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SMALL ARMS IDENTIFICATION AND OPERATION GUIDE—EURASIAN COMMUNIST COUNTRIES

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SMALL ARMS IDENTIFICATION AND OPERATION GUIDE–EURASIAN COMMUNIST COUNTRIES

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PREFACE

This guide is intended to provide information on the identification, physical characteristics, operation and functioning, user maintenance, accessories, and ammunition of Eurasian Communist small arms. No attempt has been made to provide instruction for complete maintenance and repair.

This third edition differs from the November 1970 edition (FSTC-CW-07-03-70) in that it adds information on standard Communist weapons not covered in earlier editions, provides indentification only for relatively low density weapons, and adds those secondary weapons used by second line Communist units, militia and police, or provided to Communist oriented insurgents. This edition also supersedes parts of FSTC-CW-07-1-69, *Secondary Small Arms Identification and Operation Guide–Eurasian Communist Countries,* which is now obsolete.

This guide covers, in order, pistols, submachineguns, assault rifles, rifles, and machineguns. Each basic topic is further subdivided into sections on specific model weapons, which in turn are divided into subsections on general information, technical data, operation of the weapon, disassembly and assembly, functioning of the mechanism, and accessories normally used with the basic weapon.

The cutoff date of information in this publication is April 1973.

The disassembly and assembly procedures described are limited to those operations required by the user to maintain the weapon properly. Detailed or complete disassembly should not be undertaken because of the danger of lost or broken parts, which would render the weapon unusable. Major parts (i.e., bolts, trigger mechanisms, and the like) should not be interchanged between weapons; these parts are usually numbered to specific weapons, and their use in other weapons could cause malfunctions.

Unless otherwise specified, the weapons covered herein should be cleaned and lubricated with the same materials and techniques used for standard US small arms. Special care should be taken to remove the firing residue from the components of the gas mechanism of gas-operated arms.

Most Communist weapons have "V" notch rear sights and post front sights. The correct sight picture with this type sight is identical with that used for the US Pistol, Caliber 45 M1911A1. The front sight is centered in the notch with the top of the front sight level with the top of the rear sight body. This sight picture is held at the point where it is desired that the bullet strike.

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Section I. PISTOLS

A. THE 9-MM MAKAROV PISTOL (PM)

1. General

The Makarov pistol is the standard sidearm of most major Eurasian Communist armies. It is known to be produced in the Soviet Union, East Germany, and the People's Republic of China (PRC). The Soviet version, the PM (Pistolet Makarov), can be identified by its lanyard loop and the encircled star cast into the grips (fig 1). The East German Pistole M has plain grips and no lanyard loop (fig 2). The PRC version, the Type 59 pistol, has "59 SHI" stamped on its receiver. The Makarov is an eight-shot, semiautomatic, blowback-operated, magazine-fed pistol fitted with a double-action trigger mechanism. In addition to conventional functioning, this mechanism also allows the hammer—if uncocked—to be cocked and released by a single long pull on the trigger. The Makarov fires the 9x18-mm pistol cartridge (sec VI).

2. Technical Data

Technical data concerning the Makarov pistol will be found in table II.

3. Operation

The Makarov is operated like most conventional pistols.

a. Load the magazine by placing a cartridge on the magazine follower just forward of the feed lips; press the cartridge down and slide it to the rear, under the feed lips, until it seats against the rear wall of the magazine. Repeat until the magazine is full.

b. Insert the magazine into the pistol so that the magazine catch (fig 1) retains the magazine.

c. Rotate the safety (fig 1) downward; grasp the slide by its milled grooves and pull it fully rearward against spring tension. Release the slide; it will return forward, loading the pistol.

CAUTION: The pistol is now ready to fire!

d. If desired, set the pistol on safe by rotating the safety upward until the red dot (fig 1) on the slide is covered. The hammer will fall; but because the safety blocks the firing pin, the pistol will not fire.

e. To fire, set the safety to the fire position by rotating it fully downward. The hammer can be manually cocked by pressing it rearward by thumb pressure or, when aiming, by pressing the trigger through its full arc. (The first method is preferred.) Use a conventional sight picture for aiming, and press and release the trigger for each shot. The slide will remain open when the last round is fired.

f. Remove the magazine by pressing the magazine catch away from the magazine and withdrawing the magazine. To close the slide, if open, press down on the slide stop (fig 1); or remove the magazine and pull the slide slightly rearward, then release it.

g. To clear the pistol, set it on safe, remove the magazine, reset the safety to the fire position, and retract the slide. Inspect the chamber through the ejection port in the slide to insure that no cartridges are present. Release the slide, reset the safety on safe, and insert the magazine.

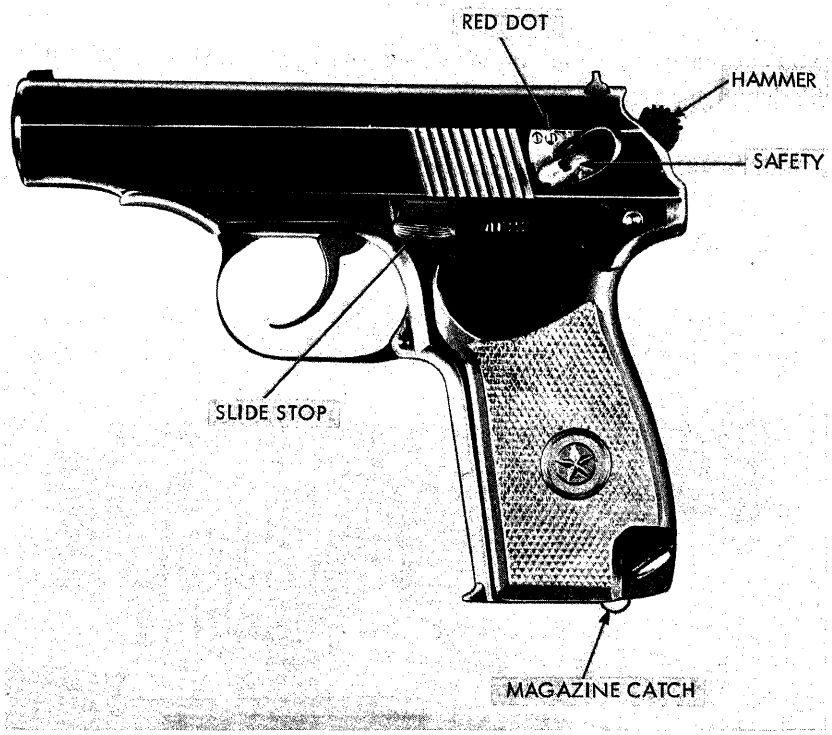


Figure 1. Soviet Makarov pistol (PM).

4. Disassembly and Assembly

a. To disassemble the Makarov pistol for cleaning:

(1) Clear the weapon (para 3g), but do not insert the magazine or set safety on safe.

(2) Pull the front of the trigger guard down and, when it is clear of the receiver, press it to one side; then rest it against the receiver (fig 3).

(3) Grasp the slide by its milled grooves, pull it fully rearward, and lift its rear end up, out of engagement with the

receiver. Ease the slide forward over the barrel until it is free. Pull the driving spring off the barrel.

(4) No further disassembly is necessary or desirable.

b. To reassemble the Makarov pistol:

(1) Insure that the hammer is cocked, that the safety is in the fire position, and that the trigger guard is in the disassembly

Figure 2. East German Pistole M.

position (para 4a(2), above). Slide the driving spring over the barrel, small end first.

(2) Insert the end of the recoil spring into the circular front section of the slide, and slip the barrel through the hole in

the slide. Pull the slide fully rearward, press it down into position on the receiver, and allow the driving spring to drive the slide forward.

(3) Disengage the trigger guard from the receiver and let it return to its normal position. Insert the magazine.

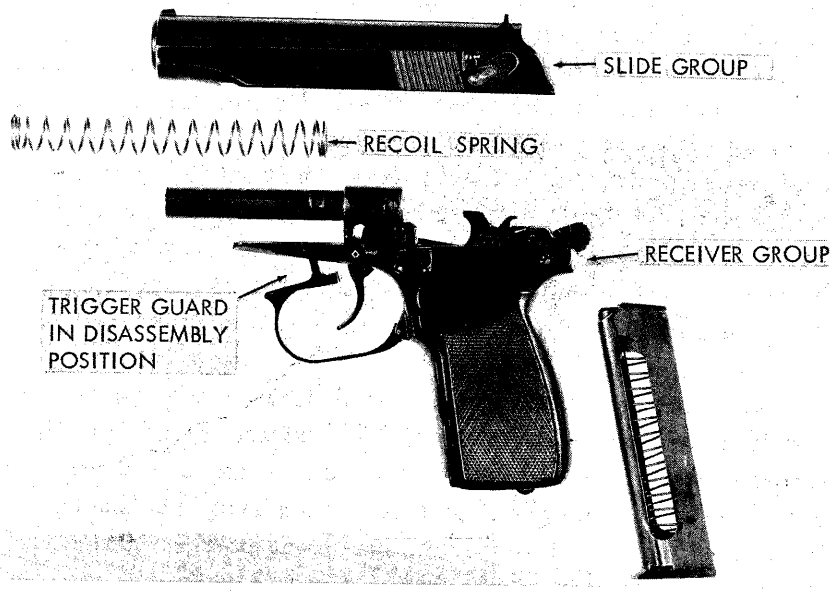


Figure 3. Makarov pistol, field stripped.

5. Functioning

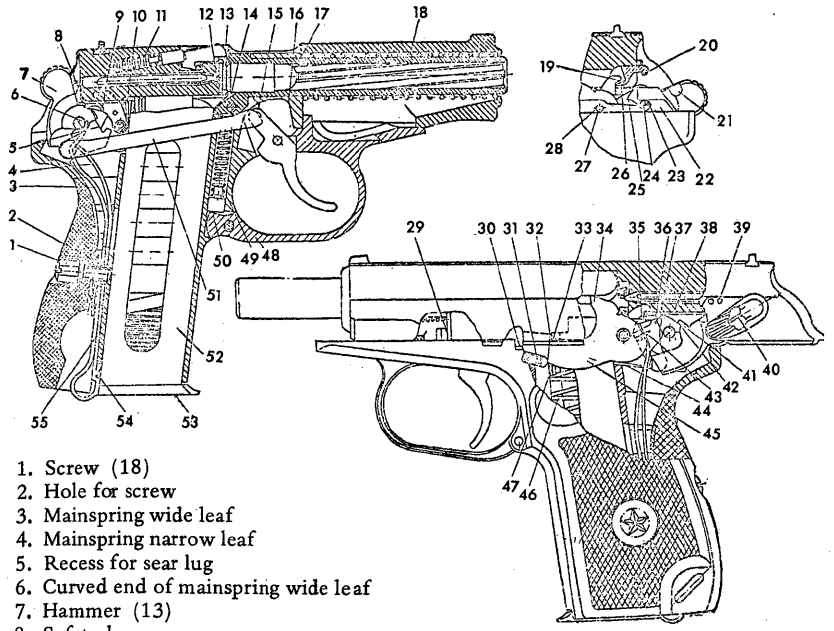
a. The Makarov pistol is blowback operated; i.e., the gas pressure that drives the bullet down the barrel also, by driving the cartridge case against the slide, provides the power to impel the slide rearward. A strong driving spring is compressed during the rearward movement; this spring provides the thrust to drive the

slide forward. The pressure of the driving spring and the great weight and inertia of the slide, as contrasted to the lesser weight bullet, causes the slide to remain closed until the bullet has left the barrel and the gas pressure has dropped to safe limits.

b. If the hammer is in its forward position, finger pressure on the trigger moves the trigger bar forward; this causes the pivoting cocking lever to engage a notch (37, fig 4) in the hammer. As the forward motion of the trigger bar continues, the cocking lever makes the hammer rotate rearward on its pin against the main spring (4, fig 4) until the angle between the hammer and the cocking lever changes enough to cam the cocking lever out of engagement. As this happens, the cocking lever lifts the sear (36, fig 4) out of engagement with the hammer. The hammer, powered by the hammer spring, swings forward and strikes the firing pin, which fires the cartridge.

c. The gas pressure generated upon firing thrusts the cartridge case and slide rearward. The extractor holds the fired cartridge case against the slide until the case strikes the ejector; the case then pivots around the extractor and is expelled. Finally, the lower rear section of the cylindrical front portion of the slide strikes the projection of the trigger guard that extends into the receiver, and all rearward motion stops. The driving spring now expands and drives the slide forward. The feed rib of the slide drives the top cartridge from the magazine and into the chamber; the extractor, under pressure of its spring, snaps into position over the cartridge rim.

d. As the slide starts to recoil after firing, a cam surface on the rear of the feed rib forces the cocking lever sideward out of engagement with the sear. The sear spring then snaps the sear against the hammer. When the recoiling slide forces the hammer



1. Screw (18)
2. Hole for screw
3. Mainspring wide leaf
4. Mainspring narrow leaf
5. Recess for sear lug
6. Curved end of mainspring wide leaf
7. Hammer (13)
8. Safety lug
9. Sear lug
10. Sear spring (11)
11. Extractor spring (26)
12. Firing pin strikes
13. Extractor hook
14. Bullet guide of barrel
15. Trigger upper end
16. Receiver curved slot
17. Recoil spring turn (of less diameter)
18. Recoil spring (12)
19. Sear tooth
20. Hook for locking hammer
21. Recess on hammer head
22. Slide guiding slot
23. Trunnion seat for hammer trunnion
24. Hammer trunnion
25. Hammer rebound tooth
26. Shoulder of safety recess
27. Sear trunnion
28. Trunnion seat for sear trunnion
29. Recess on trigger guard lug
30. Slide stop recess
31. Slide stop catch knob
32. Slide stop lug
33. Slide tooth
34. Slide stop ejector
35. Disconnecting lug of cocking lever
36. Sear (15)
37. Hammer cocking notch
38. Slide rib
39. Recess for safety thumb catch
40. Safety thumb catch (27)
41. Lug for locking hammer
42. Hammer safety notch
43. Rebound lug of cocking lever
44. Shoulder for trigger bar
45. Slide stop (14)
46. Follower spring (29)
47. Follower claw
48. Trigger guard (3)
49. Trigger guard spring (6)
50. Trigger guard lug
51. Trigger bar (10)
52. Magazine body (30)
53. Follower spring bent end
54. Lug for magazine catch
55. Mainspring lower end

Figure 4. Makarov pistol section.

rearward, the sear drops into the sear notch of the hammer. When the slide counterrecoils, the sear holds the hammer cocked. By releasing the trigger, the cocking lever rotates forward and down until it can move in, under the sear. If the trigger is again pressed, the cocking lever will again engage the sear and force it out of engagement with the hammer to fire another round.

e. When the safety is rotated up to the safe position, it interposes a block between the hammer and the firing pin; as the safety rotation continues, a projection on the safety mates with a tooth (19, fig 4) on the sear, lifts the sear from the hammer, and allows the hammer to fall. The safety also locks the hammer in its forward position; this prevents the slide from being retracted.

f. When the last round is fed from the magazine, the magazine follower moves to its highest position. The magazine spring, working through a lug on the lower left side of the follower, then presses the slide stop (fig 1) up against the slide. When the slide recoils, the slide stop enters a notch in the slide and holds it open.

6. Accessories

A leather holster, an extra magazine, and a cleaning rod are the only accessories issued with the Makarov pistol.

B. THE 7.62-MM VZOR 52 PISTOL (Vz52)

7. General

The Vz52 (Model 1952) pistol (fig 5) is a substitute standard weapon in the Czechoslovak Army; it is being replaced by the Vz61 (Skorpion) machine pistol (para 31). The Vz52, however, may also be used by other armies. It is an eight-shot,

semiautomatic, short-recoil-operated, magazine-fed pistol, the design of which was greatly influenced by World War II German weapons. An automatic safety mechanism on the firing pin prevents the pin from firing a cartridge unless the trigger is first pulled. This weapon fires the Type "P" 7.62x25-mm pistol cartridge (sec VI).

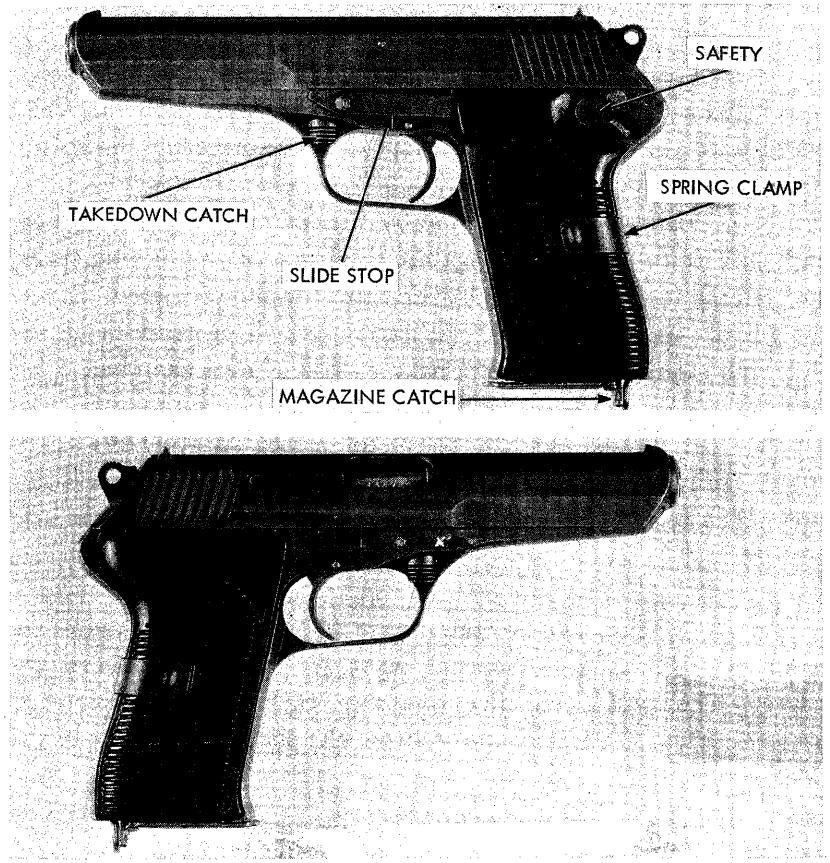


Figure 5. Czechoslovak Vz52 pistol.

8. Technical Data

Technical data concerning the Vz52 pistol will be found in table II.

9. Operation

To operate the Vz52 pistol:

a. Load the magazine in the same way as for the Makarov pistol (para 3a), and insert the loaded magazine into the Vz52 pistol until the magazine catch snaps over the magazine floorplate.

b. Firmly grasp the slide by the milled grooves at its rear end; pull it fully rearward against the force of the driving spring and release it. The spring will then drive the slide forward, loading the pistol. The front end of the extractor will protrude from the slide, indicating that the pistol has a cartridge in its chamber.

c. If desired, set the pistol to safe by rotating the safety (fig 5) fully upward to drop the hammer (the weapon will not fire); then release the safety, which will move to the normal safe position.

d. To fire, rotate the safety downward and cock the hammer, aim—using a normal sight picture—and squeeze the trigger. The pistol will fire one shot each time the trigger is pressed. When the last round is fired, the slide will remain in the open position.

e. Remove the magazine by pressing the magazine catch rearward, away from the magazine, with the left thumb and at the same time withdrawing the magazine with the left index finger. After removing the magazine, the slide can be closed by pulling it slightly to the rear and releasing it.

f. To clear the pistol, set the safety on safe, remove the magazine, and retract the slide. The slide can be locked open by pressing upward on the slide stop (fig 5) and then easing the slide forward until it is caught. Visually inspect the pistol to insure that no cartridges are present. Pull the slide slightly rearward to release the slide stop; then allow the slide to run forward. Reinsert the magazine. Press the safety fully upward to drop the hammer.

