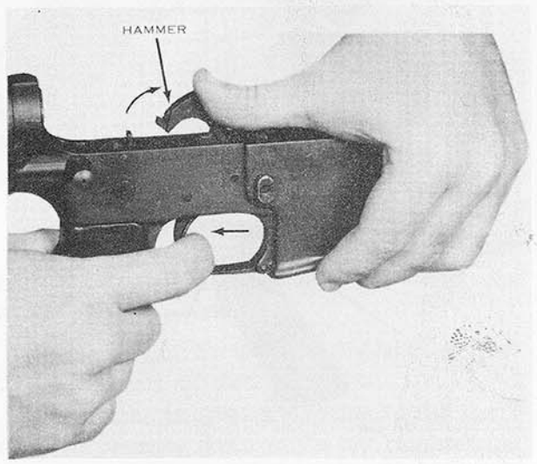

Figure 16. Lowering the hammer.

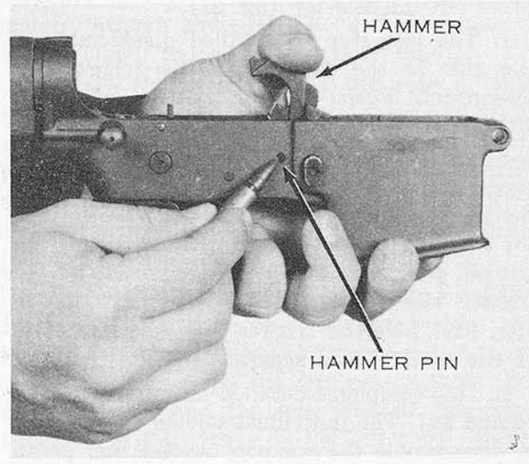

Figure 17. Pressing out the hammer pin.

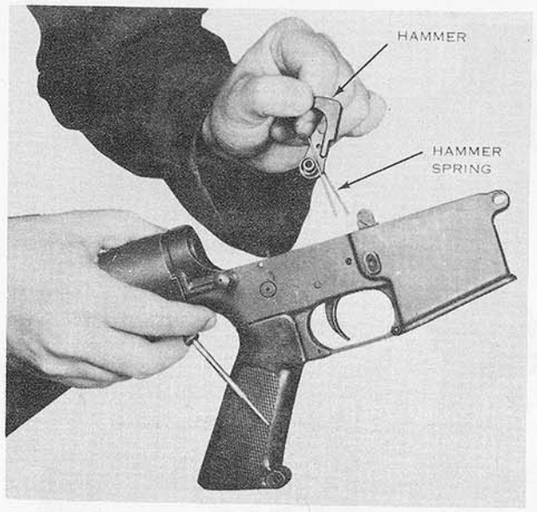

Figure 18. Removing the hammer and spring.

Note. The action spring is under pressure and care must be taken in removing it.

d. With the nose of a round, press the sear pin out from right to left and remove it from the receiver. Once the sear pin is removed, lift the automatic sear out of the receiver (fig. 20).

Note. The firing pin may be used to complete removal of the sear pin once initial movement is begun.

e. Next, press out the selector from right to left using the nose of a round. The trigger must be held forward when removing the selector. Considerable pressure is required to press out the selector (fig. 21).

f. The last step in detailed disassembly of the rifle is the removal of the trigger and disconnect. Push out the trigger pin from either side, using the firing pin.

Caution: **The trigger and disconnect will jump out of the receiver under pressure of the trigger spring. Hold the trigger down with the thumb of the left hand when removing the trigger pin. Once the pin is removed, let the trigger rise slowly until no pressure is felt (fig. 22). Lift the trigger and disconnect out of the receiver and separate (fig. 23).**

g. This completes detailed disassembly (figs. 14 and 24). The individual soldier has no need to disassemble the weapon beyond this point. Only qualified ordnance personnel are author-

Figure 19. Removing the action spring guide assembly and action spring.

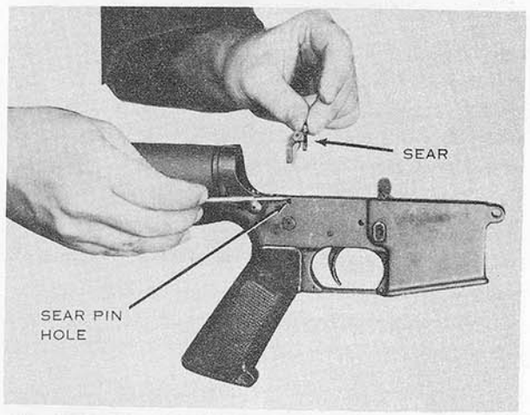

Figure 20. Removing the automatic sear.

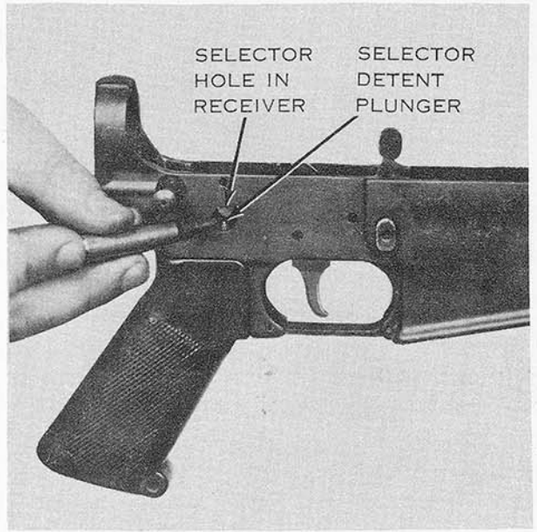

Figure 21. Removing the selector lever.

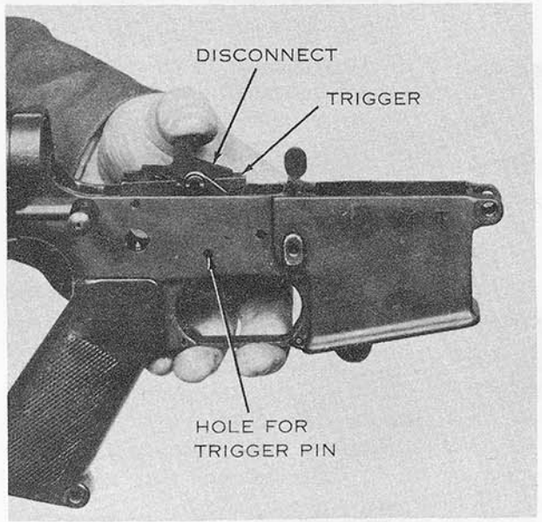

Figure 22. Removing the trigger and disconnect.

ized to remove any other parts from the weapon.

