

**FM 23-15**

**WAR DEPARTMENT**

**BASIC FIELD MANUAL**

**BROWNING AUTOMATIC  
RIFLE, CALIBER .30, M1918A2  
WITH BIPOD**

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**Prepared under the direction of the  
Chief of Infantry**



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FM 23-15, Browning Automatic Rifle, Caliber .30, M1918A2, with Bipod, is published for the information and guidance of all concerned.

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BY ORDER OF THE SECRETARY OF WAR:

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*Chief of Staff.*

OFFICIAL:

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*The Adjutant General.*

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## BASIC FIELD MANUAL

### BROWNING AUTOMATIC RIFLE, CALIBER .30, M1918A2, WITH BIPOD

#### CHAPTER 1

#### MECHANICAL TRAINING

	Paragraphs
SECTION I. General.....	1-3
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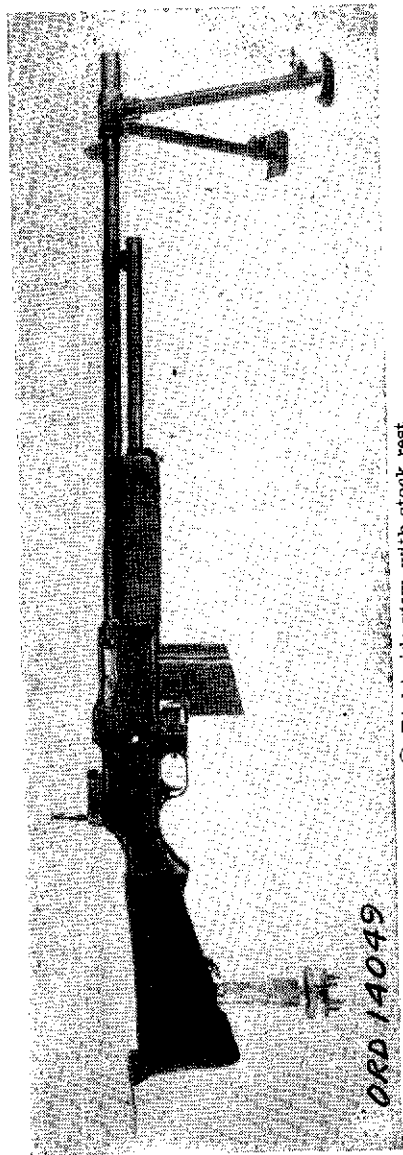
#### SECTION I

#### GENERAL

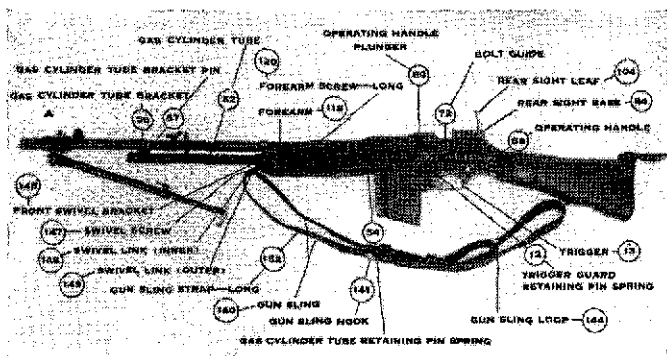
■ 1. OBJECT.—This chapter is designed to give the soldier training that will insure his ability to maintain the rifle and keep it in operation.

■ 2. DESCRIPTION OF THE RIFLE.—The Browning automatic rifle, caliber .30, M1918A2, with bipod, is an air-cooled, gas-operated, magazine-fed shoulder weapon. (See fig. 1.) It weighs approximately 21 pounds without sling. The ammunition is loaded in magazines of 20 rounds. The weight of the magazine when empty is 7 ounces; when filled, 1 pound 7 ounces.

■ 3. FIRE POWER.—The Browning automatic rifle, caliber .30, M1918A2, is not capable of semiautomatic fire. There are two cyclic rates of full automatic fire, normal and slow, which may be selected by the firer. The normal cyclic rate is approximately 550 rounds per minute; the slow cyclic rate is approximately 350 rounds per minute. The effective rate of fire for this weapon is from 120 to 150 rounds per minute.



① Right side view, with stock rest.



(2) Left side view.

FIGURE 1.—Browning automatic rifle, caliber .30, M1918A2, with bipod.