10. Disassembly and Assembly

a. To disassemble the Vz52 for cleaning:

(1) Clear the weapon (para 9f), but do not insert the magazine.

(2) Pull the takedown catch, located on the front of the trigger guard (fig 5), down until the slide moves slightly forward. Press the slide forward, about one-fourth inch, until it disengages from the receiver; then completely separate the slide and receiver groups.

(3) Turn the slide so that the sights are down, and insert the lip of the magazine base into the notch in the locking wedge. Press the wedge about three-fourths inch forward, against the pressure of the driving spring, until the rear of the square shoulder of the barrel lines up with the dismounting cuts in the slide. Ease the rear of the barrel up through these cuts and carefully allow it to move to the rear.

Note: This is a difficult operation. All parts should be firmly held so that the recoil spring does not throw the components apart.

Separate the barrel from the slide and pull the driving spring from around the barrel.

(4) No further disassembly is necessary or desirable.

b. Reassembly of the weapon is accomplished by the steps listed below:

(1) Install the driving spring around the barrel, and position the spring against its seat in the front of the slide. Press the barrel forward and down, against the pressure of the spring, until it partially enters the slide. Push the locking wedge forward with the magazine until the barrel fully enters the slide; then ease it back.

(2) Place the assembled slide group on the receiver with the rear end of the slide about one-fourth inch forward of the rear end of the receiver. Press the slide onto the receiver as far as possible; then draw the slide toward the rear until the dismounting catch snaps into position. Insert the magazine and press the safety up to drop the hammer.

11. Functioning

a. The Vz52 pistol is recoil operated; i.e., the recoil of the fired cartridge, transmitted through the barrel and slide, provides the power to expel the fired cartridge case, to compress the driving spring for reloading, and to cock the hammer.

b. When the pistol is loaded, the hammer is cocked and the safety is in the fire position; finger pressure on the trigger moves the trigger bar (the connection between the trigger and the sear) forward. A hook on the trigger bar engages a projection on the sear and, with continued finger pressure, pulls the sear out of engagement with the hammer. Simultaneously, a projection on the top of the sear lifts the firing pin lock and releases the firing pin. The hammer, under pressure from the hammer spring, swings forward and strikes the firing pin, firing the cartridge.

c. The slide and the barrel are locked together by two opposed, vertical rollers held in position by the locking wedge. This wedge, through which the recoiling barrel slides, is stationary in relation to the receiver. Upon firing, the slide and the barrel—locked together as one unit—recoil about five-sixteenths of an inch; a cutaway section of the locking wedge then allows the locking rollers to move inward, and the barrel stops moving. The slide, as a result of its inertia, continues to move to the rear against the force of the driving spring.

d. The extractor withdraws the fired cartridge case from the chamber and holds it in position against the slide face until the case strikes the fixed ejector, pivots around the extractor, and is expelled. The rearward travel of the slide stops when the inner lower front of the slide strikes the receiver.

e. The compressed driving spring expands and drives the slide forward; the feed rib of the slide strikes the top cartridge in the magazine and drives it into the barrel. The extractor snaps into the groove in the cartridge case.

f. Just before the completion of the forward movement of the slide, the slide locking recesses line up with the locking rollers, and the rollers are cammed into the recesses by the tapered portion of the locking wedge, locking the barrel and the slide together.

g. Prior to the slide's recoiling, a projection on the trigger bar fits into a semicircular notch cut in the slide. As the slide recoils, the trigger bar is forced down, out of the notch. This action disconnects the trigger bar from the sear. The sear spring forces the sear against the hammer, and as the recoiling slide rocks the hammer rearward, the sear snaps into the sear notch. When the

slide counterrecoils, the sear holds the hammer at full cock. When the trigger is released, the trigger bar moves to the rear until its hook is free of the projection on the sear. The trigger bar then moves up to reengage the sear preparatory to firing another shot.

h. When the safety is turned to the safe position, a small lug on the right side of the shaft of the safety rotates down into a cut in the trigger bar and prevents any movement of the trigger bar. If the safety is forced up, past the normal safe position, a projection on the safety shaft presses the lower edge of the sear forward and disengages the sear from the hammer; the hammer falls, but is stopped by a lug on the safety shaft just before striking the firing pin.

i. When the last round is fired, the magazine follower contacts an inner projection on the slide stop and forces the stop against the slide. When the slide recoils, the slide stop raises and engages a notch in the slide and holds it open.

12. Accessories

A leather holster and a cleaning rod are the only accessories issued with the Vzor 52 pistol.

C. THE 7.62-MM TOKAREV PISTOL (TT-33)

13. General

a. The Tokarev (TT-33) pistol (fig 6) is obsolete in the Warsaw Pact Armies; it has been generally replaced by the Makarov pistol. The TT-33, and copies thereof, are still in extensive use by most Asian Communist nations and by Yugoslavia. The Tokarev is known to have been produced in the Soviet Union, People's Republic of China, Hungary, Poland, and

Yugoslavia. These pistols are all remarkably similar, but can be identified by certain features. The Soviet TT-33 and Polish Pistolet TT are identical except for their grips; the Soviet pistol (fig 6) has an encircled star with the letters CCCP, while the Polish pistol (fig 7) has a triangular-shaped monogram with the letters FB on its grips. The North Korean Type 68 pistol, while based on the Tokarev design, is sufficiently different to warrant separate treatment (subsec E).

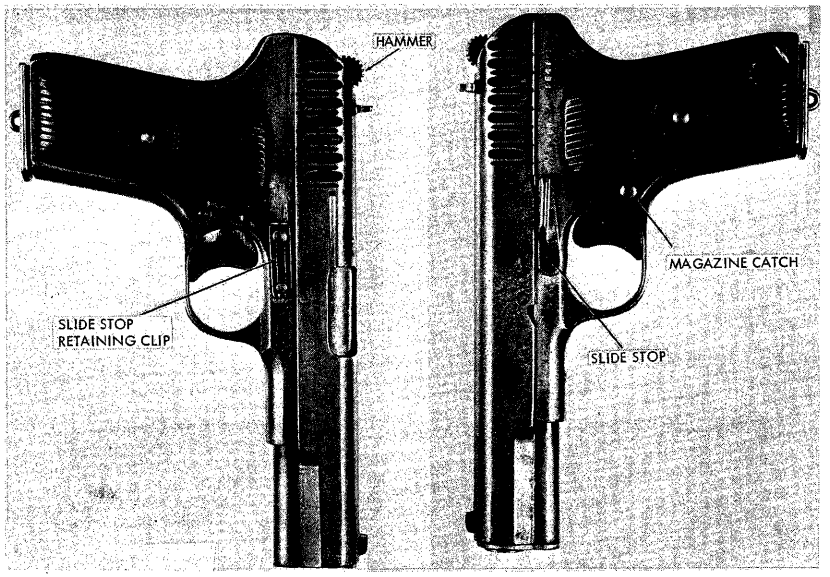


Figure 6. Soviet Tokarev pistol (TT-33).

b. The Soviet and Polish produced pistols have odd slide serrations—a series of alternating wide and narrow vertical cuts—while the PRC Types 51 and 54 pistols (fig 8), the Hungarian 48M, and the Yugoslav M54 have uniform narrow vertical cuts. The pistols within this latter group can be further differentiated by the markings 五一式 or 五四式 on the slide top or receiver on the PRC Types 51 and 54 pistols (fig 9), the

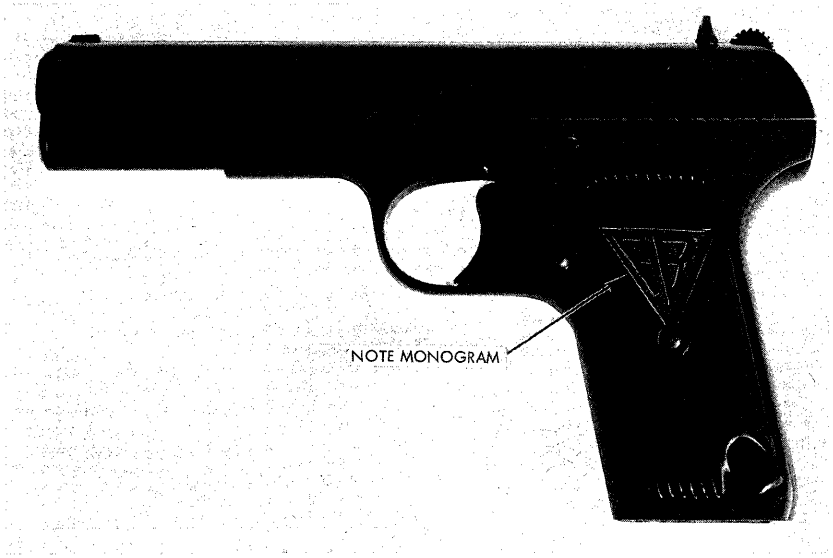


Figure 7. Polish Pistolet TT.

Figure 8. PRC Type 51 or Type 54 pistol.

monogram on the grips and the legend "7.62-mm M 57" stamped on the left side of the slide of the Yugoslav M57 pistol (fig 10), and the grip crest (a star, sheaf of wheat, and a hammer encircled by a wreath) of the Hungarian 48M pistol (fig 11). With two exceptions, the Tokarev pistols fire the 7.62x25-mm Type "P" pistol cartridges (sec VI). These exceptions, the Yugoslav Model 65 pistol and the Hungarian Tokagypt pistol (fig 12), fire the 9x19-mm cartridge. The Model 65 is identical in all other respects to the standard Tokarev; however, the Tokagypt has a rotary safety not found on any other Tokarev. The Model 65 and the Tokagypt are not standard arms in any Eurasian Communist Army; they are intended for export sales.

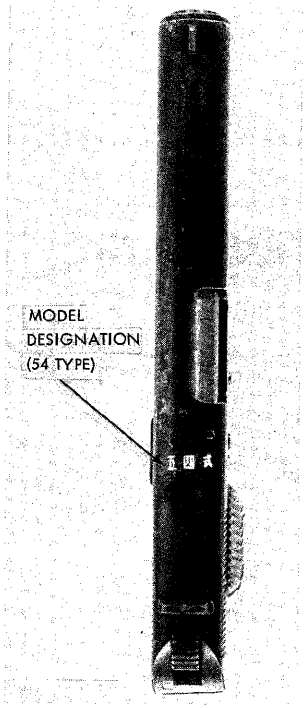


Figure 9. Type 54 pistol, top view.

14. Technical Data

Technical data concerning the Tokarev pistol will be found in table II.

15. Operation

a. Load the magazine as for the Makarov pistol (para 3a), then insert the loaded magazine into the pistol until it is caught by the magazine catch.

b. Grasp the slide by the grooves, and pull it fully to the rear against the pressure of the driving spring. Release the slide; the spring will force it forward, loading the pistol.

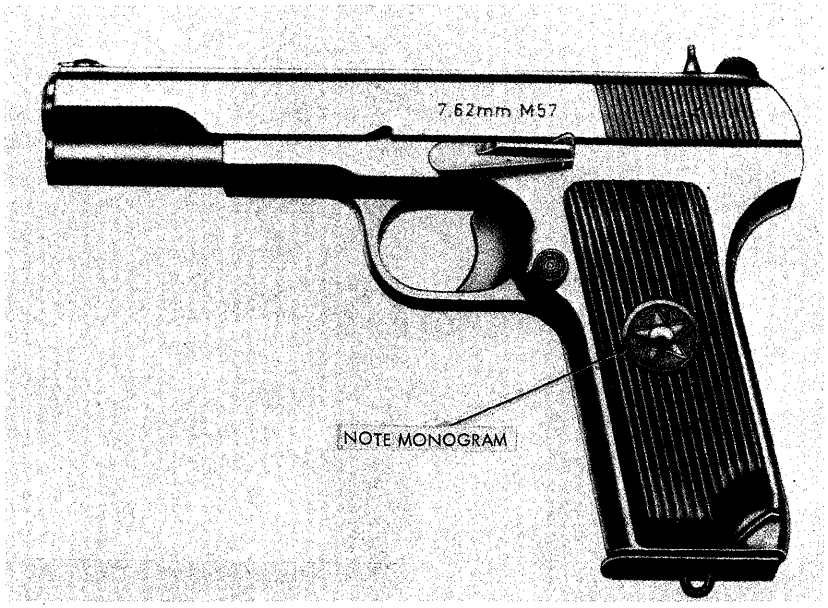


Figure 10. Yugoslav M57 pistol.

Note: If the hammer is at half cock, the slide cannot be retracted; the hammer must be fully cocked.

CAUTION: The pistol is now ready to fire!

Figure 11. Hungarian 48M pistol.

c. The Tokarev-type pistols have no safety as such; however, the hammer can be carefully lowered to the half-cock position (part way between fully forward and cocked). Hold the hammer back with the left thumb and press the trigger; after easing the hammer slightly forward, release the trigger and continue easing the hammer forward until it stops in the half-cock position. This also locks the slide in its forward position. The Tokagypt pistol is rendered safe by rotating its safety (fig 12) fully downward and rearward to the "S" position. To fire, bring the hammer back to full cock (if at half cock) (or if the pistol is a Tokagypt, first rotate the safety fully forward), aim—using a conventional sight picture—and squeeze the trigger. The pistol will

Figure 12. Tokagypt pistol.

fire one shot each time the trigger is pressed. When the last round is fired, the slide will remain open. Remove the magazine by pressing the magazine catch inward (fig 6). Close the slide by pressing down on the slide stop (fig 6) or, after removing the magazine, pull the slide slightly to the rear and release it.

d. To clear the pistol, remove the magazine, retract the slide, and after pressing the slide stop up, ease the slide forward until the slide is caught by the slide stop. Inspect the chamber through the ejection port to insure that no cartridges are present. Release the slide, pull the trigger, and insert the magazine.

16. Disassembly and Assembly

a. To disassemble the pistol for cleaning:

(1) Clear the pistol (para 15d), but do not insert the magazine.

(2) Use the point of a bullet or similar item to press in the recoil spring plunger (located directly under the muzzle) to unlock the barrel bushing. Rotate the barrel bushing half a turn until it, the driving spring, and its plunger can be removed from the slide (fig 13).

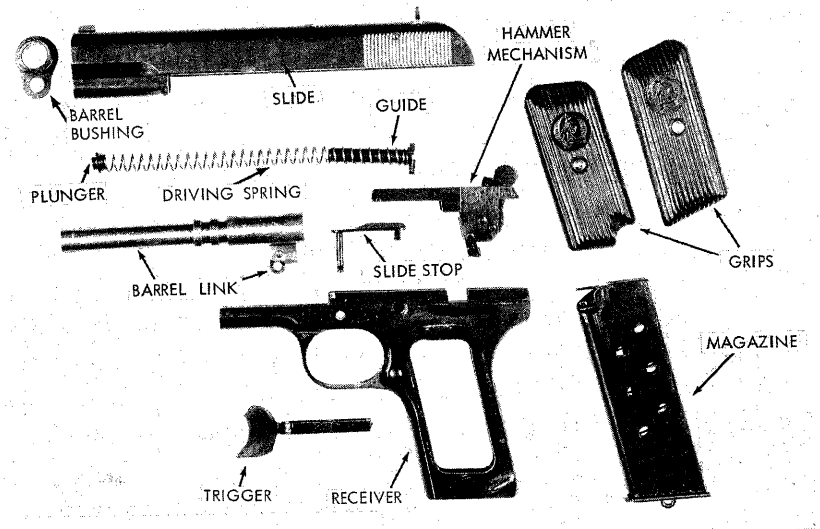


Figure 13. Tokarev pistol, disassembled.

CAUTION: Control the recoil spring so that it does not fly out of the slide and become lost.

(3) Use the base of the magazine to press the slide stop retaining clip (fig 6) to the rear and to free the slide stop. Pull the slide stop to the left, out of the receiver.

(4) Invert the pistol and draw the slide forward off the receiver.

CAUTION: Hold the hand under the rear of the receiver to catch the hammer mechanism if it falls free of the receiver. The driving spring guide will be found lying loose on the barrel.

(5) Hold the slide inverted and swing the barrel link forward; lift up the rear end of the barrel to disengage it from the slide, and slide the barrel forward out of the slide.

(6) If the hammer mechanism did not fall free of the receiver, pull it out of the receiver (fig 13).

(7) No further disassembly is necessary or desirable.

b. To reassemble the pistol:

(1) Place the hammer mechanism into the receiver.

(2) Slide the barrel, chamber end first, into the inverted slide until it drops into the locked position. Lay the driving spring guide (rounded side up and shaft toward the muzzle) on the barrel, just forward of the turned down link.

(3) While holding the hammer mechanism in place, slide the receiver onto the slide as far as it will go. Turn the pistol upright and look through the small hole above the trigger to insure that the holes in the link (fig 13) and the receiver are lined up; if they are not, jiggle the barrel until they are, then insert the slide stop and press the retainer forward to hold the slide stop in place.

(4) Insert the driving spring into the slide and slide it over the driving spring guide. Move the hammer to the half-cock position to lock the slide in place, and carefully force the driving spring and plunger into the slide.

(5) With the smaller hole of the barrel bushing aligned with the front sight, insert the bushing into the slide, and rotate it one-half turn. The driving spring plunger will lock it in place. Insert the magazine, cock the hammer, and press the trigger.

17. Functioning

a. The Tokarev-type pistols are recoil operated; i.e., the recoil of the cartridge (when fired), transmitted through the barrel and slide, provides the power to expel the fired cartridge case, to compress the driving spring for reloading, and to cock the hammer mechanism.

b. When the pistol is loaded and cocked, finger pressure on the trigger causes it and its bar to move rearward against the pressure of the trigger spring until the trigger bar contacts the bottom of the sear. Continued pressure on the trigger causes the sear to release the hammer, which, under the force of its spring, swings forward and strikes the firing pin and fires the cartridge.

c. The barrel is locked to the slide by ribs (machined into the outer surface of the barrel (14, fig 14)) that mesh with grooves in the slide. A link (15, fig 14) connects the movable barrel to the receiver by means of the slide stop pin; as the barrel moves to the rear in recoil, the kink pivots and pulls the rear end of the barrel down to unlock it from the slide. Because of its momentum, the slide continues to the rear.

d. As the slide recoils, the driving spring is compressed, and the extractor withdraws the fired cartridge case from the chamber and holds it against the slide face until the case strikes the ejector on the left extension of the hammer housing. The fired cartridge case pivots around the extractor and is expelled. The rearward

movement of the slide terminates when the spring housing at the bottom front of the slide strikes the driving spring guide.