8. **Assembly.** *a.* To assemble the rifle, reverse the procedures of disassembly.

b. Place the trigger in position in the lower receiver, pressing down on the top, compressing the trigger spring until the trigger pin can be

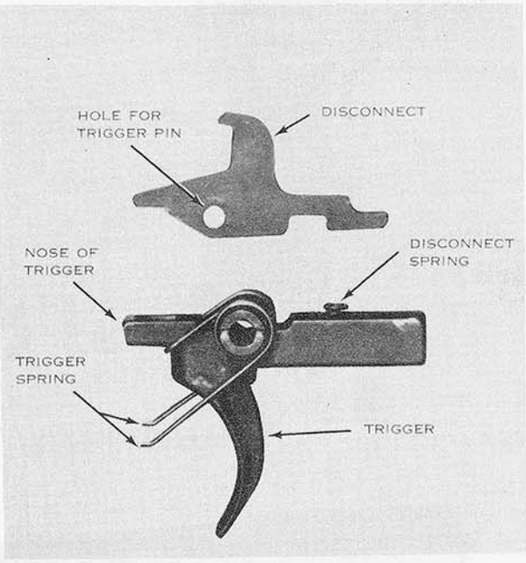

Figure 23. Trigger and disconnect separated.

inserted through the left side of the receiver. Insert the trigger pin just far enough to hold the trigger in place. Seat the disconnect in its slot on the trigger, pushing down until the hole in the trigger and the hole in the disconnect are alined. Press the trigger pin completely through and seat. Check the movement of the trigger to insure there is no binding.

c. Place the selector into the side of the receiver from the left. Using the nose of a round, press down on the selector lever detent plunger and push the selector lever into place until the detent plunger snaps into the notch on the selector lever. The trigger must be held forward when replacing the selector lever.

d. Turn the selector to the automatic position. Insert the automatic sear into its position in the receiver. Insure that the sear tang is positioned in the slot on the left rear side of the selector lever and the long end of the sear spring is in the groove on the left front of the selector lever (fig. 25). This insures that the

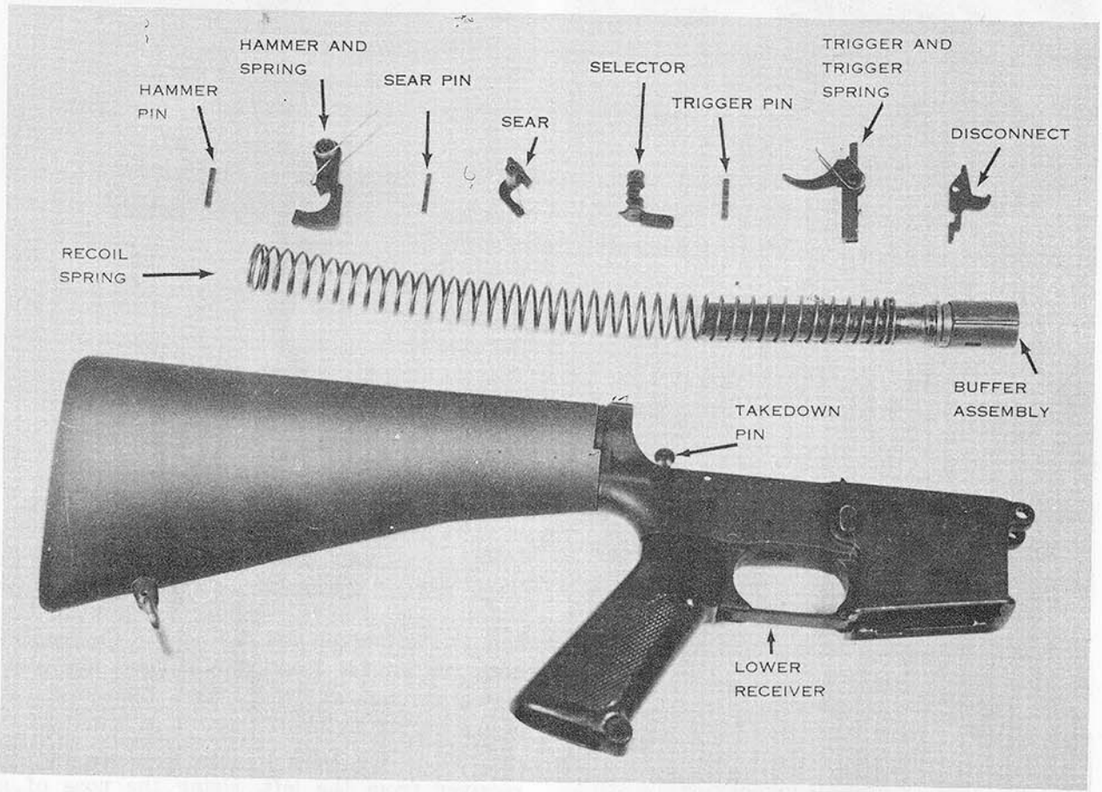

Figure 24. Detailed disassembly of the lower receiver group.

automatic sear returns to the proper position when the selector lever is turned from SEMI to AUTO. Insert the sear pin into its hole in the receiver from right to left.

e. Insert the action spring guide assembly into the action spring and push the open end of the spring into the well in the receiver extension, until the buffer retainer pin snaps into position.

f. Press the hammer into its position in the receiver, insuring that the tails of the hammer spring are to the rear and in the grooves on either side of the trigger pin (fig. 26). Pushing down and forward on the hammer, aline the holes in the receiver and the hammer. Use the firing pin to line up the holes and press in the hammer pin. This completes assembly of the lower receiver.

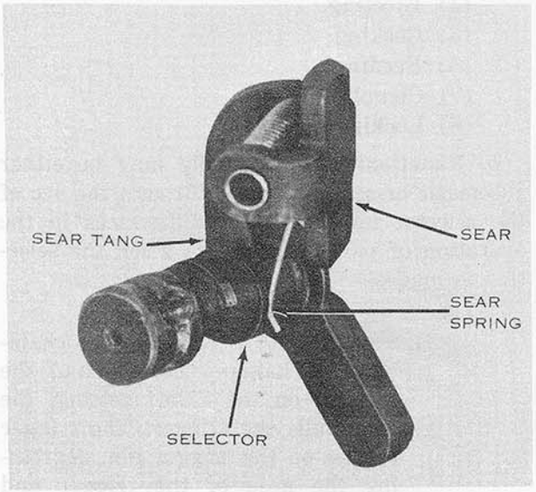

Figure 25. Position of sear tang and sear spring on the selector lever.

g. To assemble the bolt group, grasp the bolt carrier, key up and to the front, and insert the bolt into the front of the bolt carrier, insuring that the ejector is down and to the left. Replace the cam pin into its well and rotate ¼-turn to aline the holes in the bolt and cam pin. Grasp the lugged rim of the bolt and turn until the cam pin is directly beneath the bolt carrier key. Insert the firing pin through the open end of the bolt carrier and seat fully. Insert the firing pin retaining pin.

h. Replace the handguards making certain that the slipring is fully seated on the lower lip of both sections of the handguard. Care must be taken to prevent damage to the upper and lower lips and to insure proper seating.

i. Grasp the upper receiver with the carrying handle up. Place the charging handle into the groove in top of the upper receiver, latch to the left. Make sure that the lugs on the charging handle are seated in their grooves in the receiver. Place the bolt and bolt carrier in the open end of the receiver, insuring that the carrier key is in the slot on the underside of the charging handle. Push forward on the bolt carrier and charging handle until fully seated.