## SECTION II

### DISASSEMBLY AND ASSEMBLY

■ 4. TRAINING.—Training in disassembly and assembly will be taken up as soon as practicable after the soldier receives his rifle. In any case it will be completed before any firing is done with the rifle by the individual. Instruction in the care and cleaning of the automatic rifle will also be covered.

■ 5. ORGANIZATION.—In the company or platoon, all enlisted men are combined in one or more groups under their officers or selected noncommissioned officers as instructors. Other noncommissioned officers supervise the work as directed. Squad leaders supervise the work of their squads.

■ 6. CARE TO BE EXERCISED.—*a.* The rifle can be readily disassembled and assembled without applying force. The use of force is prohibited.

*b.* The rifle will not be disassembled or assembled against time as this serves no useful purpose and results in burring and damaging the parts. Instruction, blindfolded, may be given to men who have passed their tests in mechanical training. In all work in disassembling the rifle, the men

will be taught to lay the parts out on a smooth, clean surface in the proper sequence for assembling. The trigger mechanism will not be disassembled or assembled blind-folded.

■ 7. NOMENCLATURE.—The names of the parts to which reference is made in mechanical training are readily learned as this training progresses. Instructors will therefore take care to name the parts clearly and correctly in their work. A sufficient knowledge of the nomenclature of the rifle is gained by the soldier during the instruction in mechanical training.

■ 8. DISASSEMBLING THE RIFLE.—*a. General.*—Authorized disassembly by the soldier is limited to that required for proper care and maintenance of the rifle. Further disassembly will be done under the supervision of an officer or ordnance personnel. The individual soldier is prohibited from disassembling the—

- (1) Forearm group.
- (2) Barrel group.
- (3) Butt stock and buffer group.
- (4) Rear sight group.
- (5) Receiver group.

*b. Sequence.*—The disassembly of the rifle authorized to be performed by the individual soldier without supervision is performed in the following sequence:

- (1) *Operating group.*—
  - (a) Remove flash hider.
  - (b) Remove bipod assembly.
  - (c) Remove flash hider spring lock washer.
  - (d) Cock the rifle.
  - (e) Remove gas cylinder tube retaining pin.
  - (f) Remove gas cylinder tube and forearm (let mechanism forward easily).
  - (g) Remove trigger guard retaining pin.
  - (h) Remove trigger guard.
  - (i) Remove recoil spring guide and recoil spring.
  - (j) Push hammer pin through hammer pin hole in receiver.
  - (k) Remove operating handle.
  - (l) Remove hammer pin.



- (m) Remove hammer.
- (n) Remove slide.
- (o) Push out bolt guide.
- (p) Remove bolt, bolt lock, and bolt link.
- (q) Remove firing pin.
- (r) Remove bolt link pin and bolt link.
- (s) Remove extractor and spring.
- (2) *Trigger mechanism.*—Remove—
  - (a) Ejector.
  - (b) Magazine catch spring.
  - (c) Magazine catch pin.
  - (d) Magazine catch.
  - (e) Magazine release.
  - (f) Sear spring.
  - (g) Trigger pin.
  - (h) Trigger and connector.
  - (i) Sear pin.
  - (j) Sear and sear release stop lever.
  - (k) Sear carrier and counterrecoil spring.
  - (l) Change lever spring.
  - (m) Change lever.
- (3) *Bipod assembly.*—Remove the—
  - (a) Two bipod leg clamp wing screws.
  - (b) Right and left bipod leg assemblies.
  - (c) Two bipod clamp leg guides.
  - (d) Two bipod body wing screws.
  - (e) Right and left bipod leg tubes.

*c. Method.*—The following detailed explanation of the method of disassembling the automatic rifle is furnished as an aid to instructors:

(1) *Operating group.*—Unscrew flash hider. Remove bipod assembly and flash hider spring lock washer. Lay rifle on table, barrel down, pointing to left. Cock the rifle. This must be done in order that the gas cylinder tube may clear the gas piston and gas cylinder tube bracket, female. Turn gas cylinder tube retaining pin spring (54) 180° in a clockwise direction and lift out gas cylinder tube retaining pin (53). Remove gas cylinder tube and forearm (118). Let slide (45) forward *easily* by pressing trigger with thumb of right hand and at the same time grasping slide with left