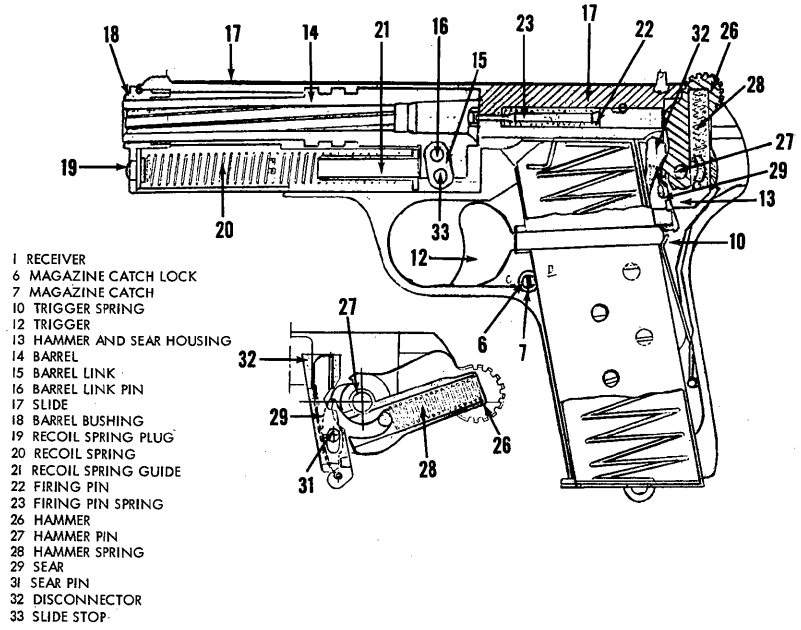


Figure 14. Tokarev pistol, section.

e. The compressed driving spring expands and drives the slide forward; the feed rib of the slide strikes the top cartridge in the magazine and drives the cartridge into the chamber. The extractor snaps into the groove of the cartridge case. The slide strikes the barrel and drives it forward, and the link forces the rear end of the barrel up into the locked position. All forward motion stops when the lug on the bottom rear of the barrel contacts the slide stop pin.

f. Before the slide recoils, the disconnector projects upward from the hammer mechanism into a cut in the slide (32, fig 13). When the slide recoils, the disconnector is forced down, pushes the trigger extension down, and releases the sear. The sear spring then presses the sear against the hammer. As the slide continues to recoil, it rocks the hammer back so that the sear engages the sear notch on the hammer. When the slide counterrecoils, the sear holds the hammer cocked; when the slide is fully forward, the disconnector is free to raise into the cut in the slide. This action allows the trigger bar, under the pressure of the trigger spring, to rise against the bottom of the sear. When the trigger is released, it moves forward, and as soon as the trigger bar clears the sear, the trigger spring again forces the trigger bar up into position in front of the sear. Pressure on the trigger will now fire another shot.

g. When the hammer is drawn to the half-cock (safe) position, the bottom of the sear is forced to its foremost position and a lug on the side of the sear moves into position below the disconnector to prevent it from being depressed. Because the disconnector protrudes into a cut in the slide, and now cannot be depressed, the slide is locked in position. The sear nose engages the undercut half-cock notch on the hammer, and, because of the undercut, the sear cannot be disengaged from the hammer by tripper pressure; the pistol is now safe.

h. When the last round is fired, the magazine spring, working through the magazine follower, forces the slide stop against the slide. The slide stop engages the notch on the side of the recoiling slide and holds it open.

18. Accessories

A leather holster, an extra magazine, and a cleaning rod are the only accessories issued with the TT-33 pistol.

D. THE POLISH 9-MM P-64 PISTOL

19. General

The P-64 (fig 14), the newest pistol used by the Polish Army, is a replacement for the old Pistolet TT (para 13). The double action P-64 bears a strong resemblance to the Soviet Makarov pistol and has some features copied from the German Walther PP pistols; it, however, is an original design. It can be identified by the inscription 9-mm "P-64" on the left side of the slide (fig 15). The P-64 pistol fires 9x18-mm cartridges (sec VI).

20. Technical Data

Technical data concerning the P-64 pistol will be found in table II.

21. Operation

The P-64 is operated like most conventional pistols.

a. Load the magazine by placing a cartridge on the magazine follower, just forward of the feed lips; press the cartridge down and slide it to the rear, under the feed lips, until it seats against the rear wall of the magazine. Repeat until the magazine is full.

b. Insert the magazine into the pistol so that the magazine catch (fig 15) retains the magazine. Grasp the slide by the grooves and pull it fully to the rear against the pressure of the driving spring. Release the slide; the driving spring will force it forward, loading the pistol.

CAUTION: The pistol is now ready to fire!

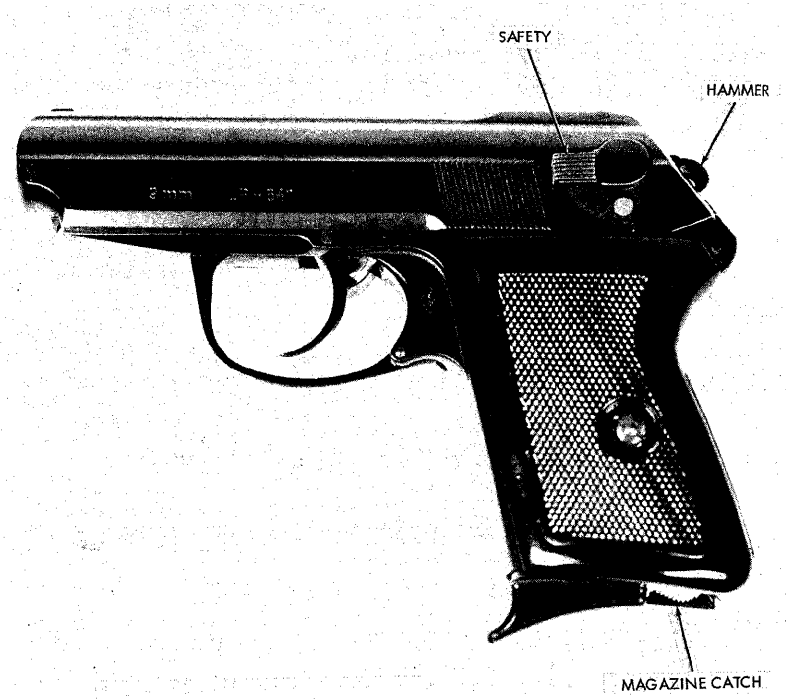


Figure 15. Polish P-64 pistol.

c. If desired, set the pistol on safe by rotating the safety downward until the red dot on the slide is covered. The hammer will fall, but because the safety blocks the firing pin, the pistol will not fire.

d. To fire, set the safety to the fire position by rotating it fully upward. The hammer can be cocked manually by pressing it

rearward by thumb pressure or, when aiming, by pressing the trigger through its full arc. (The first method is preferred.) Use a conventional sight picture for aiming, and press and release the trigger for each shot. The slide will remain open after the last round is fired.

e. Remove the magazine by pressing the magazine catch away from the magazine and withdrawing the magazine. To close the slide, if open, remove the magazine and pull the slide slightly rearward; then release it.

f. To clear the pistol, set it on safe, remove the magazine, and retract the slide. Inspect the chamber through the ejection port to insure that no cartridges are present. Release the slide and insert the magazine.

22. Disassembly and Assembly

a. To disassemble the P-64 pistol for cleaning:

(1) Clear the weapon (para 21f), but do not insert the magazine.

(2) Pull the front of the trigger guard down, and when it is clear of the receiver, press it to one side and rest it against the receiver (fig 16). Grasp the slide by its milled grooves, pull it fully rearward, and lift its rear end up and out of engagement with the receiver. Ease the slide forward over the barrel until it is free. Pull the driving spring off the barrel.

(3) No further disassembly is necessary or desirable.

b. To reassemble the pistol:

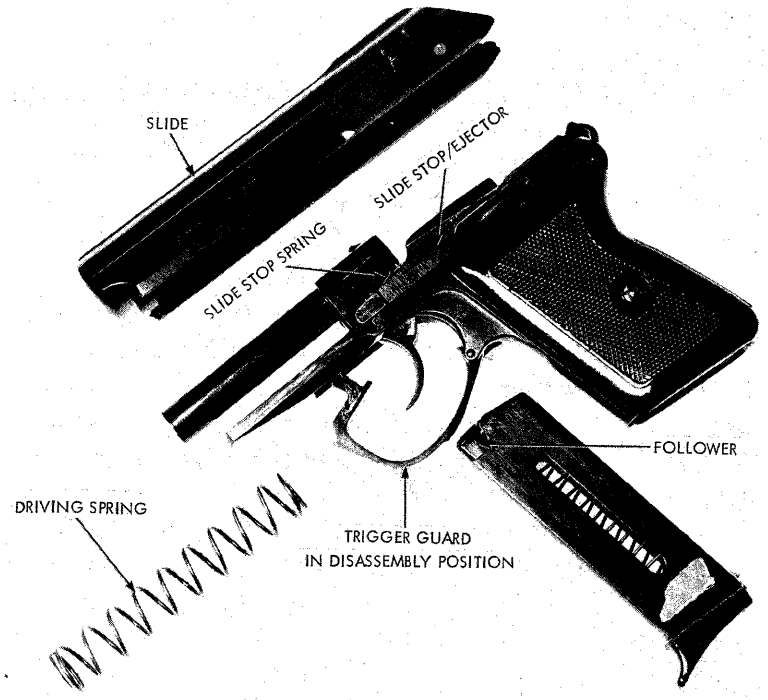


Figure 16. P-64 pistol disassembled.

(1) Insure that the hammer is cocked, that the safety is in the safe position, and that the trigger guard is in the disassembly position ((1) above). Slide the driving spring over the barrel.

(2) Insert the end of the driving spring into the circular front section of the slide; then insert the barrel into the front hole in the slide. Pull the slide rearward, pressing it downward at the same time, until it slips down into engagement with the receiver. Release the slide so that its spring will drive it forward.

(3) Disengage the trigger guard from the receiver and return the trigger guard to its normal position. Insert the magazine.

23. Functioning

a. The P-64 pistol is blowback operated; refer to paragraph 5a.

b. If the hammer is in its forward position, finger pressure on the trigger moves the trigger bar forward. A lug on the rear top of the trigger bar mates with a square notch in the bottom of the hammer (fig 17), and, as the trigger bar moves, it causes the top of the hammer to rotate back. When the trigger bar is almost at the limit of its forward travel, the rotary motion of the hammer has moved its notch up and out of contact with the trigger bar lug; when this occurs, the firing spring swings the hammer to fire the cartridge.

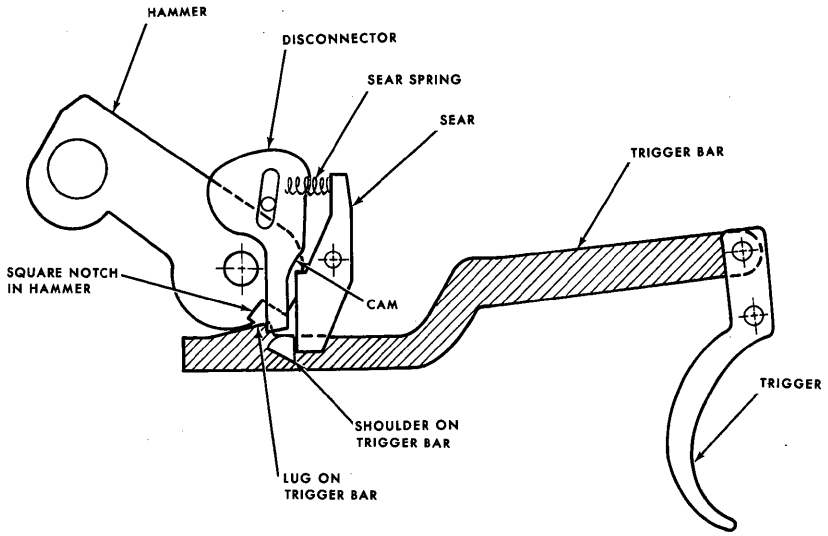


Figure 17. P-64 trigger mechanism.

c. When the hammer is cocked, the sear nose, under pressure of the sear spring, snaps into the sear notch on the hammer and holds the hammer cocked (fig 17). When the trigger is pressed and the trigger bar moves forward, a shoulder inside the trigger bar contacts the sear and swings the bottom of the sear forward and out of engagement with the hammer. The hammer, under the force of the hammer spring, swings forward to fire the cartridge.

d. When the cartridge fires, it forces the slide rearward. The empty cartridge case is held to the slide by the extractor until the ejector (fig 16) contacts the case and expels it from the weapon. The slide also forces the disconnector down, and the disconnector, in turn, forces the trigger bar down. The shoulder on the trigger bar (fig 17) releases the sear, which, under pressure of its spring, swings back where it can engage and hold the hammer cocked. When the slide completes its recoil movement, the driving spring forces the slide forward to load a fresh cartridge from the magazine into the barrel. When the trigger is released, the trigger bar moves rearward until the shoulder clears the sear, at which time the trigger bar swings up and the pistol is ready to fire another shot.

e. When the safety is set to safe, a pair of lugs swing into position beside the rear end of the firing pin. These lugs protrude past the end of the pin to prevent the hammer from striking the pin. As the safety continues to turn, a cam on its body forces the disconnector (fig 17) downward; the disconnector strikes the sear and cams the sear out of engagement with the hammer, which falls. The disconnector also depresses the trigger bar so its notch cannot mate with the hammer. The hammer strikes the lugs on the safety, but because these protect the firing pin, the pistol will not fire, and, while the disconnector holds the trigger bar depressed, pressure on the trigger will not move the hammer or sear; the

weapon is safe. Rotation of the safety to the fire position permits the disconnector and trigger bar to rise and swings the protecting lugs away from the firing pin. Pressure on the trigger will now fire the pistol.

f. The ejector/slide stop is forced upward by the magazine follower when the last cartridge if fed from the magazine. When the slide recoils after firing the last cartridge, the slide stop moves up and holds the slide open. When the empty magazine is removed, a rearward trigger on the slide, by relieving pressure on the slide stop, will allow the slide stop spring (fig 16) to force the slide stop down where it cannot engage the slide.

24. Accessories

A leather holster with a pocket for a spare magazine, a spare magazine, and a cleaning rod are the only accessories issued with the P-64 pistol.

E. THE NORTH KOREAN 7.62-MM TYPE 68 PISTOL

25. General

a. The North Korean 7.62-mm Type 68 pistol (fig 18) is a product improvement on the Soviet TT-33 pistol (para 13 to 18). The Type 68 when contrasted to the TT-33 appears shorter and bulkier (fig 19); internally, the improvements are even more pronounced. The link system used to unlock/lock the barrel of the TT-33 is replaced by a simple cam similar to that of the Belgian M1935 HiPower pistol. There are other minor changes which improve reliability and handling, such as the relocated magazine catch and improved method of retaining the firing pin.

b. The one-way interchangeability of magazine should be noted. The TT-33 magazine will work in the Type 68; the latter's

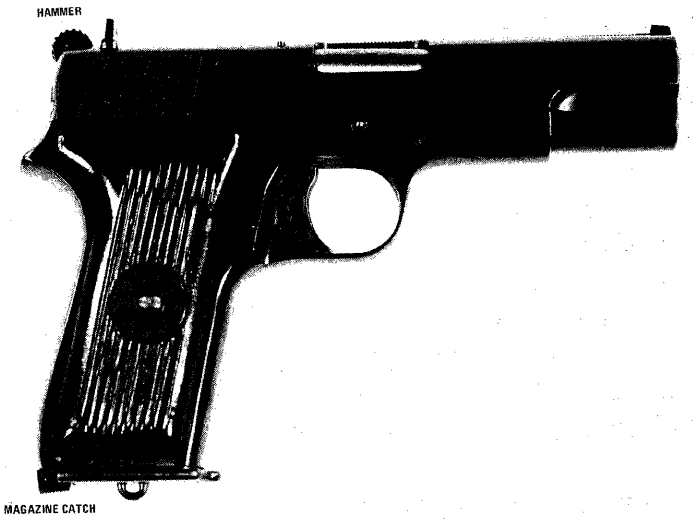


Figure 18. North Korean Type 68 pistol.

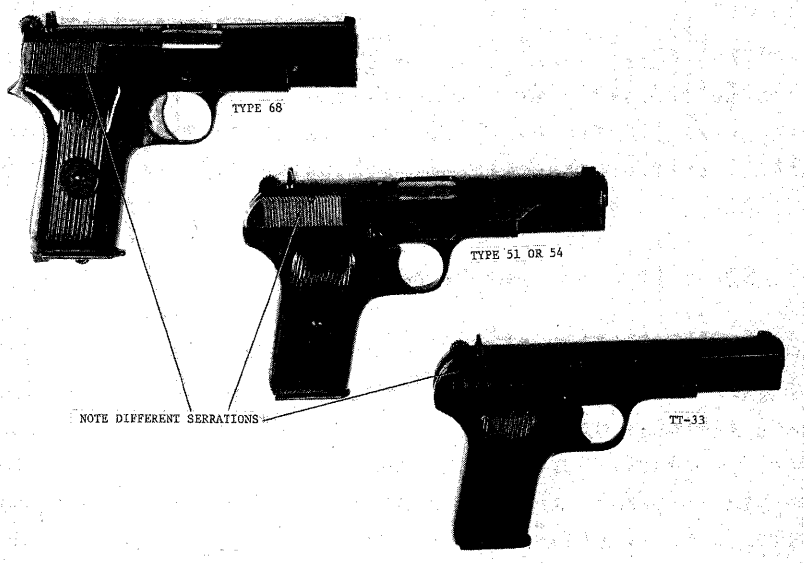


Figure 19. Comparison of Type 68 and TT-33 pistols.

magazine, however, will not work in a TT-33 because the Type 68 magazine lacks the cut for the magazine catch. The hammer mechanisms, while similar, are not interchangeable, nor are any other parts. The Type 68 pistol fires 7.62x25-mm ammunition (sec VI).

26. Technical Data

Technical data concerning the Type 68 pistol will be found in table II.

27. Operation

a. Load the magazine by placing a cartridge on the follower, pressing down, and then sliding it to the rear. Insert the loaded magazine into the pistol until it is caught by the magazine catch.

b. Grasp the slide by the grooves and pull it fully to the rear against the pressure of the driving spring. Release the slide; the driving spring will force it forward, loading the pistol. (Note: If the hammer is at half cock, the slide cannot be retracted.)

CAUTION: The pistol is now ready to fire!

c. The Type 68 pistol has no safety; however, the hammer can be carefully lowered to the half-cock position (part way between fully forward and cocked). Hold the hammer back with the left thumb and press the trigger. After easing the hammer slightly forward, release the trigger, and continue easing the hammer forward until it stops in the half-cock position. This also locks the slide in its forward position.

d. To fire, bring the hammer back to full cock (if at half cock), aim—using the conventional sight picture—and squeeze the

trigger. The pistol will fire one shot each time the trigger is pressed. When the last round is fired, the slide will remain open. Remove the magazine by pressing the magazine catch (fig 18) rearward; pull the magazine out of the pistol. Close the slide by pressing down on the slide stop or, after removing the magazine, pull the slide slightly to the rear and release it.

e. To clear the pistol, remove the magazine, retract the slide, press the slide stop up, and ease the slide forward until the slide is caught by the slide stop. Inspect the chamber through the ejection port to insure that no cartridges are present. Release the slide, pull the trigger, and insert the magazine.