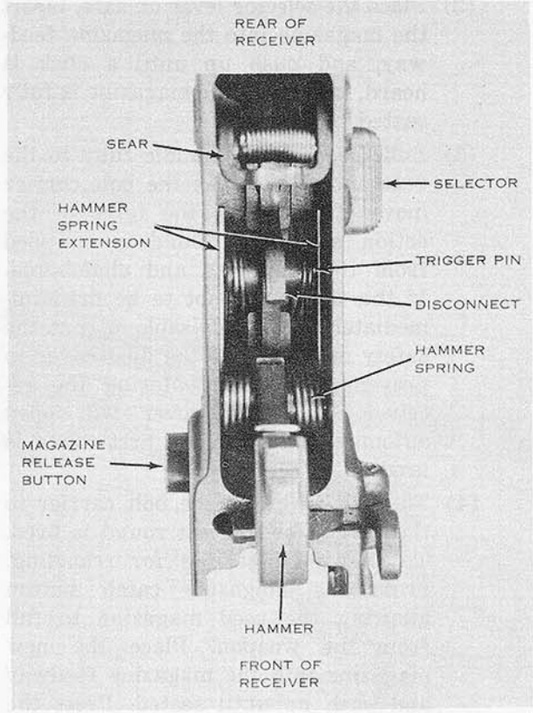

Figure 26. Position of the hammer spring in the receiver.

j. Place the upper receiver group and lower receiver group together and replace the receiver pivot pin from the right.

k. Cock the hammer and put the selector lever on the safe position. Withdraw the takedown pin and close the weapon. Fully seat the takedown pin, replace the sling, move the selector lever to the SEMI position, and press the trigger. If the hammer falls, the rifle is properly assembled.

Section II. OPERATION AND FUNCTIONING

9. Operation. *a. Loading.*

(1) Remove the magazine from the weapon. Place the round on top of the follower, nose toward the smooth face of the magazine, and press down. Repeat until 20 rounds are inserted.

(2) Place the selector lever on safe, insert the magazine into the magazine feedway, and push up until a click is heard, indicating the magazine is fully seated.

(3) Pull the charging handle fully to the rear and release. As the bolt carrier moves forward by the force of the action spring, a round is stripped from the magazine and chambered. If the weapon is not to be fired immediately, it is advisable to put the safety on and close the dust cover to prevent dirt from entering the receiver. The dust cover will open automatically when the first round is fired.

(4) The bolt will hold the bolt carrier to the rear after the last round is fired. To change magazines for reloading, press the magazine catch button allowing the used magazine to fall from the weapon. Place the new magazine into the magazine feedway and push up until seated. Press the bolt catch on the left of the receiver and allow the bolt carrier to go forward. A round is chambered and the weapon is ready to fire.

b. Unloading. To unload the rifle and make it safe, the firer first places the selector lever on safe, presses the magazine catch button and removes the magazine, pulls to the rear on the charging handle, inspects the chamber to insure it is clear, locks the bolt carrier to the rear by depressing the lower portion of the bolt lock, and returns the charging handle forward. The rifle is clear only when no round is in the chamber, the magazine is out, bolt carrier to the rear, and the selector lever on the safe setting.

10. Functioning. *a.* Functioning consists of eight basic steps. Keep in mind that more than one of these steps takes place at a time. The eight steps are:

(1) Firing.
(2) Unlocking.
(3) Extracting.
(4) Ejecting.
(5) Cocking.
(6) Feeding.
(7) Chambering.
(8) Locking.

b. Functioning in the rifle may be either automatic or semiautomatic through the use of the selector lever. Certain differences in the operation of parts takes place when the selection is made.

(1) *Semiautomatic fire.*

(*a*) *Firing.* With a round in the chamber, the hammer cocked, and the selector on the SEMI setting, the firer pulls the trigger. The trigger rotates on the trigger pin, depressing the nose of the trigger and disengaging the notch on the bottom of the hammer. The hammer is thrown forward by action of the hammer spring. The hammer strikes the head of the firing pin driving it through the bolt into the primer of the round. The action of the rifle is so much faster than human reaction that it is impossible for the firer to release the trigger rapidly enough to prevent multiple firing. Therefore, it is necessary for a mechanism to be installed in the weapon to enable the firer to fire single rounds. In the M16 the disconnect is used for this purpose. The disconnect is attached to the trigger and is rotated forward by action of the disconnect spring. When the hammer is cocked by the recoil of the bolt carrier, the disconnect engages the lower hook of the hammer and holds it until the trigger is released. When the trigger is released, the disconnect rotates down, disengaging the hammer and allowing it to rotate forward until caught by the nose of the trigger. This prevents the hammer from following the bolt carrier forward and causing automatic fire (fig. 27).

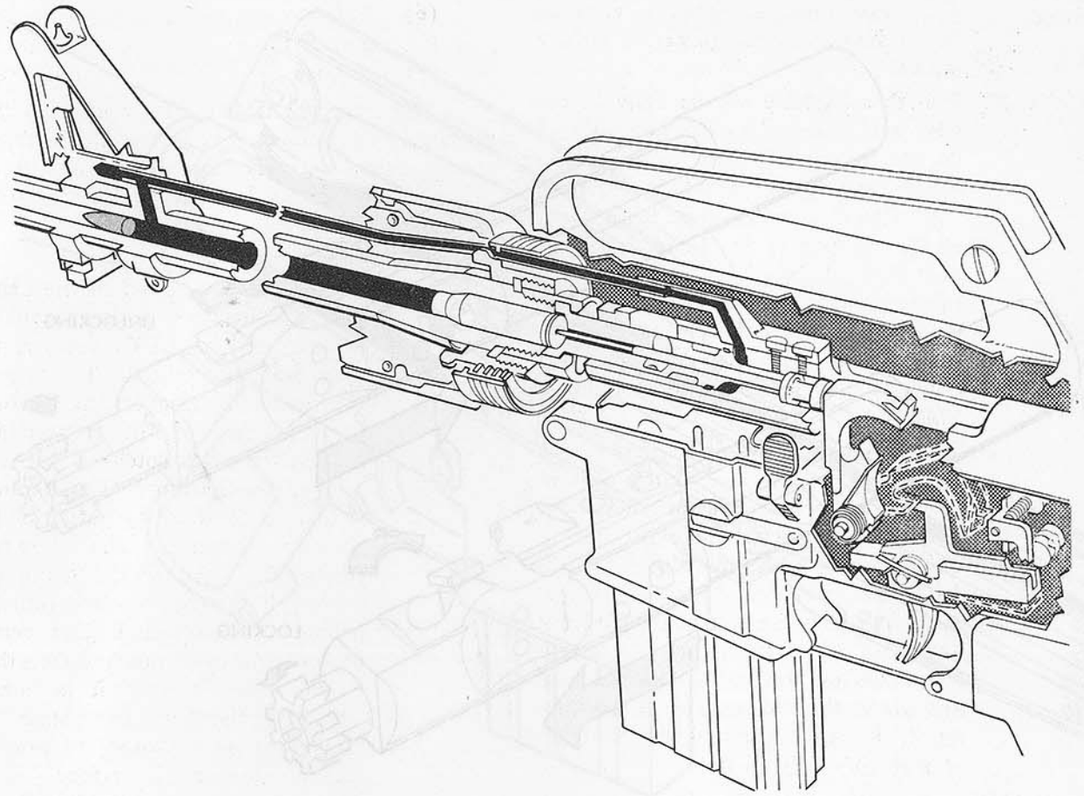

Figure 27. Firing.

(*b*) *Action of the gas.* When the hammer strikes the firing pin and the primer ignites the powder, the projectile is forced down the barrel. At the same time the gas moves down the barrel until, passing the gas port located on the upper surface of the barrel, under the front sight, a small portion of the gas passes through the gas port and into the gas tube (fig. 28). The gas tube directs the gas into the cylinder between the bolt and bolt carrier, causing the bolt carrier to move rearward.