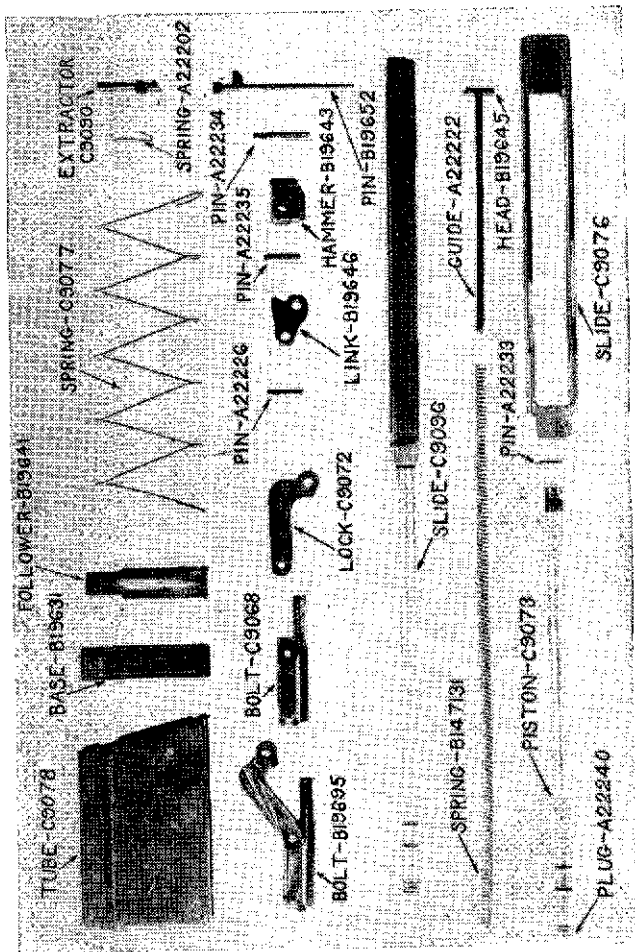


FIGURE 2.—Operating group.

hand so that middle and index fingers are astride gas piston. Turn trigger guard retaining pin spring (12) 90° in a clockwise direction and lift out pin. Lift out trigger guard group. Remove recoil spring guide (41) by pressing right index finger on checkered surface of its head and turning it until ends are clear of retaining shoulders. Line up hammer pin holes on receiver and operating handle by inserting point of recoil spring guide or dummy cartridge in hole on operating handle with right hand, press against hammer pin (86), and push operating handle backward with left hand. The recoil spring guide will push hammer pin through its hole in receiver as hammer pin registers with latter. Remove operating handle (88) by pulling straight to rear. Remove hammer pin. Push hammer (85) forward out of its seat in slide (45) and lift out of receiver. Remove slide (45) by pulling it forward out of receiver, being careful that bolt link (82) is pushed well down, thus allowing slide to clear. In removing slide, take care to avoid striking gas piston or rings against gas cylinder tube bracket (56). Force bolt guide (72) out with left thumb or point of a bullet. Lift out bolt, bolt lock, and bolt link by pulling them slowly to rear end of receiver and up with right thumb and forefinger. Pull out firing pin (76) from its way in bolt (75). Push bolt link pin (83) and remove bolt link. Remove extractor (77) by pressing point of a dummy cartridge against claw and exerting pressure upward and to front. Remove extractor spring.

(2) *Trigger mechanism.*—(a) Depress ejector lock with point of a dummy cartridge. Hold thumb in front of magazine catch spring to prevent it from flying out and then slide ejector out of its seat. Remove magazine catch spring. Remove magazine catch pin, lift out magazine catch and magazine release.

(b) Insert trigger guard retaining pin spring under sear spring above connector stop. Pry up, pressing against sear spring with thumb, and pull it out to rear. Push out trigger pin. The trigger pin must always be removed before sear pin in order that tension of counterrecoil spring will always be on sear pin. Remove trigger and connector through top of trigger guard. Push out sear pin with the recoil spring

guide. Remove sear and sear release stop lever. Separate sear release stop lever from sear. Pry up on sear carrier and lift out sear carrier and counterrecoil spring. Remove