28. Disassembly and Assembly

a. Clear the pistol (para 27e), but do not reinsert the magazine.

b. Draw the slide rearward until the end of the slide stop is aligned with the half-round notch in the slide. Hold the slide in position and press out the slide stop pin (from right to left); this operation requires some practice. Pull the slide stop out of the pistol. Pull the slide forward and off the receiver (fig 20).

c. Pull the hammer mechanism up and out of the receiver.

d. Pull the driving spring guide toward the muzzle (that is, from engagement with the barrel) and remove the spring and guide. Lift the lug on the barrel; then draw the barrel back and out of the slide. No further disassembly is necessary to clean the weapon or give it routine maintenance.

e. Reassemble the pistol by inserting the barrel into the slide until the muzzle projects through the bushing. Then pull the

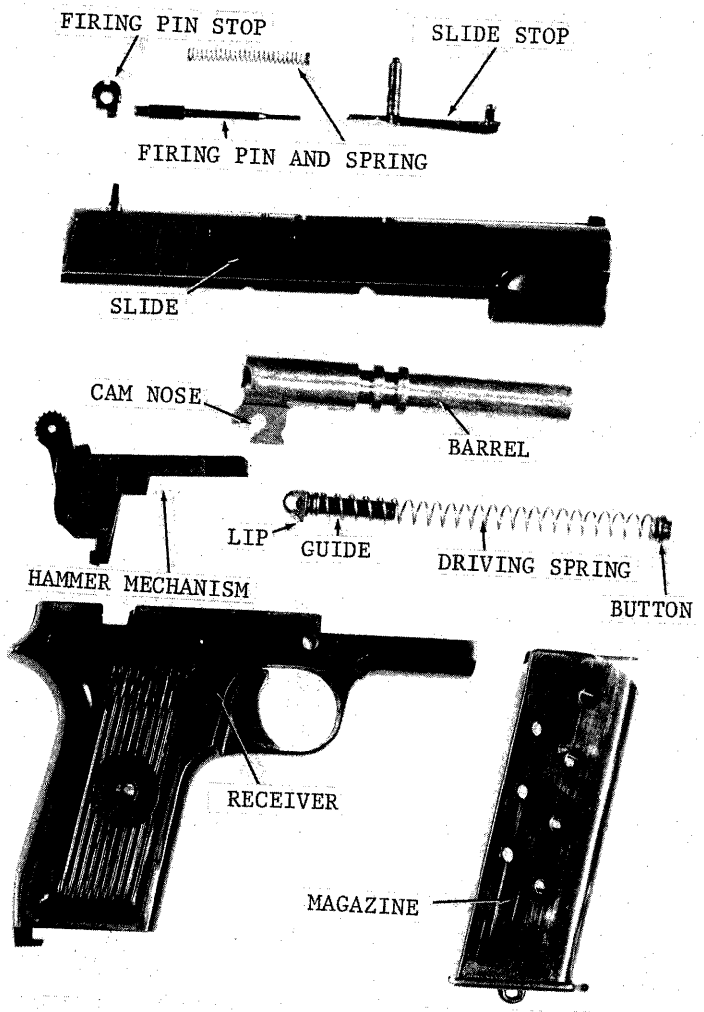


Figure 20. Type 68 disassembled.

barrel back until it drops into locked engagement with the slide. Insert the button (fig 20) on the driving spring into the tunnel on the slide, and engage the guide with the barrel. The lip on the guide must point away from the barrel (fig 20).

r. Place the hammer mechanism back into the receiver; insure that it is fully seated. Center the barrel in the slide and mate the grooves in the slide with those of the receiver. Pull the slide onto the receiver, and insert the slide stop into its hole (left or right) as far as possible. Pull the slide rearward until the notch on the slide is alined.

29. Functioning

a. The Type 68 pistol is recoil operated; that is, the recoil of the cartridge transmitted through the barrel and slide provides the power to expel the fired cartridge case, compress the recoil spring for reloading, and cock the hammer mechanism.

b. When the pistol is loaded and cocked, finger pressure on the trigger causes it and its bar to move rearward, against the pressure of the trigger spring, until the trigger bar contacts the bottom of the sear. Continued pressure on the trigger causes the sear to release the hammer. Under the force of its spring, the hammer swings forward and strikes the firing pin to fire the cartridge.

c. The barrel is locked to the slide by ribs (machined into the outer surface of the barrel) that mesh with grooves in the slide. A lug on the bottom rear of the barrel rides on a transverse pin in the receiver. As the barrel moves to the rear in recoil, while locked to the slide, a cam nose on the barrel lug (fig 20) contacts the transverse pin and pulls the barrel down. This unlocks the slide from the barrel and, because of its momentum, the slide continues to the rear. As the slide recoils, the driving spring is compressed

and the extractor withdraws the fired cartridge case from the chamber. The extractor holds the cartridge case against the slide face until the case strikes the ejector on the left extension of the hammer housing. The fired cartridge case pivots around the extractor and is expelled. The rearward movement of the slide terminates when the driving spring housing at the bottom front of the slide strikes the receiver.

d. The compressed driving spring expands and drives the slide forward; the feed rib of the slide strikes the top cartridge in the magazine and drives the cartridge into the chamber. The extractor snaps into the groove of the cartridge case. The slide strikes the barrel and drives it forward, and the cam forces the rear end of the barrel up into the locked position. All forward motion stops when the lug on the bottom rear of the barrel contacts the driving spring guide.

e. Before the slide recoils, the disconnector projects upward from the hammer mechanism into a cut in the slide (fig 14). When the slide recoils, the disconnector is forced down, pushing the trigger extension down and releasing the sear. The sear spring then presses the sear against the hammer. As the slide continues to recoil, it rocks the hammer back so that the sear engages the sear notch on the hammer. When the slide counterrecoils, the sear holds the hammer cocked; when the slide is fully forward, the disconnector is free to raise into the cut in the slide. This action allows the trigger bar, under the pressure of the trigger spring, to rise against the bottom of the sear. When the trigger is released, it moves forward. As the trigger bar clears the sear, the trigger spring again forces the trigger bar up into position in front of the sear. Pressure on the trigger will now fire the pistol again.

f. When the hammer is drawn to the half-cock (safe) position, the bottom of the sear is forced to its foremost position and a lug on the side of the sear moves into position below the disconnector to prevent it from being depressed. Because the disconnector protrudes into a cut in the slide and now cannot be depressed, the slide is locked in position. The sear nose engages the undercut half-cock notch on the hammer. Because of the undercut, the sear cannot be disengaged from the hammer by trigger pressure. The pistol is now safe.

g. When the last round is fired, the magazine spring, working through the magazine follower, forces the slide stop up against the slide. The slide stop engages the notch on the side of the recoiling slide and holds the slide open.

30. Accessories

The usual pistol accessories (holster, cleaning rod, spare magazines, etc.) are available for use with the Type 68 pistol.

F. THE 9-MM STECHKIN MACHINE PISTOL (APS)

31. General

a. Machine pistols resemble conventional pistols, but have one major distinguishing characteristic—a selective fire option; i.e., they can be fired either automatically or semiautomatically. In addition, these pistols usually have large-capacity magazines and some type of a shoulder brace or stock to aid in accurate long-range firing. The Soviet Stechkin machine pistol (fig 21) was issued in limited numbers, and although now obsolete, it may be in use by special units such as border guards, security police, or in countries given Soviet military aid.

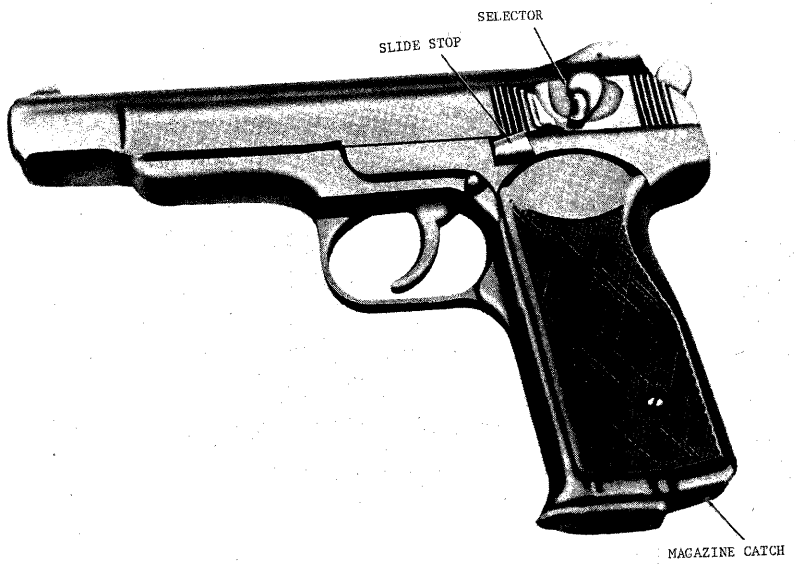


Figure 21. Soviet Stechkin machine pistol (APS).

b. The Stechkin is similar to the Makarov pistol (para 3) in appearance and in basic operation, but the Stechkin is larger, has a safety selector on the slide, has a four position adjustable rear sight, has a fully automatic fire rate reduction device, and has a 20-round magazine. The pistol is equipped with a wooden holster that can be attached to the grip for use as a shoulder stock (fig 22). The Stechkin fires the Soviet 9x18-mm pistol cartridge (sec VI).

32. Technical Data

Technical data concerning the Stechkin will be found in table II.

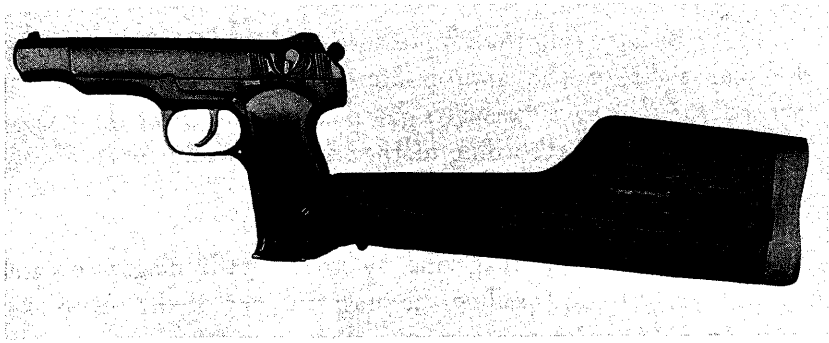


Figure 22. Stechkin with holster-stock attached.

33. Operation

Load the Stechkin magazines as described in paragraph 3a. To prepare the Stechkin for firing:

a. Insert the magazine into the pistol until the magazine catch (fig 21) retains the magazine.

b. Move the selector off the ПР position; pull the slide fully rearward and release it.

CAUTION: The pistol is now ready to fire. If desired, set the selector back to ПР for safety.

c. The holster-stock (fig 22) is attached by sliding its male lug into the recess in the handle of the Stechkin pistol until the catch on the stock snaps into place. Remove the holster-stock by pressing the thumbpiece of the catch away from the pistol and sliding the stock off the pistol.

d. Position the selector (fig 21) for the type of fire desired—at ОД for semiautomatic fire, at "АВТ" for full-automatic fire, or at ПР for safe.

e. By applying thumb pressure on the knurled rings, rotate the rear sight to the appropriate range—25, 50, 100, or 150 meters. Aim, using a normal sight picture, and press the trigger. The pistol will fire according to the selector setting; when the last round fires, the slide will remain open.

f. Remove the magazine by pressing the magazine catch (fig 21) rearward and pulling the magazine out of the pistol. The slide can be closed by pressing the slide stop down or by pulling the slide rearward and releasing it.

g. To clear the pistol, first remove the magazine. Set the selector off ПР and pull the slide rearward. Press up the slide stop to hold the slide open, and inspect to insure that no cartridges are present. Press down the slide stop, set the selector to ПР and insert the magazine.

34. Disassembly and Assembly

a. To disassemble the Stechkin machine pistol for cleaning:

(1) Clear the weapon (para 33g), but do not insert the magazine or reset the selector to safe.

(2) Pull the front of the trigger guard down; it will remain in position (fig 23).

(3) Grasp the slide by its milled grooves, pull it fully rearward, and lift its rear end up and out of engagement with the receiver. Ease the slide forward, over the barrel, until it is free. Pull the driving spring off the barrel.

(4) No further disassembly is necessary or desirable.

b. To reassemble the Stechkin machine pistol:

(1) Insure that the hammer is cocked, that the safety is in the fire position, and that the trigger guard is in the disassembly position (a(2) above).

(2) Slide the spring over the barrel, small end first.

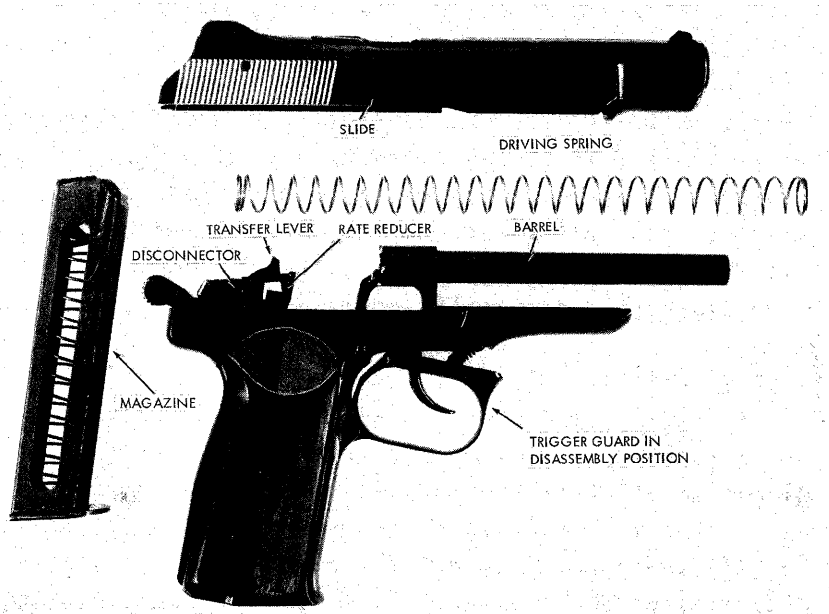


Figure 23. Stechkin, disassembled.

(3) Insert the end of the driving spring into the circular front section of the slide, and slip the barrel through the hole in the slide. Pull the slide fully rearward, press it down into position on the receiver, and allow the driving spring to drive the slide forward.

(4) Press the trigger guard up to its normal position. Insert the magazine.

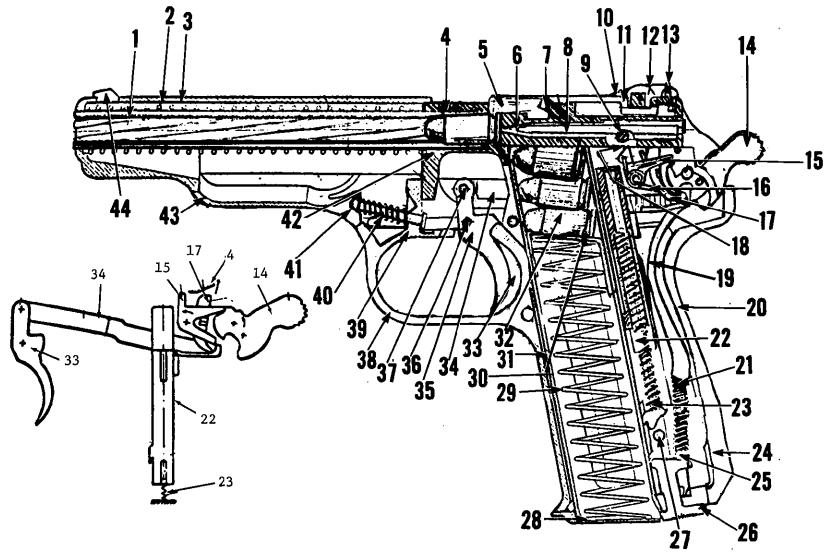
35. Functioning

a. The Stechkin is blowback operated (para 5a).

b. When the Stechkin is loaded and the hammer is not cocked, a long pull of the trigger will cock and release the hammer. A lug on the trigger bar mates with a notch on the bottom of the hammer; when the trigger is pressed, the trigger bar moves forward. The forward movement of the trigger bar lug rotates the hammer rearward against its spring. After the hammer rotates to the full rearward position, the lug moves forward and out of engagement, and the hammer falls to fire a shot. The succeeding actions described below are according to the selector setting.

c. When the Stechkin is cocked and set for semiautomatic fire, pressure on the trigger moves the trigger bar forward. As the trigger bar moves forward, it cams the disconnector upward (17, fig 24). The stud on the side of the disconnector lifts the sear (15, fig 24) from engagement with the hammer. The hammer falls, under pressure of the mainspring, and fires a cartridge. The slide is forced rearward by the propellant gases, the driving spring is compressed, the disconnector is cammed down (fig 23), and the hammer is rocked rearward.

d. The extractor holds the fired cartridge case to the face of the slide until the case strikes the ejector. The ejector, an extension on the slide stop (fig 21), expels the fired case from the pistol. The driving spring forces the slide forward; during the forward movement, a cartridge is loaded from the magazine into the barrel.



1. Barrel
2. Recoil spring
3. Slide
4. (Barrel) Bracket
5. Extractor
6. Striker
7. Extractor spring
8. Firing pin
9. Safety lock and fire selector
10-13. Rear sight
11. Sight-leaf
12. Range drum
13. Battle sight with notch
14. Hammer
15. Sear
16. Sear spring
17. Disconnector
18. Slide stop
19. Hammer strut
20. Pistol grip (handle)
21. Mainspring
22. Retarder
23. Retarder spring
24. Holster-stock lug
25. Mainspring guide
26. Magazine catch (Bottom-plunger)
27. Stock screw hole
28. Magazine bottom (Plate)
29. Magazine spring
30. Magazine follower
31. Magazine body
32. Cartridges
33. Trigger
34. Trigger bar
35. Trigger spring
36. Trigger axis pin
37. Trigger pin
38. Trigger guard
39. Trigger guard post
40. Retainer spring
41. Retainer
42. Chamber with cartridge
43. Receiver
44. Front sight

Figure 24. Stechkin mechanism.

e. When the disconnector moves down, its stud allows the sear to drop and reengage the hammer. The disconnector also depresses the trigger bar against the pressure of the retarder spring (23, fig 24). Because the sear has engaged the hammer, the hammer is held cocked and only one shot is fired. The trigger bar is now caught under the disconnector, and in order to fire another shot, the trigger must be released. When it is released, the trigger bar moves rearward until it clears the disconnector. The trigger bar, under the influence of the retarder spring, then moves upward. Pressure on the trigger will again cam up the disconnector and fire another shot.

f. As the slide recoils, a cam on the slide strikes a T-shaped transfer lever (figs 23 and 24) and forces it down against the retarder; this transfers some of the energy from the slide to the retarder and drives the retarder downward against its spring. By the time the slide counterrecoils, the retarder, driven by its spring, has started upward, and strikes the transfer lever, driving it upward. The lever hits the shaft of the selector and stops. At this selector setting, the retarder does not strike the trigger bar.

g. When the selector is set for automatic firing, the first round is fired in the same manner as described in subparagraph b. When the slide recoils and counterrecoils, the transfer lever is activated as described in d above, but the selector shaft does not stop the retarder, which can rise high enough to strike the trigger bar. When the retarder strikes the trigger bar, the bar is forced upward and moves the disconnector upward. The disconnector stud, in turn, causes the sear to release the hammer, and another shot is fired. In essence, the trigger mechanism functions semiautomatically, but the retarder overrides the semiautomatic feature; this causes the pistol to fire automatically.

h. When the selector is set at safe, lugs on the selector shaft move the firing pin rearward and lock it. A cam presses the vertical arm of the sear forward to release the hammer, which falls on the locked firing pin. The hammer rebounds to the half-cock position. Finally, the selector shaft rotates into engagement and locks the slide to the receiver.

i. When the last cartridge is fed from the magazine, the magazine follower presses against the slide stop. When the slide recoils after the last round fires, the slide stop engages a notch in the slide and holds it open.