(*c*) Unlocking. As the bolt carrier moves to the rear, the cam track in its upper surface acts on the bolt cam pin, rotating the cam pin and bolt until the locking lugs of the

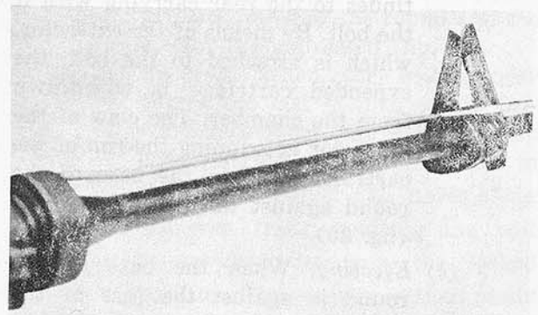

Figure 28. Gas tube.

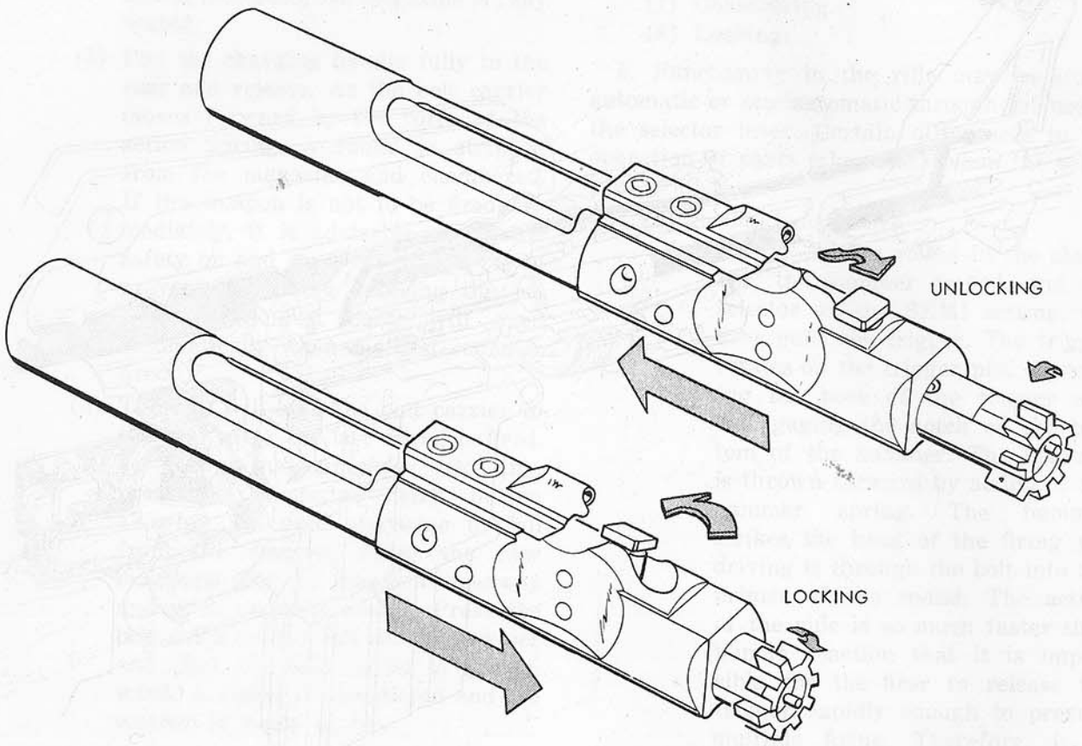

Figure 29. Locking and unlocking.

bolt are no longer in line with the locking lugs of the barrel extension (fig. 29).

(*d*) *Extracting.* The bolt carrier continues to the rear carrying with it the bolt. By means of the extractor, which is attached to the bolt, the expended cartridge is withdrawn from the chamber. The claw of the extractor is gripping the rim of the cartridge, holding the base of the round against the face of the bolt (fig. 30).

(*e*) *Ejecting.* When the base of the round is against the face of the bolt, the ejector is compressed. As the bolt carrier clears the ejection port, the empty cartridge is thrown out by action of the ejector and spring (fig. 31).

(*f*) *Cocking.* The rearward movement of the bolt carrier causes an overriding of the hammer forcing it down into the receiver compressing the hammer spring. The lower hook of the hammer is engaged by the disconnect. When the trigger is released the hammer slips from the disconnect and is caught by the nose of the trigger. The trigger must be pulled again before the next round will fire (fig. 32).

(*g*) *Feeding.* As the bolt carrier clears the top of the magazine, the follower and spring in the magazine push a new round up into the path of the bolt (fig. 33).

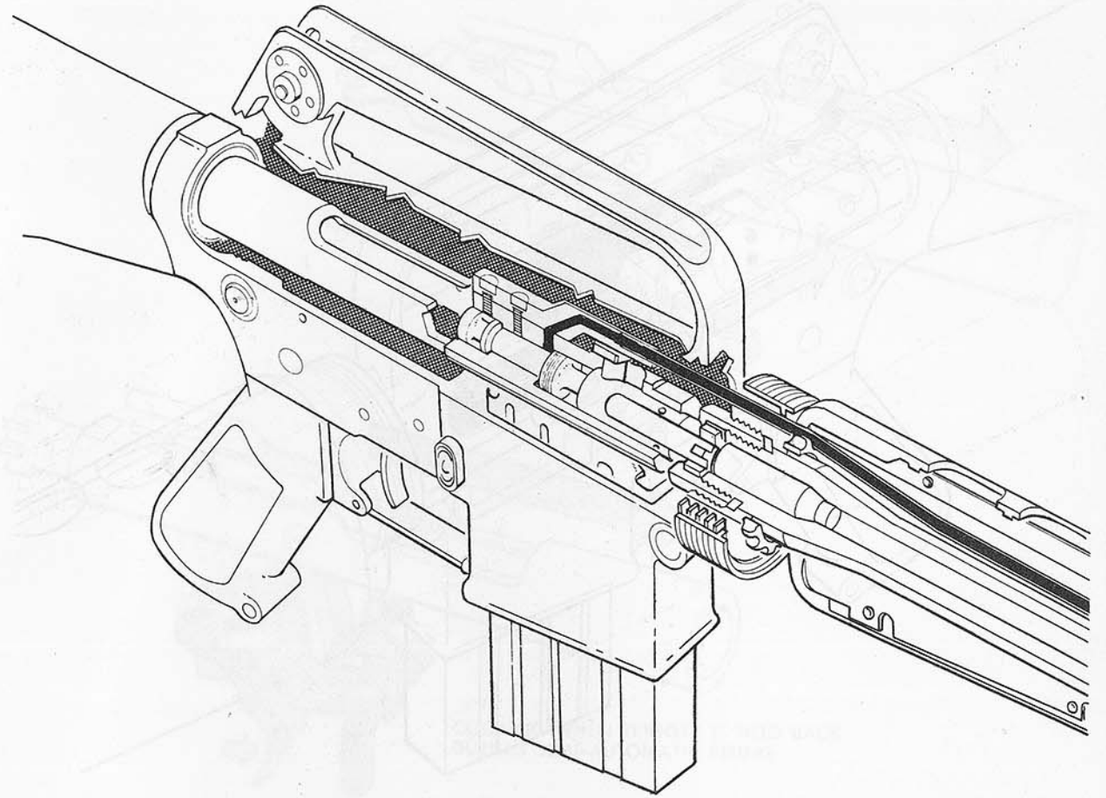

Figure 30. Extracting.