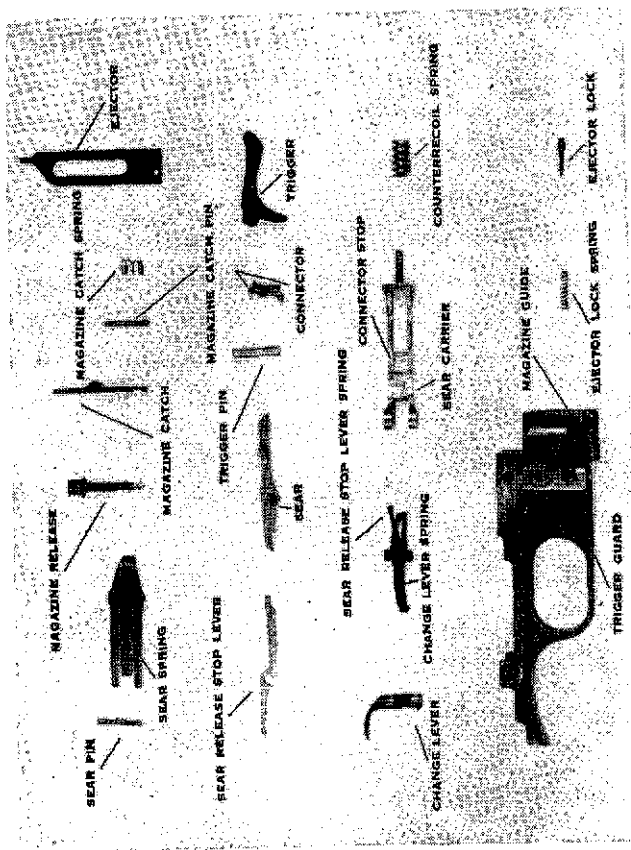


FIGURE 3.—Trigger guard group.

change lever spring by prying bent end out of its seat using rounded end of sear spring and moving change lever from front to rear. When clear of change lever, push it out the

rest of the way by pressing with thumb against base of sear release stop lever spring. Pull out change lever.

(3) *Bipod assembly*.—Unscrew two bipod leg clamp wing screws. Remove right and left bipod leg assemblies. Remove two bipod clamp leg guides. Unscrew two bipod body wing screws. Remove right and left bipod leg tubes from bipod body.

■ 9. ASSEMBLING THE RIFLE.—The rifle and its component parts are assembled in the reverse order of their disassembly as given in paragraph 8b. The following detailed explanation of the method of assembling the rifle is furnished as an aid to instructors:

a. *Bipod assembly*.—Replace bipod leg tubes in bipod body so that unthreaded holes of bipod leg clamps are facing

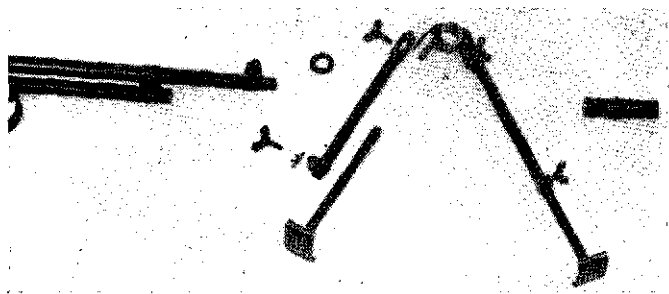


FIGURE 4.—Bipod group.

outward. Replace two bipod body wing screws. Replace two bipod clamp leg guides in their slots on right and left bipod legs. Replace bipod leg assemblies in bipod leg tubes. Aline U-shaped opening of bipod clamp leg guides with holes in bipod leg clamps and replace bipod leg clamp wing screws.

b. *Trigger mechanism*.—(1) Replace change lever. Insert ears of change lever spring in slots in trigger guard, sear release stop lever spring being up and to rear, push spring forward into place. Replace counterrecoil spring on counterrecoil spring guide (front of sear carrier). Insert counterrecoil spring guide into its seat. Brace forward end of trigger guard against an immovable object, and with thumbs of right

and left hands pressing on rear of sear carrier push sear carrier forward until rear end is held by ears of change lever spring. Hold sear so that slotted portion of cammed end of sear is down. Insert short end of sear release stop lever upward through slot in forward part of sear taking care that notched end is down. Aline sear pin hole of sear release stop lever with sear pin hole in sear. Replace sear and sear release stop lever and force recoil spring guide through sufficiently so as to aline holes in sear release stop lever, sear, sear carrier, and trigger guard for sear pin. By slight pressure on recoil spring guide push sear carrier forward against counterrecoil spring, thus permitting sear pin to be seated easily in sear pin hole. The sear pin must always be replaced before trigger pin in order that tension of counterrecoil spring will always be on sear pin. Replace trigger and trigger pin.