36. Accessories

A sling to carry the holster, the holster-stock combination, and a T-handled cleaning rod are the only accessories issued with the Stechkin machine pistol.

G. THE 7.65-MM VZOR 61 MACHINE PISTOL (Vz61) (SKORPION)

37. General

The Czechoslovak 7.65-mm Vzor 61 machine pistol (fig 25) Skorpion used by the Czechoslovak Army and Security Forces has also been offered for sale to other countries. This machine pistol, a blowback-operated, selective-fire weapon that uses 10- or 20-round box magazines, is equipped with a folding wire shoulder brace. The Skorpion, because of the mild recoil of its relatively weak 7.65-mm cartridge (sec VI) and the slow rate of fire due to a cyclic-rate reducer, is an effective, if underpowered, weapon.

38. Technical Data

Technical data concerning the Vz61 Skorpion machine pistol will be found in table II.

39. Operation

a. To operate the Skorpion, the magazine must first be loaded. Place a cartridge on the magazine platform and press down until the cartridge rolls sideways under the magazine lips. Repeat until the magazine is full.

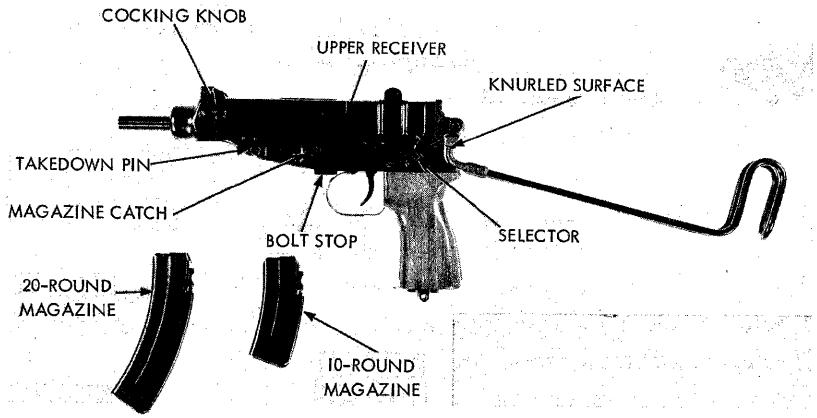


Figure 25. Czechoslovak Vz61 "Skorpion" machine pistol

b. Insure that the selector is not in its mid (0) position (safe); then insert a loaded magazine into the recess ahead of the trigger guard until the magazine catch (fig 25) engages the magazine. Using the thumb and forefinger, grasp the cocking knobs (fig 25), pull them fully to the rear, and release them. The bolt will return forward.

CAUTION: The pistol is now loaded and ready to fire!

If desired, set the pistol on safe by swinging the selector to its mid (0) position.

c. Set the rear sight to the appropriate range—75 or 150 meters—by flipping the leaf forward or rearward. When firing the

weapon automatically, or semiautomatically at longer ranges, best results are obtained by unfolding and using the shoulder brace. The shoulder brace is unfolded by pulling it out of engagement with the front sight guards and swinging it to the rear until the knurled lock snaps into place. The stock is folded by firmly pressing the knurled lock (fig 25) in, and swinging the brace forward into engagement with the front sight guards.

d. Rotate the selector forward to "20" for automatic fire, or rearward to "1" for semiautomatic fire. Aim, using a normal pistol sight picture, and press the trigger to fire. Do not hold the magazine while firing; this can cause malfunctions. When the last round in the magazine is fired, the bolt will remain to the rear.

e. Remove the magazine by pressing in the magazine catch. The magazine will be expelled. If the bolt is held rearward after loading a fresh magazine, grasp the cocking knobs, pull them slightly rearward and release to close the bolt.

f. To clear the pistol, remove the magazine as in e above, retract the bolt fully and press up on the bolt stop (fig 25). The bolt will be held rearward by the bolt stop. Set the selector on "0" and examine the pistol to insure that no cartridges are present. Move the selector off "0", pull back on the cocking knobs slightly, and release them. Press the trigger, reset the selector to "0", and insert the magazine.

40. Disassembly and Assembly

a. Disassemble the weapon as follows:

(1) Extend the shoulder brace (para 39c). Clear the pistol (para 39f), but do not insert the magazine, or set the selector at "0".

(2) Pull the takedown pin (fig 25) out to the left as far as possible; pull the upper receiver unit forward about three-sixteenths of an inch, and then swing the barrel down (fig 26).

(3) Retract the bolt fully to the rear and pull the cocking knobs (fig 26) out to the sides. Pull the bolt and the driving springs out of the receiver.

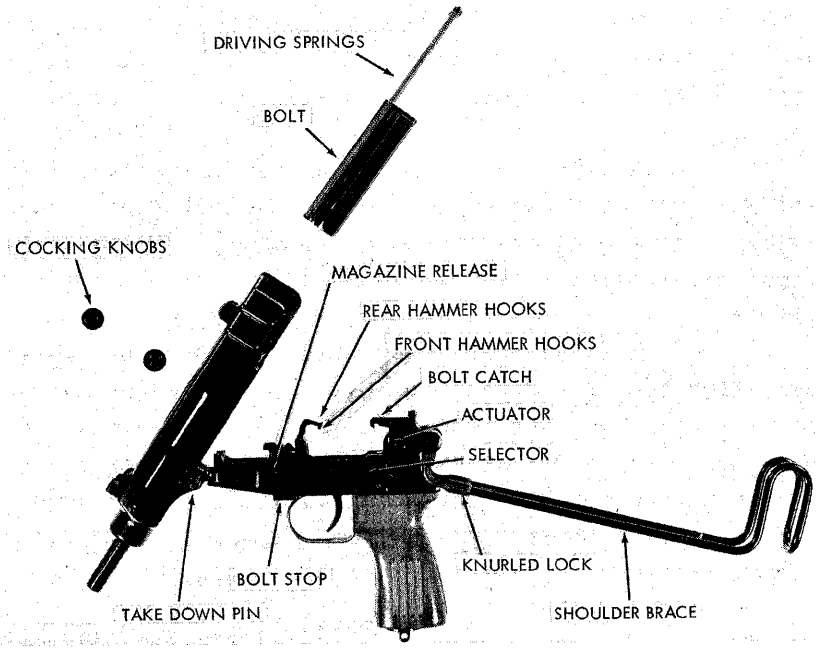


Figure 26. Vz61 disassembled.

(4) No further disassembly is necessary or desirable.

b. To reassemble the weapon:

(1) Insert the bolt and the driving springs into the upper receiver. Align the elongated holes in the bolt with the enlarged portion of the slot in the upper receiver and insert the cocking knobs. Slide the bolt fully forward.

(2) Swing the upper receiver down into position on the lower receiver and slide it to the rear until the dismounting pin can be pressed back into position. Insert the magazine and fold the shoulder brace forward. Set the selector at "0" and insert the magazine.

41. Functioning

a. The Vz61 pistol is blowback operated (para 5a). When the pistol is loaded and the hammer is cocked, pressure on the trigger causes it to pivot and release the hammer. The hammer spring forces the hammer forward to strike the firing pin and fire the cartridge; the bolt is then blown back. This bolt movement also rotates the hammer rearward. The extractor holds the fired cartridge to the bolt face until the cartridge strikes the fixed ejector; the cartridge is then expelled from the ejection port.

b. If the selector is set for semiautomatic fire, as the hammer rotates the rear hammer hooks (fig 26) force the sear rearward against its spring. The bolt returns forward under the force of the driving spring and loads a cartridge from the magazine into the chamber. The sear holds the hammer cocked by means of the rear hammer hooks, but when the trigger is released, the sear swings rearward and releases the hammer. The hammer, under force of its spring, starts to swing forward, but is caught by the trigger sear, which catches the front hammer hooks (fig 26). If the trigger is pressed, another shot will be fired, and this action will be repeated.

c. When the pistol is set for full automatic fire, the selector holds the sear out of action. A safety sear operated by the bolt is all that holds the hammer back when the bolt returns forward. The safety sear is tripped during the final bit of bolt travel, and the hammer is then released to fire the cartridge. This action continues until the trigger is released; the trigger sear then intercepts the front hammer hooks and holds the hammer back, and firing ceases.

d. As the bolt completes its rearward stroke, it strikes the actuator (figs 26 and 27); this causes the actuator to pivot on its pin. Two actions then occur:

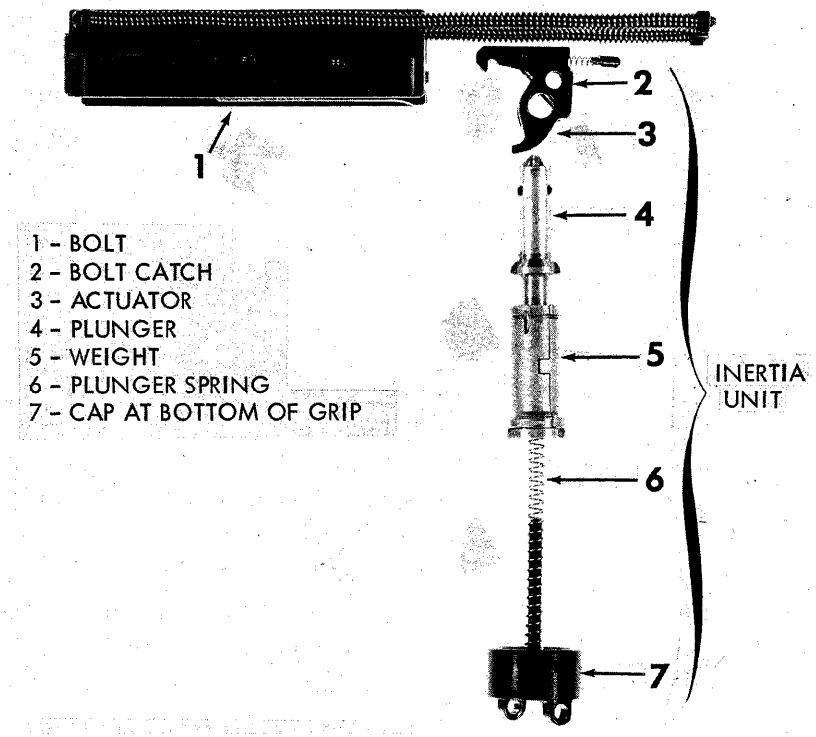


Figure 27. Vz61 rate reducer.

(1) The bolt catch (fig 27) drops down under the force of its light spring and holds the bolt to the rear, and the inertia unit (fig 27) is driven downward against its spring.

(2) The plunger moves immediately, but the weight, because of its inertia, stands still. The plunger completes its long downward travel and then, under pressure of its springs, starts back up. The weight, which by now is falling, strikes the plunger; the momentum of the weight slows down the plunger. After overcoming the downward momentum of the weight, the plunger once again moves upward and strikes the actuator. The actuator pivots on its pin and forces the bolt latch upward, freeing the bolt. This momentary catching and releasing of the bolt slows the rate of fire from more than 1000 rounds per minute to around 800 rounds per minute.

e. When the selector is set at safe, the trigger is blocked and cannot be pressed to release the hammer. The selector also operates a lever that forces the bolt stop up. The bolt stop protrudes behind the bolt, and this prevents rearward movement of the bolt.

f. When the magazine is empty, its follower contacts the bolt stop and lifts it up into the path of the bolt. This holds the bolt open after the last round has been fired.

42. Accessories

The following accessories are available for use with the Vz61 machine pistol.

(1) Ten- and twenty-round magazines.

(2) Night-sighting device.

H. THE 9-MM WZ63 MACHINE PISTOL

43. General

The Wz63 machine pistol (fig 28) has been issued only to Polish Army units. This weapon is similar in concept to the Czechoslovak Skorpion machine pistol (para 37); however, the Polish pistol fires the more powerful 9x18-mm Makarov cartridge (sec VI). The Wz63 has a folding stock, and the forestock can be swung down for use as a second handgrip. The slide has an extension that protrudes beyond the muzzle to act as a compensator to reduce muzzle climb in automatic fire. The Wz63 commences its firing cycle from the open slide position, and its mode of fire, full or semiautomatic, is controlled by the amount of pressure applied to the trigger.

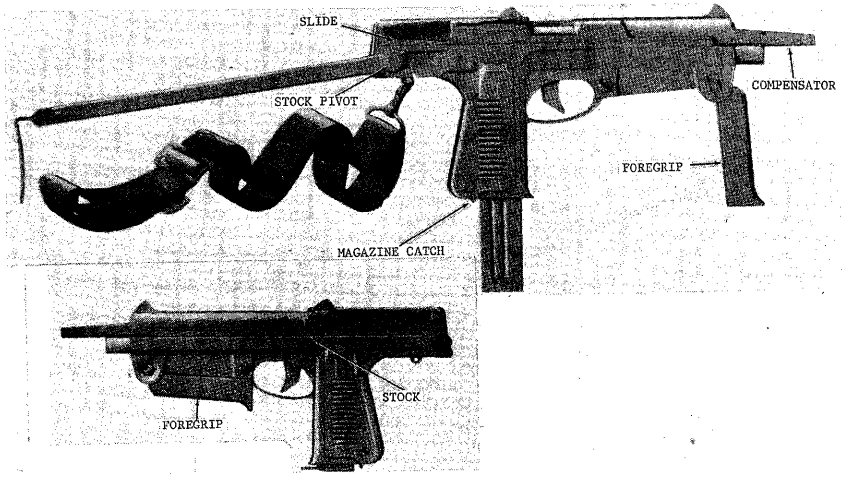


Figure 28. Polish Wz63 machine pistol.

44. Technical Data

Technical data concerning the Wz63 machine pistol will be found in table II.

45. Operation

a. To operate the Wz63 machine pistol, first load the magazine in the same manner as the Vz61 machine pistol magazine (para 39a). Insert a loaded magazine into the butt of the pistol until the magazine catch snaps into place. Grasp the slide at its rear end and pull it to the rear until it is caught by the sear. Alternatively, the compensator (fig 28) can be placed against a firm surface and the pistol can be pushed forward; this latter methods is convenient in an emergency.

CAUTION: When the slide is rearward and a loaded magazine is in place, the pistol is ready to fire.

If desired, rotate the safety (on the left side of the pistol) to its horizontal position to make the pistol safe.

b. When preparing to fire at longer ranges, press the catch on the stock pivot (fig 28) upward and unfold the stock. Pull the forestock down for use as a handgrip. For short range firing, the stock and grip can remain folded and the Wz63 can be used as a conventional pistol. Flip the rear sight leaf rearward or forward for the desired range (the rearward leaf is used for 200-meter shooting) and rotate the safety to its horizontal position. Aim, using a normal pistol-type sight picture, and press the trigger to fire. Light pressure on the trigger will fire one shot; heavy pressure will cause the machine pistol to fire automatically. When the last round in the magazine has been fired, the slide will remain to the rear.

c. To clear the Wz63, press the magazine catch (fig 28) and remove the magazine. Pull the slide rearward and inspect to insure that no cartridges are present. Hold the slide, press the trigger, and ease the slide forward, and insert the magazine.

46. Disassembly and Assembly

a. Disassembly of the Wz63 is accomplished as follows:

(1) Clear the machine pistol (para 45c), but do not insert the magazine or press the trigger. Pull the slide rearward to the cocked position.

(2) Grasp the barrel at the serrations on its muzzle end, and rotate it out of engagement with the receiver. Hold the slide, press the trigger, and ease the slide forward off the receiver. Remove the loose barrel from the slide (it may be necessary to twist the barrel), and pull the driving spring and guide from the receiver. No further disassembly is necessary or desirable.

b. To reassemble the machine pistol, place the driving spring and guide into their recess in the receiver, guide first. Insert the barrel into the slide, and twist the barrel so that the five mounting lugs on the rear of the barrel are in the dismounting recess in the slide. Start the slide into the receiver guideway, ensuring that the driving spring enters the tunnel in the front of the slide. Pull the slide back until the barrel can be twisted into its assembled position. Press the trigger, ease the slide forward, and insert the magazine.

47. Functioning

a. The Wz63 is blowback operated (para 5a) and commences its firing cycle from the open bolt position.

b. When the slide is retracted, the sear (fig 29), under pressure from its spring, enters the sear notch and holds the slide to the rear. When the trigger is lightly pressed (for semiautomatic fire), the disconnector (fig 29) lifts the rear of the sear and the

front of the sear disengages from the slide. The driving spring forces the slide forward, driving a cartridge out of the magazine and into the chamber.

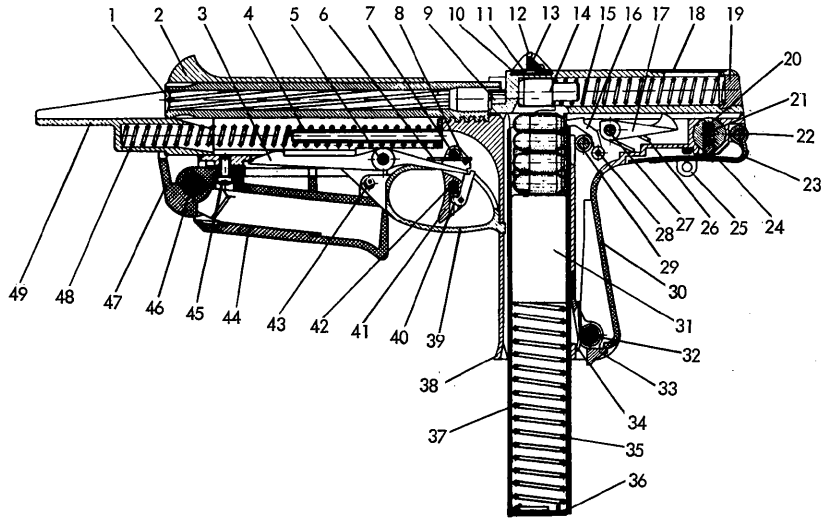
c. The fixed firing pin fires the chambered cartridge. The propellant gases that are generated drive the bullet out of the barrel and drive the cartridge case rearward; this, in turn, blows the slide rearward and compresses the driving spring. The empty case is held in position until it strikes the ejector, whereupon it is expelled through the ejection port. The disconnector swings rearward and releases the sear; the sear snaps into the sear notch and holds the slide rearward. To fire another shot, the trigger must be released to allow the disconnector to swing forward under the sear. Pressure on the trigger will then cause another firing cycle to start.

d. When the trigger is pressed to the limit of its rearward travel, the sear is depressed as in a, above. The sear, however, is not released by the disconnector and is held depressed. This results in automatic fire, because the sear does not catch the slide between shots.

e. The retarding lever snaps into the slide at the end of the slide's recoil stroke and holds the slide to the rear. The retarder (14, fig 29) continues to the rear, compressing its spring; the spring then drives the retarder forward. The retarder strikes the retarder lever and drives it down; this releases the slide. This action greatly reduces the cyclic rate of fire.