(*h*) *Action of the buffer assembly.* When the bolt carrier has reached its most rearward position, the head of the buffer is struck. This sends the action spring guide assembly and action spring rearward into the receiver extension. The expansion of the action spring sends the action spring guide assembly forward with enough force to drive the bolt carrier forward toward the chamber. The buffer assembly is designed to reduce the recoil of the weapon.

(*i*) *Chambering.* On the forward stroke of the bolt carrier, the face of the bolt strips a round from the magazine and thrusts it into the chamber. At the same time the extractor claw grips the base of the round and the ejector is compressed (fig. 34).

(*j*) *Locking.* When the bolt carrier enters the last ½-inch of its forward movement, the bolt cam pin emerges from the guide channel in the upper receiver and moves along the cam track, rotating the bolt counterclockwise into the locked position. The weapon is then ready to fire and the cycle begins again (fig. 29).

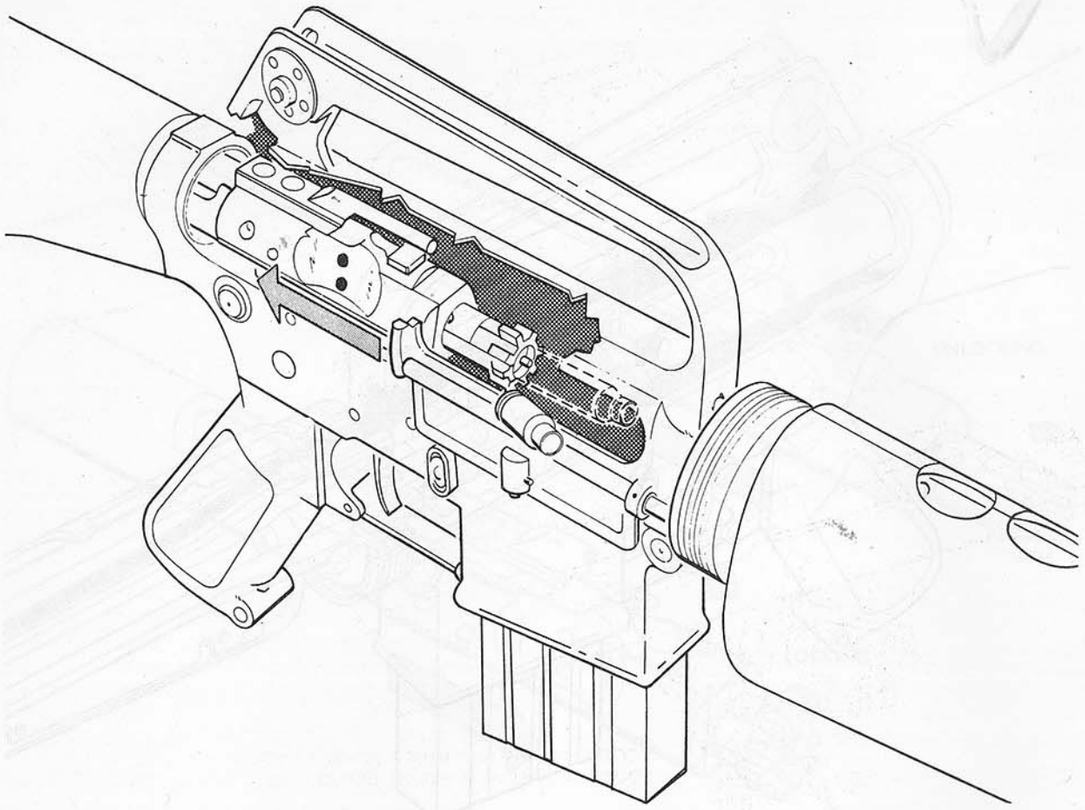

Figure 31. Ejecting.

(2) *Automatic fire.*

(*a*) When the selector lever is set on AUTO position, the rifle will continue fire as long as the trigger is held back and ammunition is in the magazine. The functioning of certain parts of the weapon changes when firing automatic.

(*b*) As the rifleman pulls the trigger, the cycle of operation begins. As the bolt carrier recoils the hammer is cocked, but the center cam of the selector prevents the disconnect from engaging the hammer (fig. 35).

(*c*) By adding an automatic sear, which catches the upper hook of the hammer, and holds it until the bolt carrier moves forward striking the top of the sear, releasing the hammer, the rifle will fire automatic fire (fig. 36).

(*d*) If the trigger is released, the hammer moves forward and is caught by the nose of the trigger. This ends the automatic cycle of fire until the trigger is pulled again.

(*e*) All other portions of the cycle of operation remain the same as in semiautomatic fire.

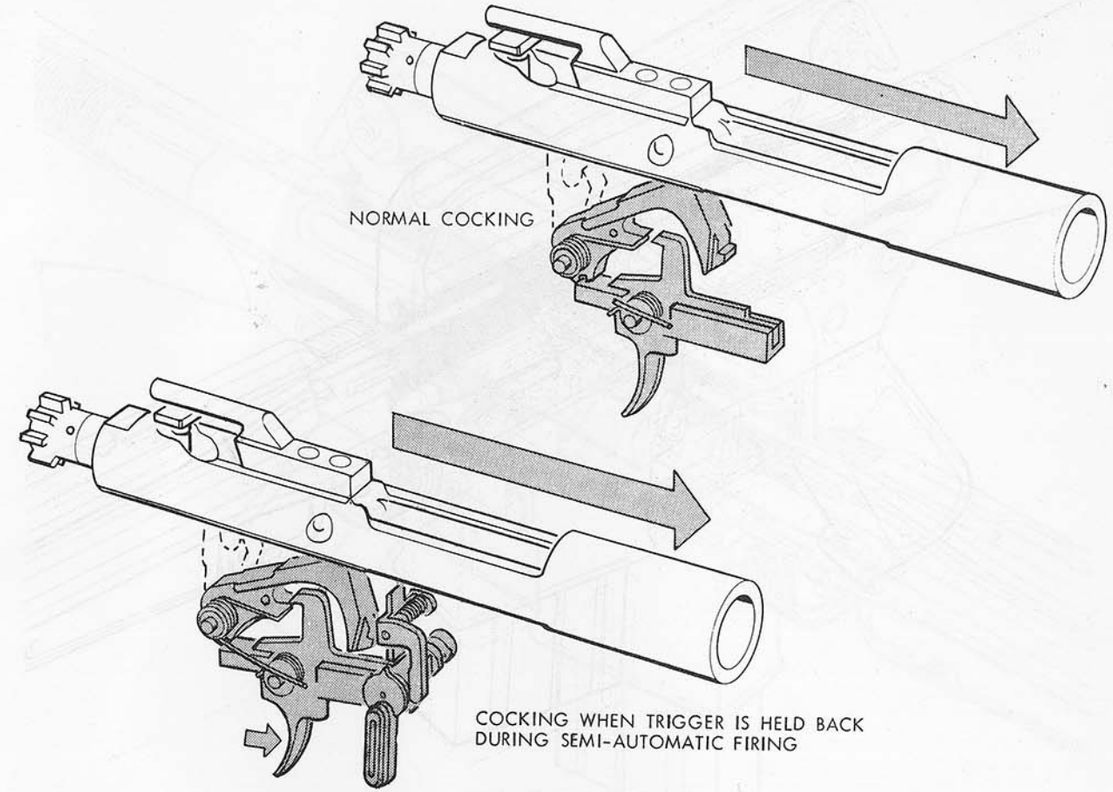

Figure 32. Cocking.

c. The functioning of the rifle through the cycle of operation stops when the trigger is released or when the magazine is empty. In the latter case, certain actions take place within the weapon to tell the firer that he must change magazines.