(2) Holding connector so that its head is in rear of connector stop and toe is down and to rear, depress rear end of sear and drop connector into its place in trigger. Engage sides of sear spring in recesses and press down and forward on sear spring with thumb of right hand until front end of spring rests in depression stop. Take care to see that outside prongs of sear spring rest on their seat on sear and that middle prong rides freely in slot formed by walls of sear carrier. If middle prong rests on one of walls, instead of riding freely between them, trigger mechanism will not function when barrel is inclined below horizontal.

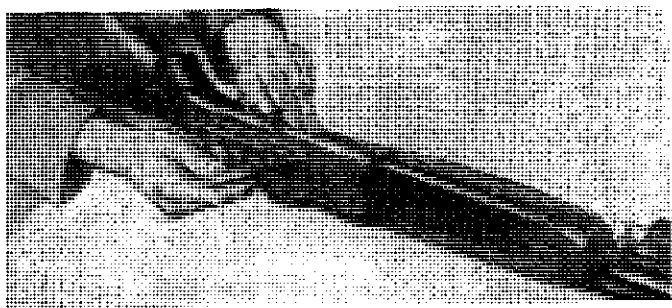
(3) Replace magazine release, magazine catch, and magazine catch pin. Replace magazine catch spring. Insert ejector into recess and move it down until it is flush with magazine catch spring. Compress magazine catch spring in its seat and move ejector down until it is fully home and ejector lock is in its position.

(4) After trigger mechanism has been assembled, turn change lever to forward position, and pull trigger. If connector will not rise, it is not in place correctly. It should rise and snap out from under sear. If connector will rise but does not raise sear, sear spring is weak and should be replaced.

c. *Operating group*.—Replace extractor spring (78). Replace extractor (77) into its seat in bolt. Replace bolt link (82) and bolt link pin (83) with shoulder of link against flat surface of bolt lock (80). Lift bolt lock and replace firing pin (76). Lay rifle barrel down and pointing to left so that rifle is resting on barrel and rear sight. With bolt mechanism held in a perpendicular position insert it in receiver, forcing end of bolt under ends of bolt supports, and then press bolt mechanism down so as to lie flat in its place. Push bolt mechanism forward, swing bolt link down, then replace slide (45) and push all the way back. With hammer (85) resting between thumb and forefinger, lower and seat it properly in its seat in slide. Push bolt lock fully into its locking recess and push slide forward. With thumb and forefinger of right hand, align hammer pin holes of bolt link, hammer, and slide with hammer pin hole in side of receiver. The recoil spring guide will be found a convenient aid in this operation. Insert hammer pin (86) to right until only  $\frac{1}{4}$  inch of hammer pin protrudes from receiver. Replace operating handle (88). Tap end of protruding hammer pin with sufficient force to drive it home. Replace recoil spring (40) and guide (41). With end of index finger on checkered end of recoil spring guide head, turn it until it is properly seated. Holding right thumb against forward end of receiver will facilitate this operation. Replace trigger guard group and trigger guard retaining pin (11). Cock the rifle. Slide gas cylinder tube and forearm (118) to rear of gas piston. Replace gas cylinder tube retaining pin (53). Replace flash hider spring lock washer on muzzle. Replace bipod assembly on flash hider and screw flash hider onto muzzle. Test rifle by pulling trigger.

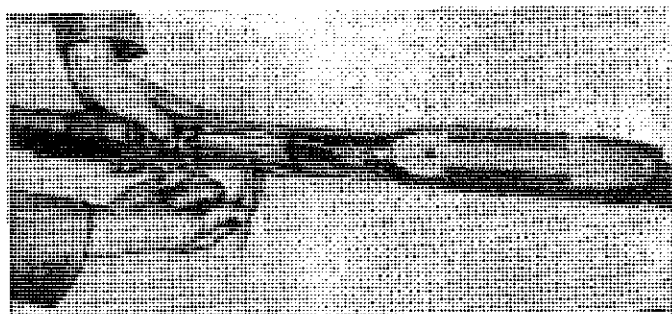
■ 10. **TO REMOVE FIRING PIN WITHOUT DISASSEMBLING.**—To remove firing pin, lay rifle on table, barrel down, muzzle to front. Remove trigger mechanism. Place rim of cartridge under bolt guide (fig. 5 ①). Pull operating handle to rear and hold mechanism back. Steady cartridge with thumb and forefinger of right hand (fig. 5 ②). It may be necessary to exert slight downward pressure on nose of cartridge in order to pull bolt guide out far enough to free bolt. Push down on bolt link, causing bolt to break at bolt lock pin

(fig. 5 ③). Allow mechanism to go forward until it stops. Change firing pin. Pull operating handle to rear again and push bolt into position (fig. 5 ④).