48. Accessories

A sling, a hip holster, a cleaning rod, one 15-round and three 25-round magazines, and a magazine carrier are issued with each pistol. The magazine carrier has a large pocket to hold the 25-round magazine and a separate smaller pocket for the 15-round magazine.



1. Barrel
2. Front sight
3. Trigger lever
4. Recoil-spring guide
5. Trigger-lever (axis) pin
6. Trigger spring
7. Trigger pin
8. (Trigger axis) pin
9. Firing pin
10. Sight-leaf
11. Sight spring
12. Rear sight
13. Rear sight pin
14. Retarder
15. Retard spring
16. Slide stop
17. Retarder lever
18. Bearing latch
19. Bearing
20. Grip mount
21. Butt-latch spring
22. Butt-plate (axis) pin
23. Butt plate
24. Butt latch
25. Lanyard loop
26. Retarder-lever spring
27. Retarder-lever (axis) pin
28. Slide-stop (axis) pin
29. Safety-lock
30. Stock
31. Magazine follower
32. Magazine-catch (axis) pin
33. Magazine catch
34. Magazine-catch spring
35. Magazine spring
36. Magazine cover
37. Magazine body
38. Pistol grip (handle)
39. Trigger guard
40. Trigger-catch lever
41. Trigger catch
42. Trigger-catch-lever spring
43. Back screw of the frame
44. Grip (handle)
45. Front screw of the frame
46. Grip (handle) catch
47. Frame
48. Recoil spring
49. Slide (compensator)

Figure 29. Wz63 section.

I. MISCELLANEOUS PISTOLS

49. General

a. Some pistols used by Eurasian Communist forces, because of their relative scarcity, do not warrant full coverage in this guide, but must be included for identification purposes. This group includes the PRC Type 64 silenced pistol, the North Korean Type 64 and Type 64 silenced pistols, and the Czechoslovak Vz 50 pistol. These weapons are currently in use.

b. Occasionally, a pistol of World War II or earlier vintage is encountered in Communist hands. Information on these older weapons is readily available in standard reference texts such as Smith and Smith's *Small Arms of the World.*

50. The PRC Type 64 Silenced Pistol

The PRC Type 64 silenced pistol (fig 30) is an assassination weapon. It is a magazine-fed weapon capable of either semiautomatic or manual operation; the latter mode is used for maximum silencing. This pistol is readily identified by the bulbous silencer housing on the front end of the pistol. A unique 7.65x17-mm rimless cartridge is fired in this pistol; no other known cartridge will fit.

51. The North Korean Type 64 Pistols

a. The North Korean Type 64 pistol (fig 31) is a copy of the old Browning Model 1900 pistol. This blowback-operated semiautomatic weapon can be readily identified by the odd "over-under" appearance of its barrel and driving spring housing. The North Korean pistol can be further identified by the stamping 1964 7.62 on its left side.

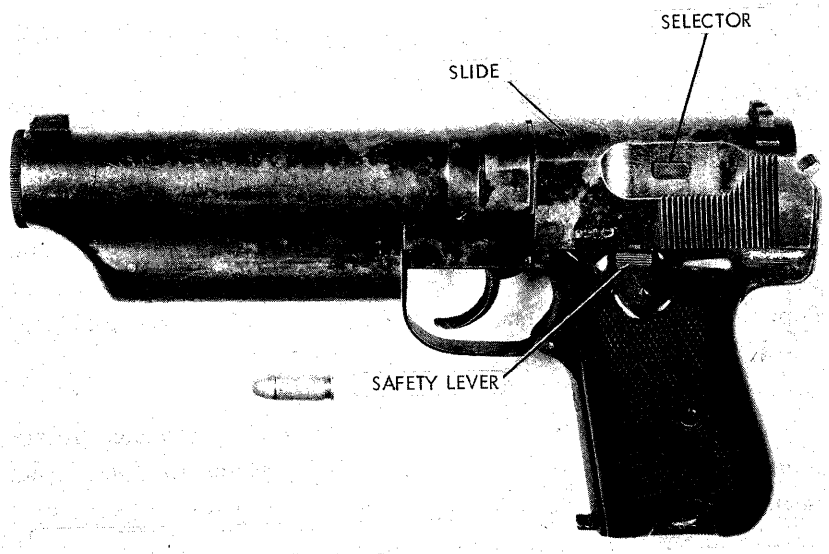


Figure 30. PRC Type 64 silenced pistol.

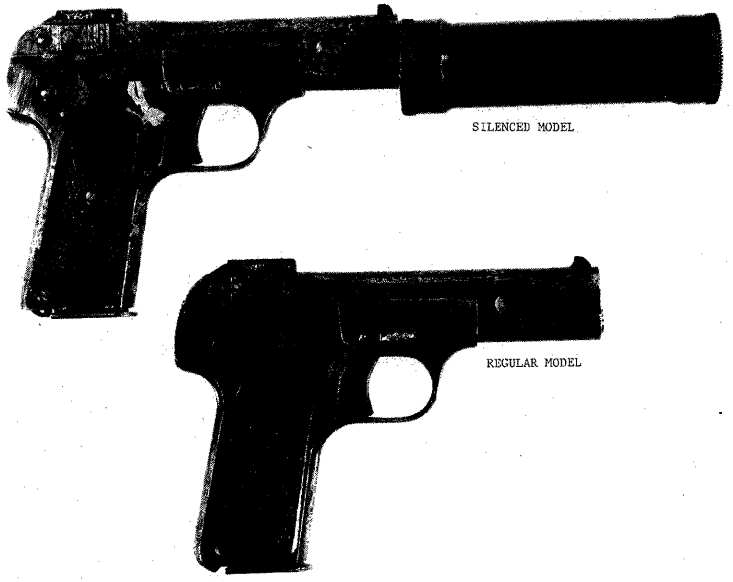


Figure 31. North Korean Type 64 pistols.

b. A version of the North Korean Type 64 pistol is fitted with a Maxim-type silencer (fig 31). This version, the Type 64 silenced pistol, has a shortened slide and the protruding end of the barrel has fine threads for the attachment of the silencer. These pistols both are stamped with a 7.62-mm caliber designation; despite this, both weapons fire the 7.65x17SR (.32 ACP) cartridge.

52. The Czechoslovak Model 50 Pistol

This small 7.65-mm pistol, also known as the Vz 50, is frequently carried by senior officers of the Czechoslovak Army and is often found in use by other armies. The Model 50 pistol resembles the Czech Vz 52 pistol (para 7), but the Model 50 is smaller and has its safety located at the top of the left grip (fig 32). These pistols can be found with the marking "Vzor 50" or "Vz 50", and export models are usually stamped "Made in Czechoslovakia". The Vz 50 fires 7.65x17SR cartridges (sec VI).

Figure 32. Czechoslovak Model 50 pistol.

J. MAINTENANCE OF PISTOLS

53. Care and Cleaning

The procedures and materials prescribed for cleaning standard US Army pistols also apply to Eurasian Communist pistols. These weapons should be disassembled only to the extent necessary for adequate cleaning, in order to prevent breakage and subsequent loss of use. No repairs, other than replacement of parts, should be attempted on foreign pistols and this replacement should be done only by a competent armorer.

54. Malfunctions and Stoppages

a. Most malfunctions and stoppages are caused by defective magazines or ammunition. Table I lists common problems and their remedies.

b. Malfunctions caused by broken or worn parts can be corrected by replacing the defective part with a servicable one. This should be done only by a competent armorer, and the repaired weapon must then be function test fired.

Table I. Pistol Malfunctions

Condition	Cause	Remedy
Fails to fire (cartridge in chamber)	Defective cartridge	Reload
Fails to fire (no cartridge in chamber)	Defective magazine	Replace magazine
Fails to extract or eject	Fouled weapon	Clean and lubricate

Table II. Pistol Technical Data

	Makarov	Vzor 52	Tokarev Model 1933	Wzor 64	Type 68	Stechkin	Vzor 61	Wzor 63
Short name	PM	Vz52	TT-33	P-64	T68	APS	Vz61 Skorpion	Wz63
Caliber (mm)	9	7.62	7.62	9	7.62	9	7.65	9
Length (in)	6.3	8.25	7.7	9.36	7.3	8.9	10.6[3]	13.1[6]
Weight, empty (lb)	1.46	2.12	1.88	1.4	1.75	2.25[2]	3.42[4]	3.96[7]
Barrel length (in)	3.63	4.8	4.57	3.3	4.25	5	4.4	Aprox 6
Magazine capacity (rd)	8	8	8	6	8	20	10 or 20	25 or 40
Operation	Blowback	Recoil	Recoil	Blowback	Recoil	Blowback	Blowback	Blowback
Fire-type	Semiautomatic					Selective	Selective	Selective
Muzzle velocity (m/sec)	315	400	420	310	395	340	305	325
Practical range (m)	50	50	50	50	50	50[5]	50[5]	50[5]
Rate of fire, semiautomatic (rpm)	35	35	35	30	35	40	35	40
Rate of fire, cyclic (rpm)	DNA[1]	DNA[1]	DNA[1]	DNA[1]	DNA[1]	750	835	600

[1]Does not apply.
[2]Pistol only; add 1.23 lb for holster-stock.
[3]20.2 in with stock extended.
[4]With empty 20-round magazine.
[5]With stock in use, 200 meters.
[6]Stock folded.
[7]With empty 25-round magazine.

Section II. SUBMACHINEGUNS

A. THE 7.62-MM MODEL 1941 SUBMACHINEGUN (PPSh-41)

55. General

a. The Model 1941 or PPSh-41 submachinegun (fig 33) was produced in enormous numbers by the Soviet Union during World War II and, after the war, was distributed to many nations in the form of Soviet military assistance. Although obsolete in the Warsaw Pact countries, the PPSh-41 is still used by many other Communist countries and has been manufactured in Hungary, Iran, North Korea, and the People's Republic of China. The native designations of these weapons are: the Hungarian 48M submachinegun; the North Korean Type 49 submachinegun; the PRC Type 50 submachinegun. The national origin of these weapons can usually be determined by the receiver markings. If these markings are obscured, the rear sight offers a major clue. Soviet and Iranian PPSh-41's and Hungarian 48M's have V-notched rear sights; the North Korean Type 49 and the PRC Type 50 have aperture rear sights. Minor changes can be found in the design of various components, depending on the time and place of manufacture. Because these changes do not affect the handling or operation of the weapon, this manual will not cover them in detail. One extensively altered gun, the North Vietnamese K-50M submachinegun, is covered in section II, subsection C. The Germans, during World War II, and the Iranians, after the war, converted some PPSh-41's to use the 9x19-mm Parabellum cartridge; these versions are now rarely found.

b. The PPSh-41 submachinegun is a blowback-operated, selective-fire, drum- or box-magazine-fed weapon with a fixed wooden butt stock. The magazines can be either the 35-round box-type or the 71-round drum-type; the box magazine is

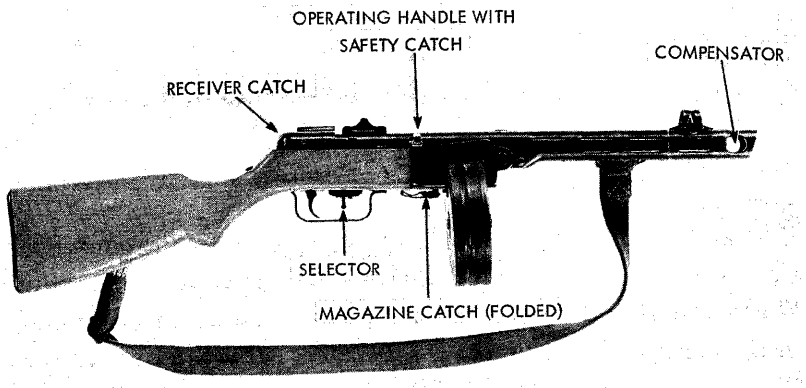


Figure 33. Soviet Model 1941 submachinegun (PPsh-41).

preferred. These are simple, rugged, reliable weapons manufactured from heavy-gauge steel stampings with a minimum number of machined parts. The barrel jacket protrudes beyond the muzzle, has an inclined face, and is vented at its front top and sides to serve as a combined muzzle brake and compensator. The front sight is screw adjustable for elevation zero, and can be moved from side to side for windage zero. All the PPSh-41 type submachineguns fire the 7.62x25-mm pistol cartridge.

56. Technical Data

Technical data concerning the PPSh-41 submachinegun will be found in table IV.

57. Operation

To operate the PPSh-41 type weapons:

a. Load a box magazine with 35 cartridges in the same manner as in paragraph 3a. The use of a screwdriver or similar tool to depress the top cartridge in the magazine before loading the

next cartridge will facilitate magazine filling. Load a drum magazine by pressing in the button in the center rear of the drum and swinging down the latch on the front cover of the drum (fig 34). Lift off the cover and latch. Grasp the cruciform rotor in the center of the drum and wind it counterclockwise as far as possible, then turn the spiral track insert counterclockwise as far as possible. Place 71 cartridges, bullet end up, into the spiral tracks. When all of the cartridges are in place, grasp the rotor again and turn it slightly counterclockwise against its spring; at the same time, press in on the button and then ease the rotor clockwise until it stops. Replace the cover on the magazine, again press the button, and swing the latch up to its locked position.

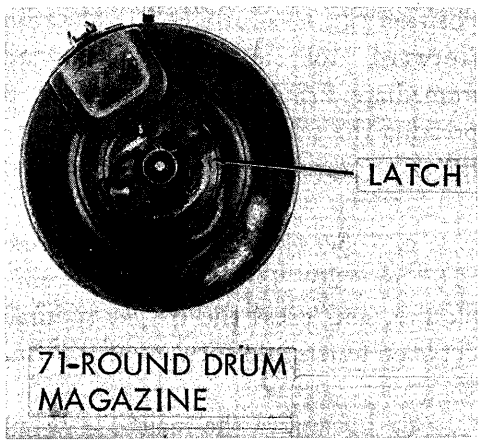


Figure 34. 71-round drum magazine for PPsh-41.

b. Load the submachinegun by inserting a loaded magazine into the magazine opening and slide it up into place until the magazine catch engages.

Note: Drums are not always interchangeable; if a drum magazine is used and the serial numbers on the drum and on the gun do not coincide, the drum/gun combination should be test fired prior to use. Slide the safety catch (fig 33) on the operating handle outward, if necessary, and draw the handle fully to the rear.

CAUTION: The submachinegun is now ready to fire!

Position the selector (fig 33) according to the type of fire desired (forward for automatic, rearward for semiautomatic). If immediate firing is not anticipated, place the weapon on safe by pressing the safety catch inward into the slot in the receiver. Slide the safety catch out to the ready position when ready to fire.

c. Set the sight for the desired range by flipping the leaf to "10" or "20" (100 or 200 meters); aim, using a normal sight picture, and press the trigger to fire. The bolt will remain open between bursts and forward after firing the last round.

d. Remove the magazine by unfolding the magazine catch (fig 35) and pressing it forward, toward the magazine; simultaneously pull the magazine straight down and out of the magazine opening.

e. Clear the weapon by removing the magazine and retracting the bolt. Insure that no cartridges are present; then, while holding the operating handle, press the trigger. Ease the bolt forward and slide the safety catch inward to lock the bolt. Insert the magazine.

58. Disassembly and Assembly

a. To disassemble the PPSh-41 type submachineguns for routine care and cleaning:

(1) Clear the gun (para .57e), but do not insert the magazine.

(2) Press in on the receiver catch at the rear of the receiver and swing the barrel down (fig 35).

(3) Grasp the operating handle, pull it rearward and upward, and rotate the bolt, driving spring assembly, and buffer

up and out of the receiver. The bolt must be pulled slightly back against the driving spring while doing this.

(4) The driving spring assembly can now be pulled from the bolt, and the buffer can be removed from the driving spring assembly.

(5) If necessary, the trigger mechanism can be removed for cleaning by unscrewing the large screw behind the receiver catch and pulling the trigger mechanism down, out of engagement with the receiver.

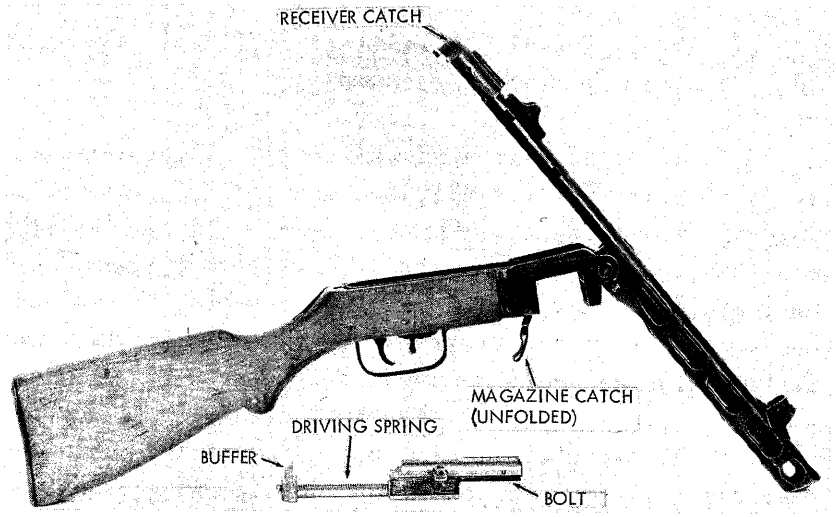


Figure 35. PPsh-41 field stripped.

(6) No further disassembly is necessary or desirable.

b. To reassemble the submachinegun:

(1) First engage the lugs on the front of the trigger mechanism with the receiver; then swing the mechanism up into place. Retighten the screw.

(2) Insert the driving spring assembly into the bolt and place the buffer, flat side toward the bolt, over the spring. Place the tapered end of the driving spring assembly into the hole in the rear wall of the receiver and pull the bolt back, against the force of the driving spring, until it can be swung into position in the receiver.

(3) Swing the receiver shut and insure that the receiver catch is engaged.