(1) When the last round of a magazine has been chambered, the magazine follower rises to the top of the magazine and contacts the bolt stop. As the bolt carrier recoils after the round is fired, the bolt stop is forced into

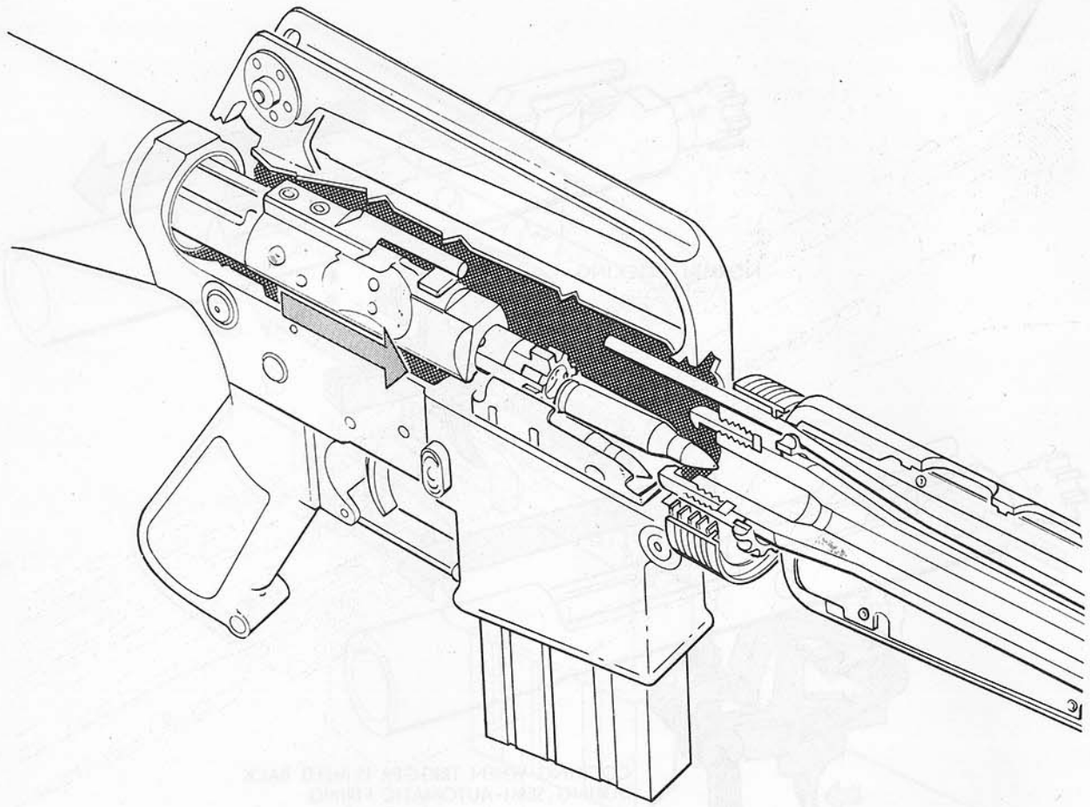

Figure 33. Feeding.

the path of the bolt face by action of the magazine spring. This holds the bolt carrier to the rear.

(2) Removal of the magazine does not release the bolt carrier due to the force of the action spring holding the face of the bolt tightly against the stop. To release the bolt carrier, the firer must press the head of the bolt stop located on the left side of the receiver.

Caution: **If a new magazine has been inserted and the bolt carrier goes forward, the weapon is armed and ready to fire.**

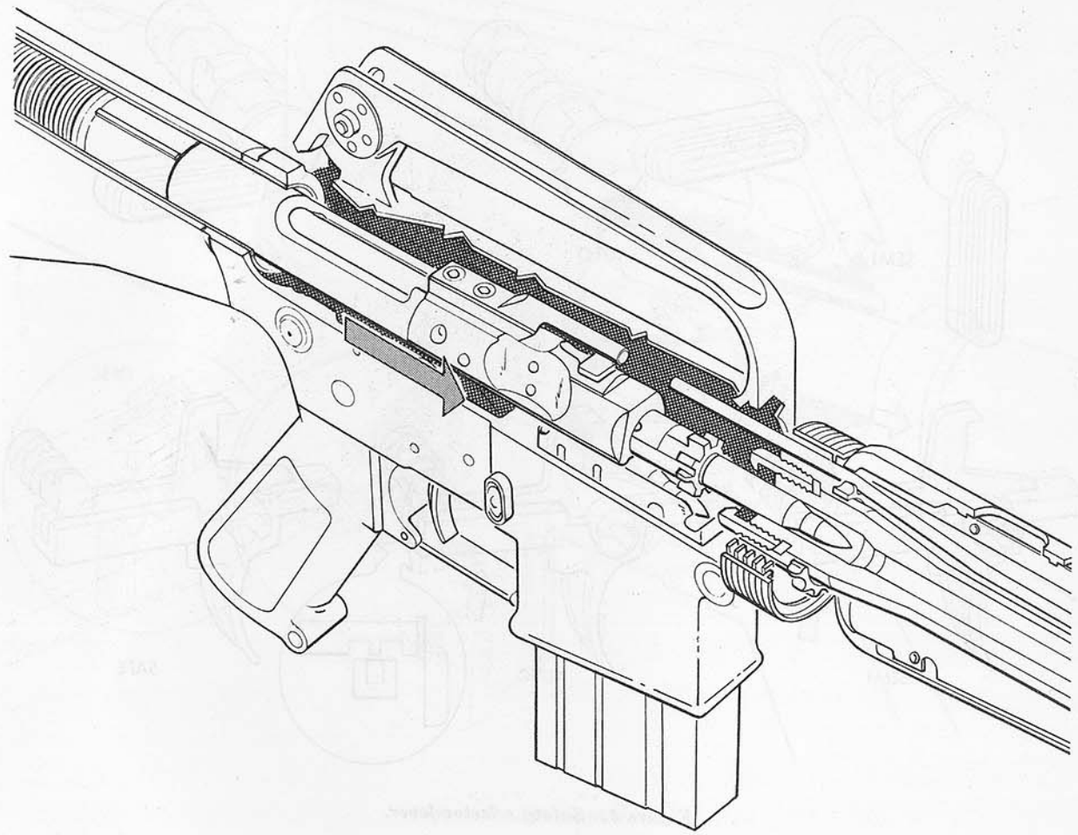

Figure 34. Chambering.

(3) To hold the bolt carrier to the rear when making the rifle safe, the firer pulls the charging handle to the rear, presses on the lower portion of the bolt stop, returns the charging handle to the forward position, and places the selector lever on safe. In this manner the bolt is open, the chamber is clear for inspection, and the safety is on. To be completely safe, the magazine must also be out of the weapon.