①

■ 11. TO REMOVE AND REPLACE EXTRACTOR WITHOUT DISASSEMBLING.—*a. Removal.*—Draw mechanism to rear and insert an empty cartridge case between bolt and chamber, exposing extractor (fig. 6 ①). Lay rifle on its side so that ejection opening is up. With forefinger of left hand, force out claw



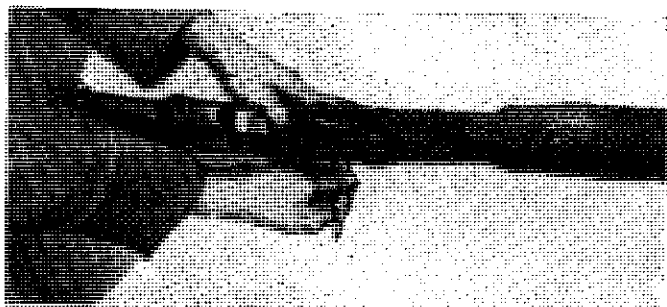
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of extractor, then place point of cartridge behind extractor shoulder and pry it forward until extractor is free of the recess (fig. 6 ②). Remove extractor spring.

*b. Replacement.*—Insert short end of extractor spring in hole in shank of extractor so that long end of spring is along

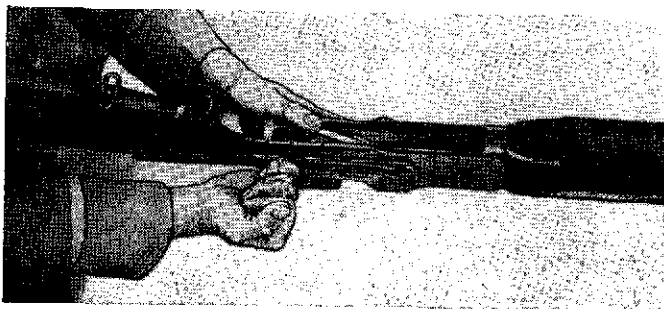


slot in extractor. Insert extractor and spring in end of bolt and push them into position (fig. 6 ③). Remove empty cartridge case.



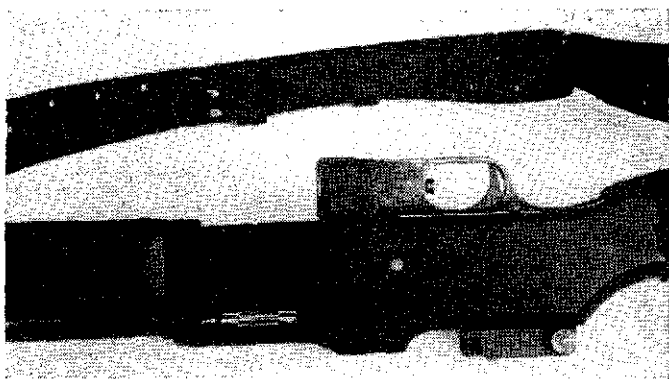
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■ 12. DISASSEMBLING AND ASSEMBLING THE MAGAZINE.—Raise rear end of magazine base until indentations on it are clear, then slide it to rear. The magazine follower and spring will then fall out. (See fig. 7.) It is assembled in reverse order. (See fig. 8.)

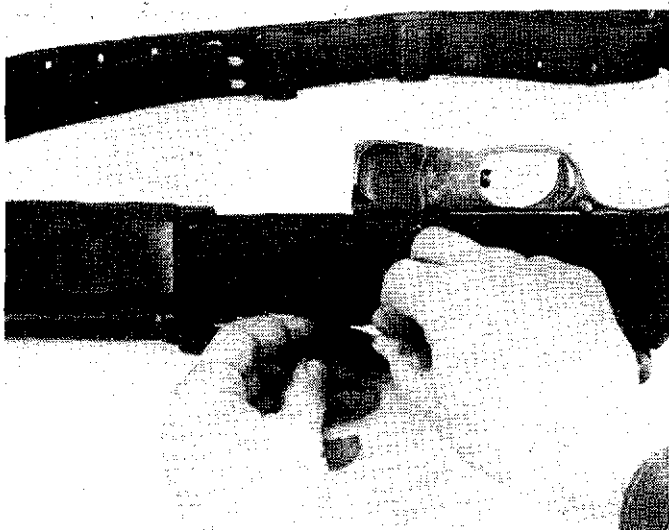


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FIGURE 5.—Removing firing pin without disassembling rifle.