59. Functioning

a. The PPSh-41, 48M, Type 49, and Type 50 submachineguns are blowback operated.

b. The firing cycle starts with the bolt caught to the rear by the sear (fig 36). Pressure on the trigger causes the sear (21) to disengage from the bolt. The force of the driving spring drives the bolt forward. The feed rib on the bolt strikes the top cartridge in the magazine and drives the cartridge out of the magazine and into the barrel. The extractor snaps into the rim of the cartridge, and the fixed firing pin ignites the primer.

c. The recoil of the fired cartridge forces the bolt to the rear; this, in turn, compresses the driving spring. The fired cartridge case is held to the bolt by the extractor until the case strikes the fixed ejector (15); the case then swings around the extractor and is expelled. The bolt continues to the rear until it is stopped by the buffer; the driving spring then drives the bolt forward.

d. The sear, which holds the bolt cocked, is a pivoted, spring-loaded bar with a step (19) in its rear surface. The trigger has a forward-projecting, spring-loaded trigger pawl (24) mounted

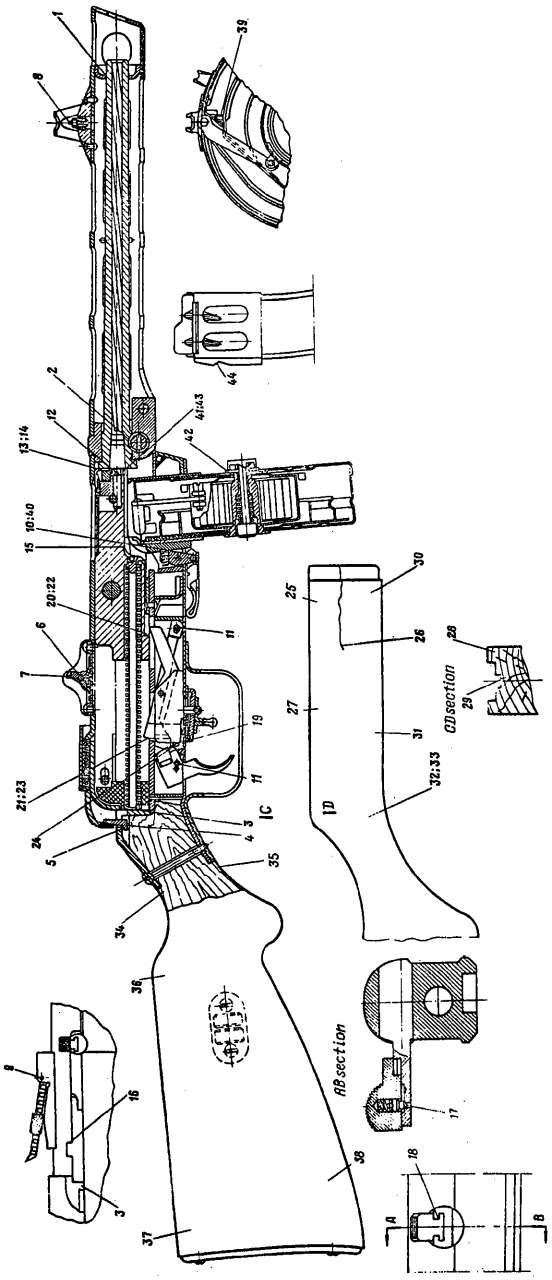


Figure 36. PPsh-41 section.

in its top side. This pawl mates with the step on the sear and serves to depress the sear when the trigger is pressed. A pivoting disconnector (20) is mounted on the selector and moves back and forth with the selector. When the selector is forward, the disconnector projects into the bolt path, and the rear of the disconnector just touches the trigger pawl.

e. When the bolt is retracted, the spring-loaded sear snaps into the bolt's sear notch and holds it to the rear. Pressure on the trigger causes it and the trigger pawl to rotate, and the pawl contacts the step on the sear. Continued movement of the trigger depresses the sear to release the bolt. If the selector is forward (in the automatic position), the sear will remain depressed, and the gun will continue to fire until the trigger is released and the sear reengages the bolt. When the selector is rearward (in the semiautomatic position), the initial action of the trigger is the same; the pawl depresses the sear, and this releases the bolt. As the bolt goes forward, it contacts the now protruding disconnector, forcing it down and rotating it about its pivot. The rear end of the disconnector is cut at an angle. This angled surface forces the trigger pawl back, out of engagement with the sear; the sear is freed and snaps up to engage the bolt after each shot. To fire a second shot, the trigger must be released to allow the trigger pawl to rise and reengage the sear.

f. The safety catch, when on safe, in either the rearward or forward position of the bolt, mates with a notch in the operating handle slot and thus prevents movement of the bolt.

60. Accessories

The following accessories are available for use with the PPSh-41 type submachineguns:

(1) Sling.

(2) Two-section T-handled cleaning rod carried in the butt.

(3) T-shaped folding screwdriver, also carried in the butt.

(4) T-shaped wrench for adjusting the front sight.

(5) Magazine filler for 35-round magazines (fig 37).

(6) Standard Soviet-pattern two-compartment oil-and-cleaning-solvent container.

(7) Magazine carriers, appropriate to the type of magazine used.

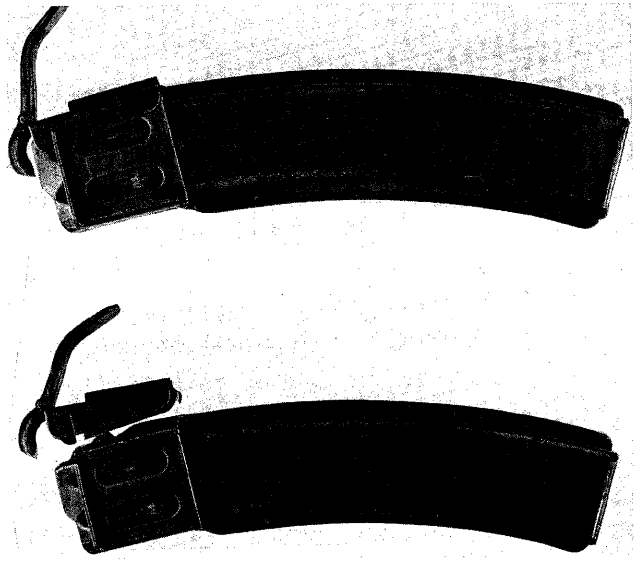


Figure 37. Magazine loader for PPsh-41.

B. THE 7.62-MM MODEL 1943 SUBMACHINEGUN (PPS-43)

61. General

a. The Model 1943 submachinegun (fig 38) was produced during World War II by the Soviet Union, primarily for parachutists who found the fixed-stock PPSh-41 too unwieldy for airborne operations. The PPS-43, now obsolete in the Soviet

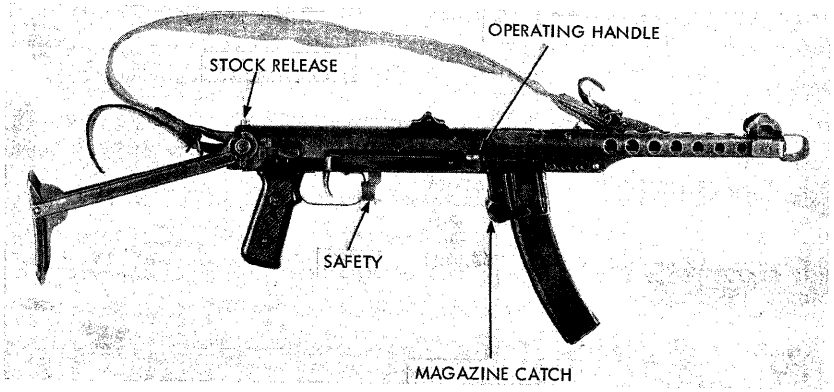


Figure 38. Soviet Model 1943 submachinegun (PPS-43).

Army, is still used by many Eurasian Communist countries and has been manufactured in Poland as the Model 43/52 submachinegun and in the People's Republic of China as the Type 43 Copy submachinegun; this latter weapon has often been erroneously referred to as the Type 54 submachinegun. Except for markings, the Soviet and the PRC guns are identical; the Polish Model 43/52 is readily recognizable by its lengthened receiver and its fixed wooden butt (fig 39).

b. All versions of the PPS-43 submachineguns are blowback-operated, automatic, box magazine-fed weapons and (except for the Polish Model 43/52) have folding metal butt stocks. These weapons have a low cyclic rate of fire and, although

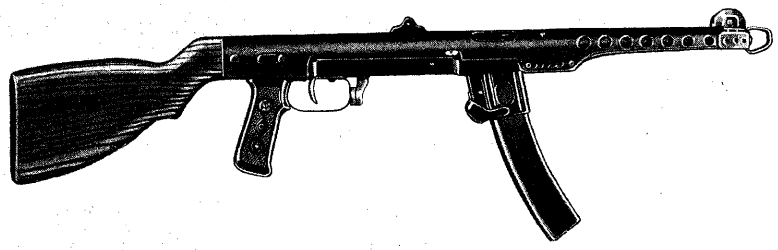


Figure 39. Polish Model 43/52 submachinegun.

they are fully automatic, single shots can be fired by skillful trigger manipulation. The weapons are constructed almost entirely from steel stampings and have very few machined parts. A sheet metal muzzle brake-compensator is attached to the front of the barrel jacket to stabilize the gun during bursts of fire. The 35-round box magazines are peculiar to the PPS-43 and cannot be interchanged with the magazines for the PPSh-41. The PPS-43, Model 43/52, and Type 43 Copy submachines all fire the 7.62x25-mm pistol cartridge (sec VI).

62. Technical Data

Technical data concerning the PPS-43 submachinegun will be found in table III.

63. Operation

To operate the PPS-43 type weapons:

a. Load a magazine with 35 cartridges in the same manner as described in paragraph 3a.

b. While the gun can be fired with the stock folded, best results are obtained by using the stock to brace the weapon.

Depress the stock release at the top rear of the receiver; grasp the butt plate and pull the stock assembly up and back until it locks in position. Then rotate the butt plate into position.

CAUTION: The gun is now ready to fire!

c. Insert a loaded magazine into the magazine well until caught by the magazine catch. Pull the operating handle fully rearward and ease it forward until it is caught by the sear.

d. The safety (fig 38) can be applied by pressing its fingerpiece (alongside the trigger guard) rearward and upward. A reversal of this motion takes off the safety.

e. Set the sight for the desired range (10=100 meters, 20=200 meters); aim, using a normal sight picture, and press the trigger to fire. The gun will continue to fire as long as the trigger is depressed; single shots can be fired by pressing and rapidly releasing the trigger. The bolt will close on an empty chamber when the last round is fired.

f. Remove the magazine by pressing the magazine catch (fig 38) forward and withdrawing the magazine.

g. The stock can be folded by rotating the butt plate three-fourths of a turn into its closed position; then, after depressing the stock release, swing the entire metal butt stock up and forward.

h. Clear the weapon by removing the magazine and retracting the bolt. After ensuring that no cartridges are present in the receiver, hold the operating handle, press the trigger, and ease the bolt forward. Apply the safety and insert the magazine.

64. Disassembly and Assembly

a. To disassemble the PPS-43 type submachineguns for routine care and cleaning:

(1) Clear the gun (para 63h above), but do not apply the safety or insert the magazine.

(2) Press in on the receiver catch at the lower rear end of the receiver; then swing the lower receiver down (fig 40). Pull the operating handle slightly rearward and then swing the bolt downward, out of the receiver. Pull the driving spring assembly sideward, out of the bolt.

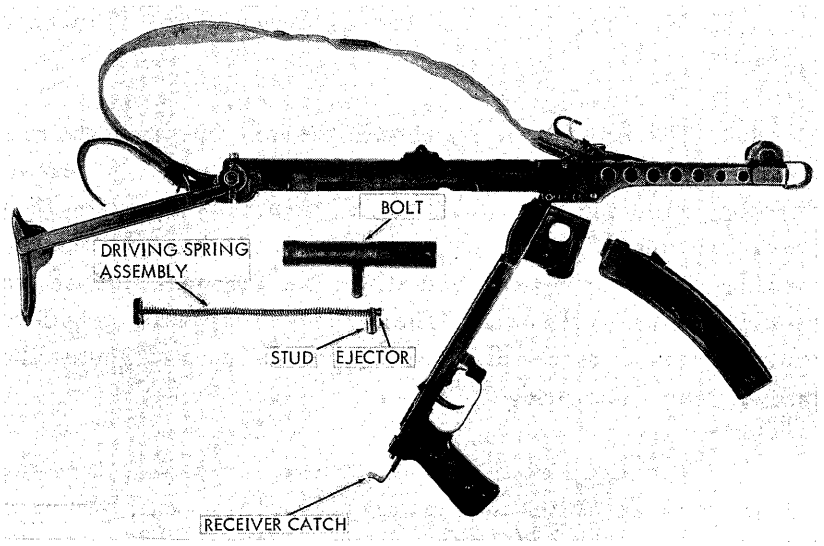


Figure 40. PPS-43 field stripped.

(3) No further disassembly is necessary or desirable.

b. To reassemble the submachinegun:

(1) First, insert the stud of the driving spring assembly into the bolt, with the spring in the groove in the side of the bolt.

(2) Hold the bolt and the driving spring assembly at about a 90° angle to the receiver, and with the flat edge of the metal and fiber buffer pad to the rear of the gun, place the buffer over the foremost crosspiece at the rear of the receiver. Retrac the bolt slightly and swing it into the receiver.

(3) Swing the lower receiver up, press on the receiver catch, and completely close the lower receiver.

65. Functioning

a. The PPS-43 type submachineguns are blowback operated.

b. The firing cycle starts with the bolt caught to the rear by the sear (fig 41). Pressure on the trigger causes the sear to disengage from the bolt, and the force of the driving spring then drives the bolt forward. The feed rib on the bolt strikes the top cartridge in the magazine and drives the cartridge out of the magazine and into the barrel. The extractor snaps into the groove of the cartridge as the fixed firing pin strikes and ignites the primer, firing the cartridge.

c. The recoil of the fired cartridge drives the bolt to the rear and compresses the driving spring. The fired cartridge case is held to the bolt by the extractor until it strikes the ejector on the end of the driving spring guide (fig 41). The cartridge then pivots around the extractor and is expelled. The bolt continues to the rear until it is stopped by the buffer; the driving spring then drives the bolt forward.

d. The sear, which holds the bolt cocked, is a stamping with its front edge seated against a shoulder in the lower receiver.

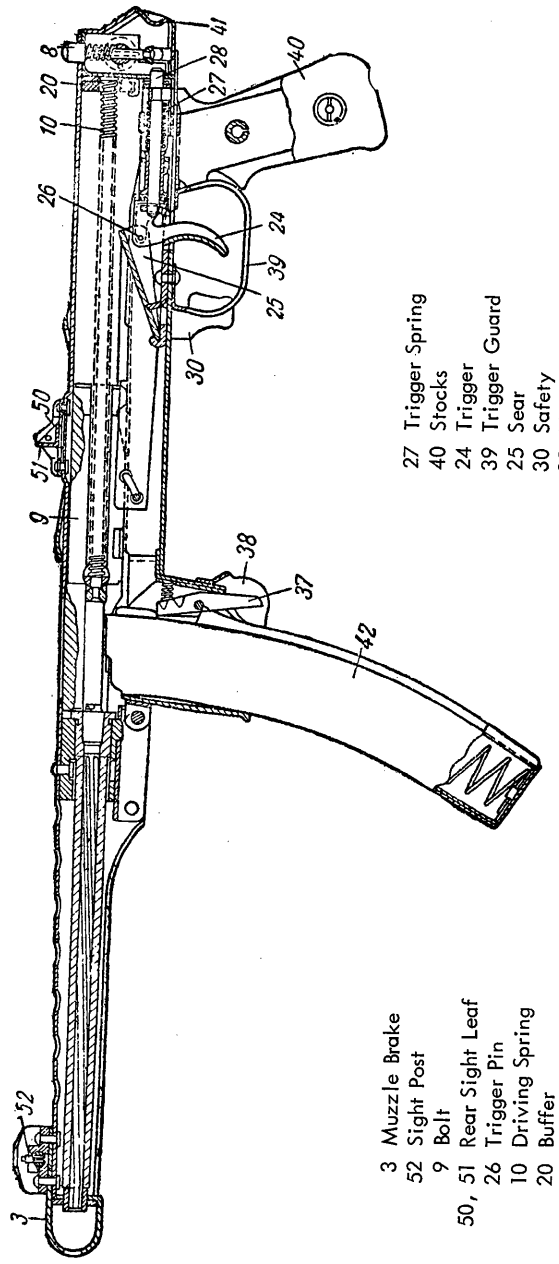


Figure 41. PPS-43 section.

The trigger is pivoted to the rear end of the sear. The front of the receiver locking plunger (28) passes through a hole in the trigger, and the spring-loaded trigger return collar (mounted on the pin) bears against the rear of the trigger. See figure 41 for a sectional view of the trigger mechanism.

e. When the trigger is pressed, the receiver locking plunger, where it passes through the trigger, serves as a point about which the trigger pivots. As the trigger pivots, its upper end rotates forward and downward, and because it is pinned to the sear, the sear is depressed and releases the bolt. As the trigger is pressed, the trigger return collar is forced to the rear, compressing its spring. When the trigger is released, the collar and its spring force the trigger forward; this moves the sear up so that is can reengage the bolt.

f. The safety is a flat steel strip with a fingerpiece and two slots (an angular slot at its front end and a wedge-shaped slot at its rear end). The pin that connects the trigger to the sear protrudes from the right side of the sear into the wedge-shaped slot. When the safety is forward, the pin is in the larger end of the cut and can move freely; however, when the safety is moved to the rear, the pin is prevented from moving by the smaller end of the slot, and thus the trigger cannot be pulled. The angular slot at the front of the safety rides on a fixed crosspin in the receiver and causes the safety to rise and lower as it moves. When the safety is moved rearward to the safe position, the safety rises, engages the operating handle, and prevents any movement of the bolt, whether the bolt is forward or rearward.

66. Accessories

The only accessories issued for use with the PPS-43 are:

(1) Sling.

(2) Two-section T-handled cleaning rod.

(3) Standard Soviet pattern two compartment oil and cleaning solvent container.

C. THE 7.62-MM K-50 MODIFIED SUBMACHINEGUN (K-50M)

67. General

a. The K-50 modified submachinegun (fig 42) is an extensively altered PRC type 50 submachinegun that is used by the Viet Cong in Vietnam. The most obvious changes are the sliding metal butt stock, the short barrel jacket that eliminates the original muzzle brake-compensator, and the wooden pistol grip. The lower receiver has also been reshaped.

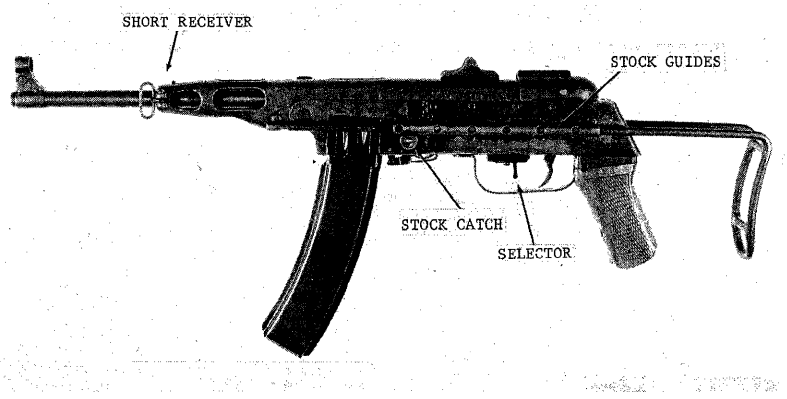


Figure 42. North Vietnamese K-50M submachinegun.

b. The K-50 Modified submachinegun is a blowback-operated, selective fire, box magazine-fed weapon equipped with a telescoping metal butt stock. This gun fires PRC

7.62x25-mm Type 50 pistol cartridges or Soviet 7.62x25-mm Type P pistol cartridges (sec VI).