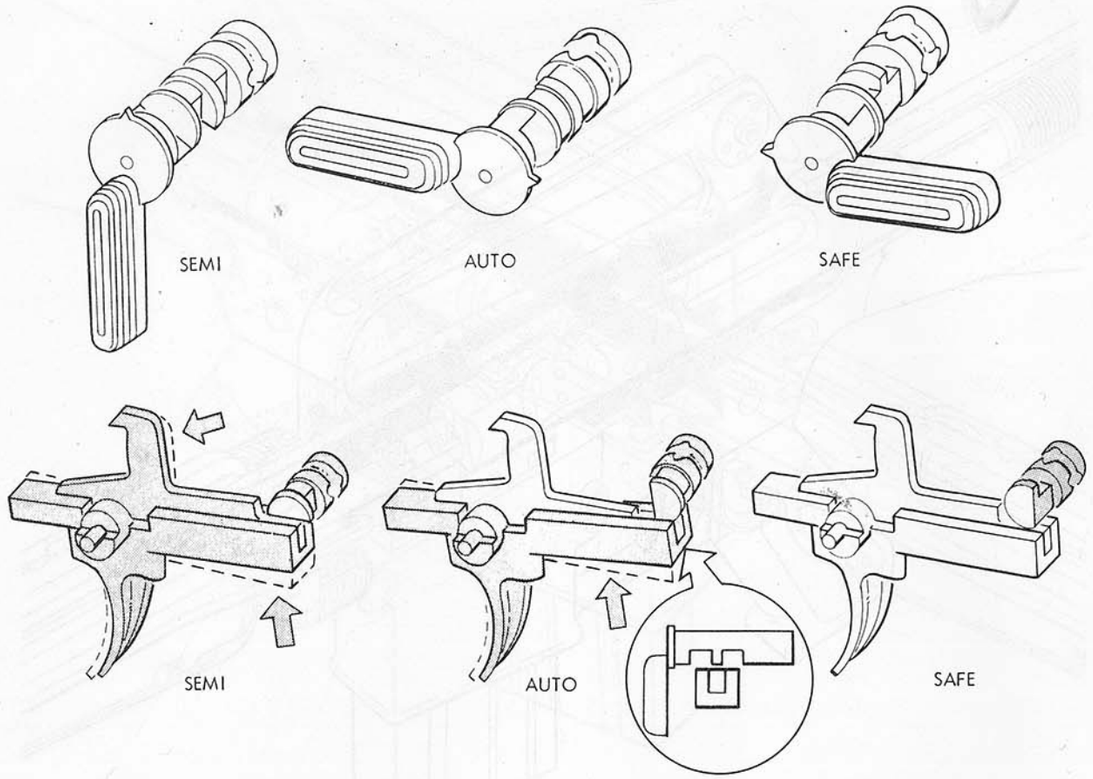

Figure 35. Safety selector lever.

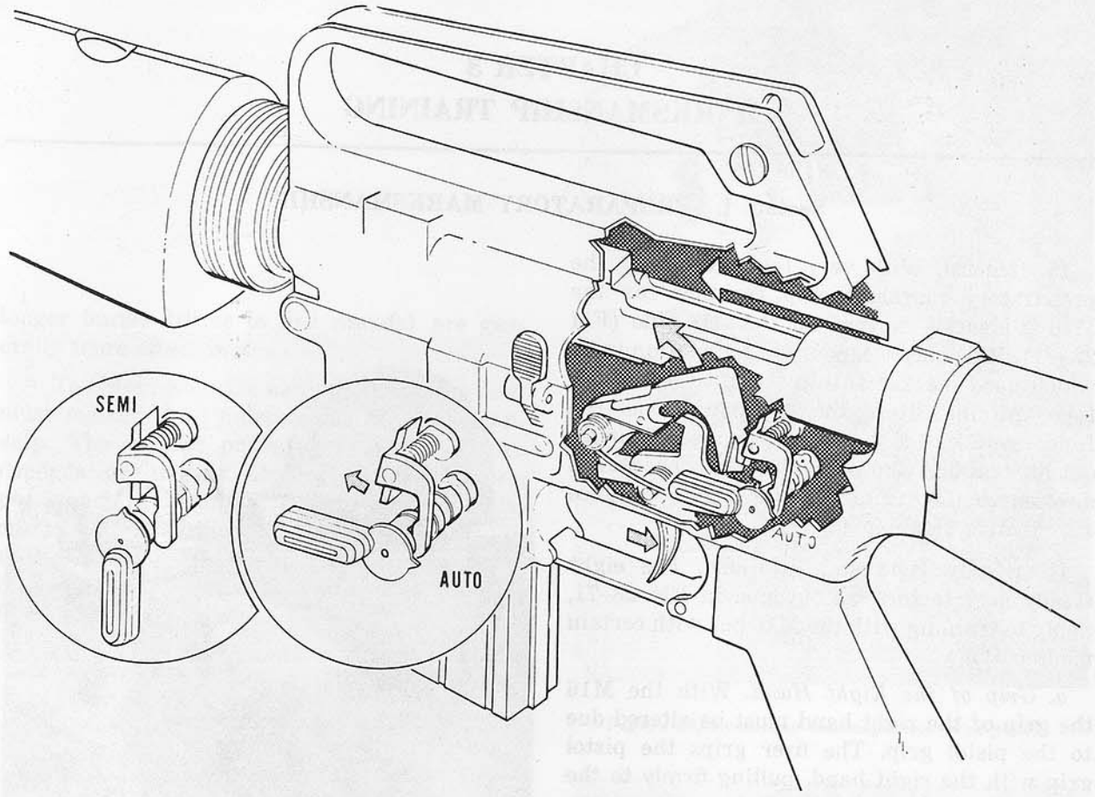

Figure 36. Automatic sear.

Section III. CARE AND CLEANING

11. Maintenance. The rifleman will use care and cleaning procedures standard to all small arms.

12. Reference. See FM 23–8 for details of care and cleaning.

Section IV. STOPPAGES AND IMMEDIATE ACTION

13. Stoppages. A stoppage is any interruption in the cycle of the weapon's operation. Immediate action must be taken to clear it.

14. Immediate Action. Immediate action when clearing a stoppage in the M16 consists of the following steps.

a. Wait 5 seconds and then pull the charging handle fully to the rear and release it. Strike upward on the bottom of the magazine to insure it is fully seated.

b. Attempt to fire the rifle.

c. Visually inspect the receiver for any obstructions. If a round is jammed in the chamber, hold back on the charging handle and strike the butt of the rifle on the ground to retract the bolt.

CHAPTER 3
MARKSMANSHIP TRAINING

Section I. PREPARATORY MARKSMANSHIP

15. General. With very few exceptions, the preparatory marksmanship training for the M16 is identical to that for the M14 rifle (FM 23–71). With any weapon, the foundation upon which good marksmanship is built is preparatory training. Here the rifleman learns the fundamentals which must be applied throughout his training and in combat. This chapter is devoted to the training necessary to produce an effective rifleman.

16. Steady Hold and Positions. The eight steady hold factors, as outlined in FM 23–71, apply to training with the M16 but with certain modifications.

a. Grip of the Right Hand. With the M16 the grip of the right hand must be altered due to the pistol grip. The firer grips the pistol grip with the right hand, pulling firmly to the rear. The thumb does not rest on top of the stock, but is closed around the pistol grip. The trigger finger is placed on the trigger so that the finger makes no contact with the stock or trigger guard (fig. 37).

b. The Spot-Weld. Due to the thumb position on the pistol grip, no spot-weld is possible. However, the firer must rest his cheek on the comb of the stock and in the same position each time he aims the weapon. This insures a consistent sight picture. The correct position must be determined by the individual.