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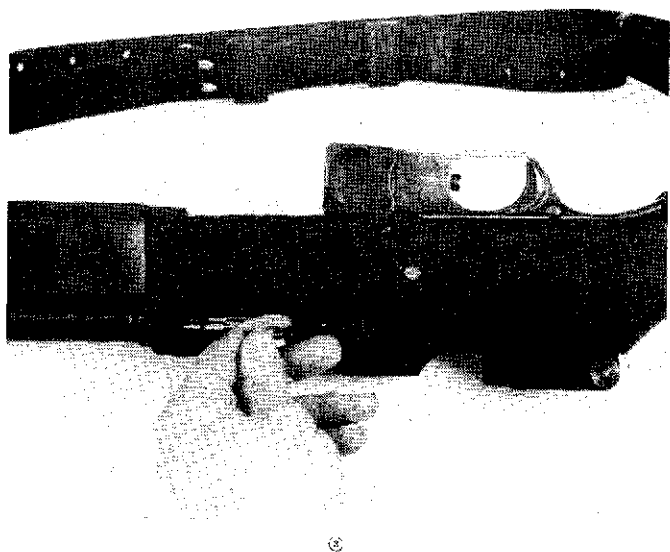
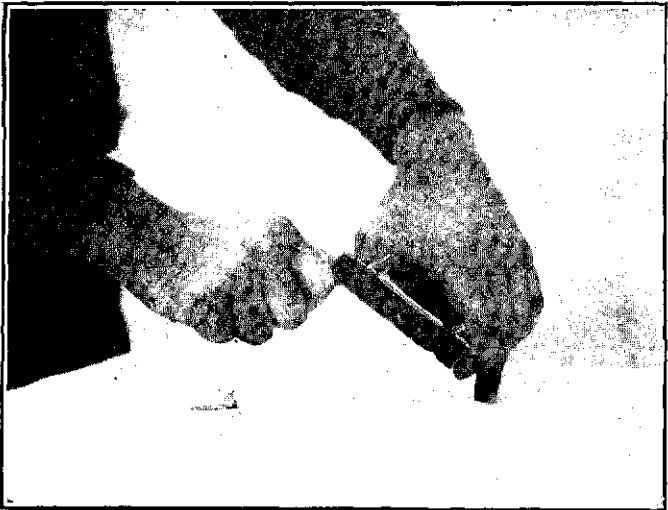
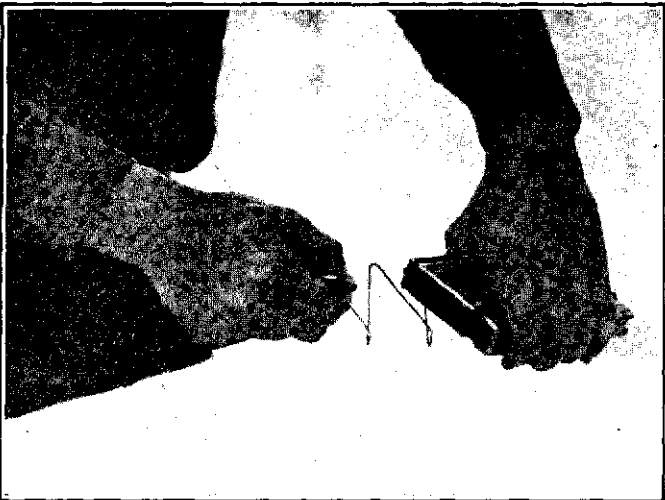


FIGURE 6.—Removing extractor without disassembling rifle.



- ① With point of a cartridge raise rear end of magazine base until indentations are clear to permit withdrawal. Then slide base to rear.



- ② Pull out magazine spring and shake out follower. For assembling, insert follower and magazine spring.

FIGURE 7.—Disassembling magazine.