17. Automatic Fire. *a.* Except at close ranges (less than 50 meters), maximum effectiveness of fire against point targets is normally obtained by employing the rifle in its semiautomatic role. Except where enfilade fire is being employed, maximum coverage of an area target will be obtained by delivering bursts of two or three rounds. When delivering enfilade fire, longer bursts (three to five rounds) are generally more effective.

Figure 37. Grip of the right hand.

b. To obtain accurate automatic fire, the firer must master the fundamentals of marksmanship. The volume or rate of automatic fire depends on trigger control and the firer's proficiency in reloading. Trigger control is discussed in ASubjScd 23–14. Proficiency in reloading is developed through systematic training in changing magazines. This training is conducted as follows:

(1) Magazines should be placed in the ammunition pouch with the open end down and the short edge toward the body. Three magazines may be placed in each universal small arms ammunition pouch. To remove the magazine from the pouch, the palm is placed over the exposed end of the magazine so that the thumb is to the rear and the fingers on the front of the magazine (fig. 38). As the magazine is withdrawn from the pouch the arm is extended to the front, rotating the hand and magazine 180 degrees causing the open end of the magazine to be up and in position for loading into the weapon. When a bipod is used, the weapon must be rotated to allow the magazine free access to the feedway (fig. 39).

Figure 38. Removing the magazine from pouch.

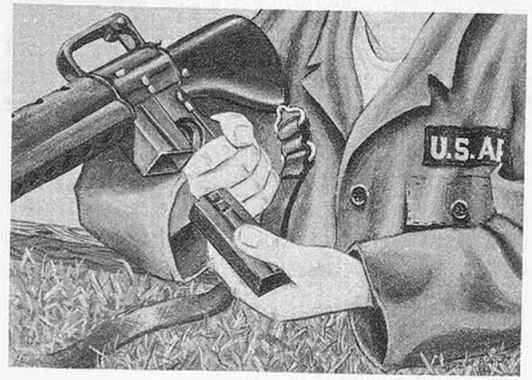

Figure 39. Canting the rifle to load or unload the magazine.

Figure 40. Foxhole position with bipod showing position of the left hand.

(2) To remove empty magazines, right-handed firers press the magazine catch button with the trigger finger, causing the magazine to drop from the weapon. Left-handed firers press the magazine catch button with the thumb of the right hand.

c. Positions are as follows:

(1) The rifle can be fired with or without the bipod from any of the eight positions outlined in FM 23–71. For maximum stability the bipod should be used when firing from the prone and foxhole positions. The alinement of the firer's body, with or without the bipod on the weapon, is identical to that outlined in FM 23–71. The firer grasps the pistol grip with the right hand, exerting firm rearward pressure. The left hand grips the magazine feedwell, also exerting a rearward pressure (fig. 40).

Figure 41. Underarm position.

(2) The most effective position for delivering assault fire is the underarm firing position (fig. 41).

18. Sight Adjustment. The sights of the M16 are adjustable for both elevation and windage (fig. 42). Windage adjustments are made on the rear sight and elevation adjustments on the front sight.

a. The rear sight consists of two apertures, windage drum, and a spring loaded stud. The aperture marked "L" is used for ranges from 300 to 500 meters and the unmarked aperture for ranges from 0 to 300 meters. Windage is adjusted by pressing in on the spring loaded stud and rotating the windage drum. A clockwise movement moves the strike of the round to the right and a counterclockwise movement moves the strike to the left 2.8 centimeters per each 100 meters of range.

b. The front sight consists of a sight post and a spring loaded stud. The spring loaded stud must be depressed to allow the sight post to turn. Each click the post is rotated moves the strike of the round 2.8 centimeters per 100 meters of range. Moving the post in the direction of the arrow marked UP, the strike of the round is raised but the post is lowered.

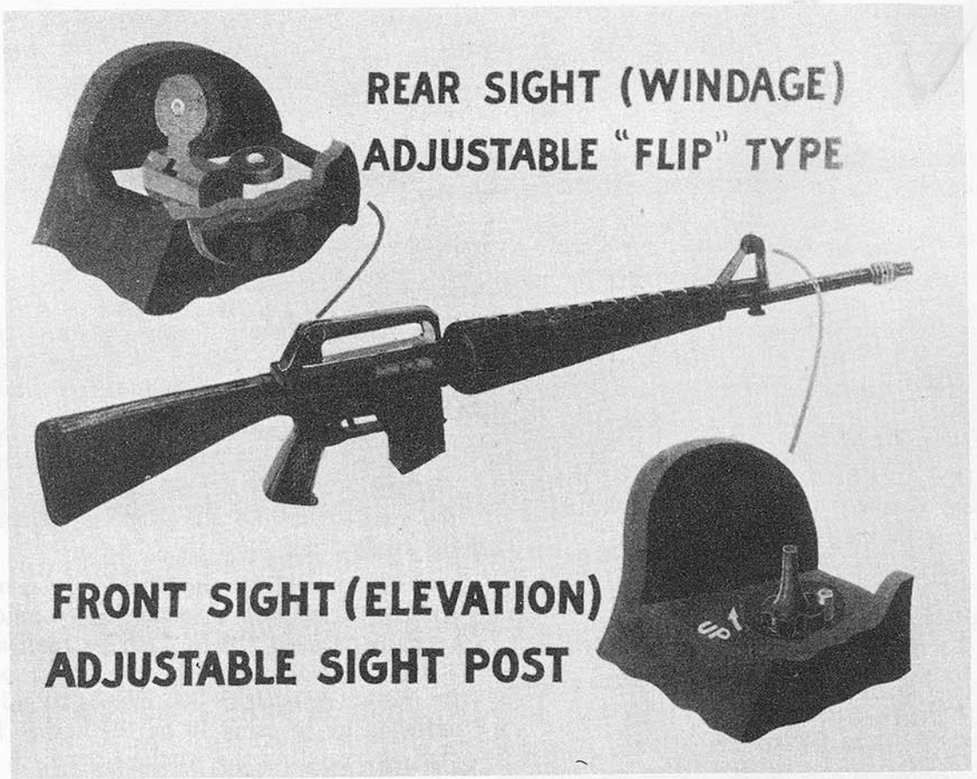

Figure 42. Front and rear sights.

Setcion II. COURSES OF FIRE

19. Semiautomatic Role. *a.* To obtain a 250-meter battle sight zero, a point-of-aim point-of-hit relation should exist at 25 meters.

b. When firing the M16 on ranges equipped with electrical target devices, plywood or aluminum targets should be used in order to effect hits at close ranges (0 to 150 meters). This is due to the high velocity and light weight of the 5.56-mm projectile. The use of double thickness cardboard should be avoided due to excessive strain on the target device.

20. Automatic Role. Upon completion of record firing as prescribed in FM 23–71, the soldier armed with the M16 should fire the courses of fire prescribed for automatic riflemen. The 25-meter and transitional course can be fired in the M16 marksmanship program.

APPENDIX
REFERENCES

FM 23–8	US Rifle, 7.62-mm, M14.
FM 23–15	Browning Automatic Rifle, Cal. .30, M1918A2.
FM 23–71	Rifle Marksmanship Course; Trainfire I.
ASubjScd 23–14	Interim Automatic Rifle, M14(M) and Bar Qualification.

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NG: State AG (3).

USAR: Same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320–50.