68. Technical Data

Technical data concerning the K-50 Modified submachinegun will be found in table III.

69. Operation and Functioning

The K-50 Modified submachinegun is operated and functions exactly like its parent weapon, the PRC Type 50 submachinegun. See paragraphs 57, 58, and 59 for information. An additional feature, the telescoping stock, is operated by pressing in the stock catch at the front of the guides (fig 42) and sliding the stock to the desired position.

D. THE 9-MM VZOR 23 AND VZOR 25 SUBMACHINEGUNS AND THE 7.62-MM VZOR 24 AND VZOR 26 SUBMACHINEGUNS (Vz23, Vz25, Vz24, and Vz26)

70. General

a. The 9-mm Vzor 23 and 25 submachineguns (fig 43) and the 7.62-mm Vzor 24 (fig 44) and 26 submachineguns are all mechanically similar variations of the same weapon. The Vz23 and 24 both have fixed butt stocks, but they fire different cartridges, the Vz25 and 26 have folding metal butts, and also fire different cartridges. The main design change, other than those occasioned by the different cartridges, is at the rear of the receiver. Early Vz23 and 25 weapons have a machined band, for mounting the rear sight and stock, encircling the receiver; late production Vz23 and 25's and all Vz24 and 26's have brackets (fig 44) welded to the receiver for mounting the sight and stock. The magazines of the Vz24 and 26 submachineguns have a pronounced forward slant when they are inserted.

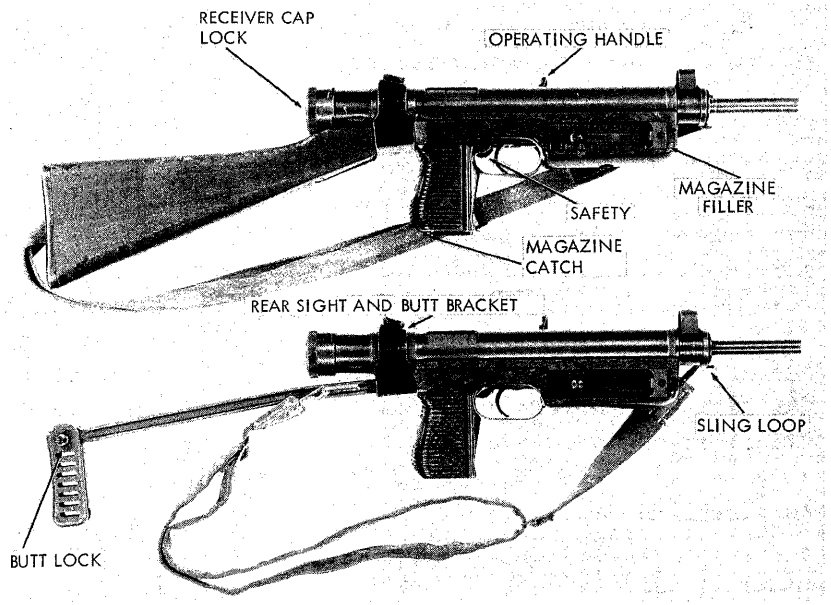


Figure 43. Czechoslovak Vz23 (top) and Vz25 submachinegun.

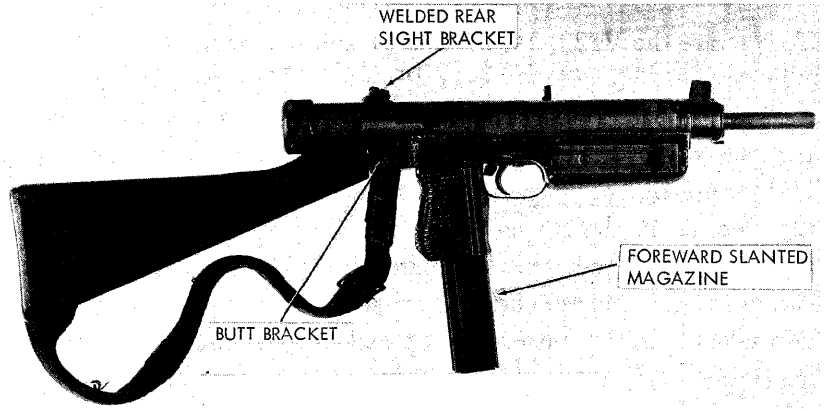


Figure 44. Czechoslovak Vz24 submachinegun.

b. These guns are all blowback-operated, selective fire, box magazine-fed weapons. The 9-mm magazines are made in 24- and 40-round versions; the 7.62-mm magazine holds 32 rounds (fig 45). The type of fire, fully automatic or semiautomatic, is governed by the trigger pull—a light pull fires one shot and a heavy pull fires continuously. The unusual bolt is very long and heavy; but, because it telescopes over the barrel, the overall length of the gun is quite short. An automatic safety lock (the operating handle) locks the bolt forward to prevent the gun from firing accidentially if it is dropped. An integral magazine filler is mounted on the right side of the forestock (fig 43). The Vz23 and 25 submachineguns fire 9x19-mm Parabellum-type cartridges; the Vz24 and 26 fire 7.62x25-mm pistol cartridges (sec VI).

71. Technical Data

Technical data concerning the Vz23, 24, 25, and 26 submachineguns will be found in table III.

72. Operation

To operate the Vz23, 24, 25, and 26 submachineguns:

a. Load a magazine by using the technique described in paragraph 39a or, if clipped ammunition is available, place a clip, bullets up, on the magazine filler (fig 46). Place the magazine on the filler, with the rib on the rear wall of the magazine in the slot in the filler. Press the magazine forward. This will strip the cartridges off the clip and into the magazine; at the same time, the clip will be driven out of the clip exit. Repeat this action until the magazine is full.

b. Insert a loaded magazine into the magazine well in the pistol grip until the magazine catch engages.

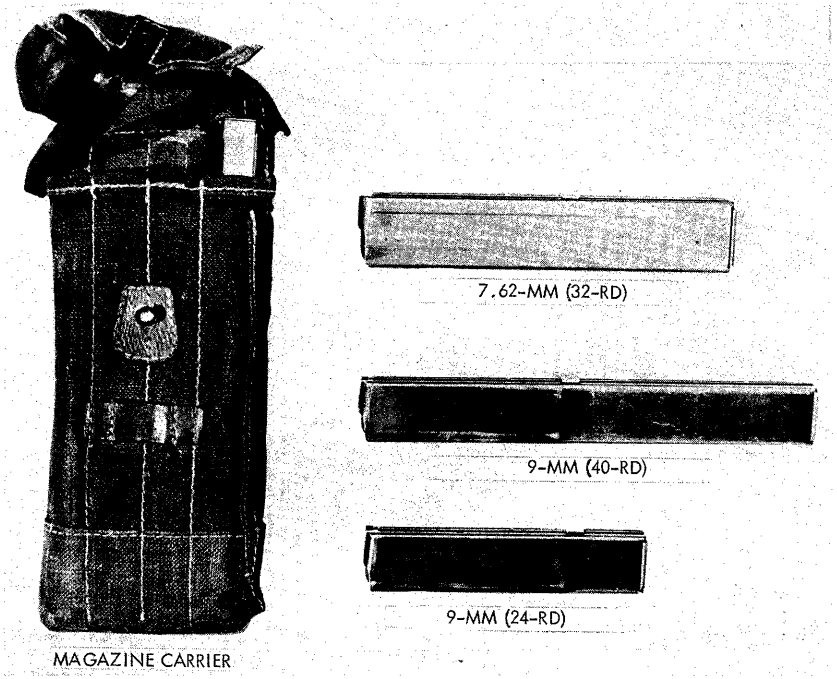


Figure 45. Czechoslovak submachinegun magazines.

c. With an initial slight upward motion, pull the operating handle (fig 43) fully to the rear.

CAUTION: The submachinegun is now ready to fire!

d. For accuracy, the folding stocks of the Vz25 and 26 should be used to steady the guns when firing. Press in on the butt lock (fig 43) and turn the butt to disengage it from the sling loop; then swing the stock toward the rear until it locks into postion.

e. Set the rear sight for range (100, 200, 300, or 400 meters) by rotating it; push the safety to the left; aim, using a normal sight picture, and press the trigger. Pressing the trigger

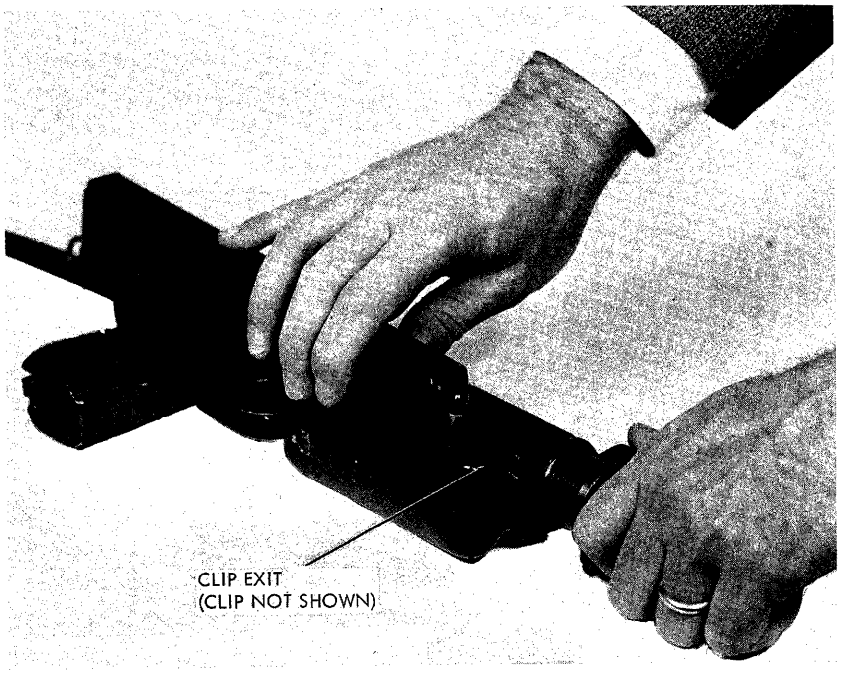


Figure 46. Using magazine filler to load magazine.

lightly will cause the weapon to fire once; pressing it over its full travel causes the gun to continue to fire. The bolt will be forward after the last round is fired.

f. Remove the magazine by pressing on the magazine catch located at the bottom rear of the pistol grip, and pulling the magazine out of the gun.

g. Fold the stock by pulling the entire stock slightly to the rear against its locking spring; then swing it to the left. Press the butt lock and turn the butt until it slips over the sling eye. Rotate the butt down for use as a handgrip, or swing it up to allow the gun to be fired through a small aperture.

h. Clear the submachinegun by removing the magazine (f above) and retracting the bolt. Insure that no cartridges are present; then, while holding the operating handle, press the trigger. Ease the bolt forward, set the safety to safe, and insert the magazine.

73. Disassembly and Assembly

a. To disassemble the Vz23, 24, 25, or 26 submachineguns for routine care and cleaning:

(1) Clear the gun (para 72h), but do not insert the magazine or apply the safety latch.

(2) Using a cartridge, punch, or similar item, press in the receiver cap lock in the middle of the receiver cap (fig 43). Rotate the receiver cap to disengage it from the receiver and remove it.

(3) Pull the operating handle to the rear to start the driving springs out of the back of the receiver. Grasp the round plate and pull the bolt assembly out of the receiver.

(4) If this weapon is the Vz25 or 26 submachinegun, unfold the stock. On all guns, unscrew the barrel locking nut (fig 47), using the front of the bolt as a wrench, if necessary, and pull the barrel out of the receiver.

(5) No further disassembly is necessary or desirable.

b. To reassemble the submachinegun the following action must be taken:

(1) Place the sling eye into the front of the receiver, with the tab pointing forward. Slide the barrel into the receiver,

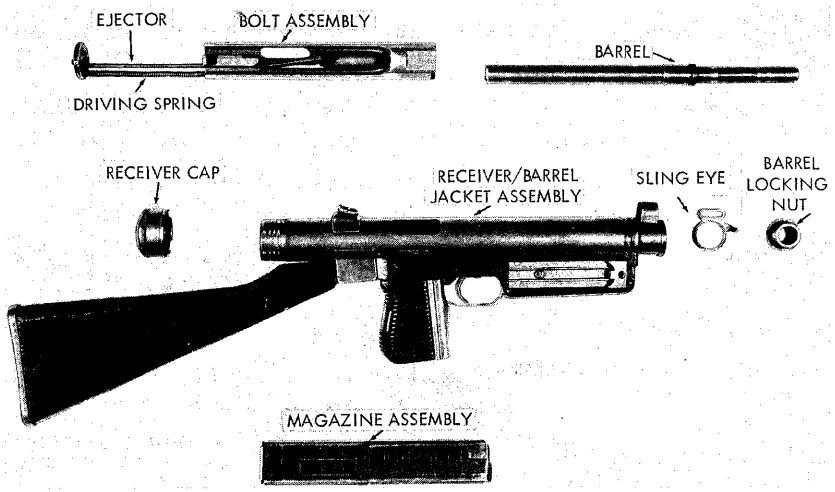


Figure 47. Vz24 submachinegun disassembled.

and rotate the barrel until it mates with its key. Screw the barrel nut tight, using the bolt as a wrench.

(2) Start the bolt assembly into the receiver; pull the trigger and slide the bolt fully forward.

(3) Place the receiver cap on the end of the receiver, force it forward against the driving spring, and rotate it until it locks.

74. Functioning

a. The Vz23, 24, 25, and 26 submachineguns are blowback operated. The firing cycle starts with the bolt caught to the rear by the sear. Pressure on the trigger causes the sear to disengage from the bolt. The force of the driving spring drives the bolt forward. The feed rib on the bolt strikes the top cartridge in the magazine and forces the top cartridge out of the magazine and into the barrel. The extractor snaps into the groove of the

cartridge as the fixed pin strikes and ignites the primer to fire the cartridge.

b. The recoil of the fired cartridge forces the bolt to the rear, compressing the driving spring. The fired cartridge case is held to the bolt by the extractor until the case strikes the ejector (fig 47). At this instant, the ejection ports in the bolt and receiver are aligned with each other, and the cartridge case pivots about the extractor and is thrown out the ejection ports. The bolt continues to the rear until it strikes the plate on the driving spring assembly; the driving spring then drives the bolt forward again.

c. On the left side of the sear, a small projection extends into the receiver, and a short spring-loaded sear plunger extends rearward from the sear. Just below this plunger, a small ledge also projects rearward. A lug protrudes from the upper front side of the one-piece trigger. When the trigger is pressed, the lug rotates and contacts the sear plunger. As pressure continues, the sear is depressed, releasing the bolt. The sear plunger, because of the rotary motion of the sear and trigger, slips out from under the trigger lug, and the sear spring returns the sear to a position where it can catch the bolt. To fire another shot, the trigger must be released; as the trigger spring rotates the trigger back, the lug forces the sear plunger into the sear. When the lug passes the plunger, its spring forces the plunger out, under the lug. Pressure on the trigger will now fire another shot.

d. To fire automatically, the trigger must be pressed to the limit of its travel. The action in c above takes place; then the ledge on the sear contacts the lug of the trigger; as the trigger continues to rotate, the sear is again depressed and remains so until the trigger is released. Because the sear does not rise between shots, the weapon will continue to fire.

e. When the safety is on safe, a shoulder on the safety fits behind the trigger and prevents any trigger movement. The bottom rear edge of the sear has a projection that rests on the trigger. When the trigger is blocked by the safety, the trigger prevents any movement of the sear. A part of the sear that extends into the receiver projects into one of two semicircular cuts in the bolt, depending on whether the bolt is forward or rearward. Because the sear is blocked when the weapon is on safe, this projection locks the bolt in position.

75. Accessories

The only accessories issued with the Vz23, 24, 25, and 26 submachineguns are a fabric sling, a one-piece cleaning rod, and a four-pocket magazine carrier.

E. THE 9-MM SUBMACHINEGUN MODELS 1938 and 1940 (MP 38 AND MP 40)

76. General

a. The 9-mm submachineguns Model 1938 and 1940 (figs 48 and 49) were produced in large quantities by Nazi Germany prior to and during World War II. Enormous quantities of these weapons were captured by or surrendered to the Soviets and their satellites at the end of World War II; because of this, while these guns are no longer standard in any army, they are often encountered in the hands of irregular or insurgent units. The two weapons are almost identical in appearance; the prime recognition feature is the ribbed MP 38 receiver as opposed to the smooth MP 40 receiver. Both weapons have identity marks and serial numbers stamped into the cap at the rear of the receiver. The MP 41, a similar but now uncommon model, has a fixed wooden butt stock.

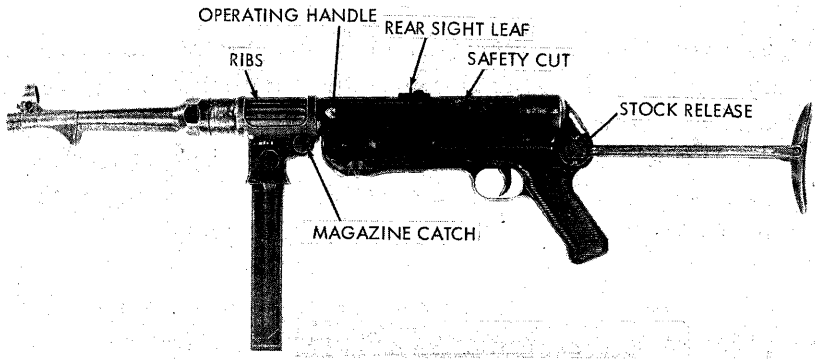


Figure 48. World War II German Model 1938 submachinegun (MP38).

b. The MP 38 and MP 40 are blowback-operated, fully automatic, box magazine-fed weapons and each is equipped with a folding metal shoulder stock. Box magazines holding 32 rounds are used for feeding, and the MP 38 and MP 40 fire only the 9x19-mm pistol cartridge (sec VI).

77. Technical Data

Technical data concerning the MP 38 and MP 40 submachineguns are given in table III.

78. Operation

a. Load the magazine with 32 cartridges. Place a cartridge on the follower with the cartridge base just ahead of the feed lips; press the cartridge down, against the force of the follower spring, and slide it rearward under the feed lips. After several cartridges have been loaded and the magazine spring has been compressed, loading additional cartridges is difficult. A magazine filler was made for these guns, but it is unlikely any will be available now. A

screwdriver with a quarter-inch blade can be used as an aid in loading. After each round is inserted into the magazine, place the edge of the screwdriver into the groove of the cartridge and press down. This will depress the follower and cartridges sufficiently to allow a fresh cartridge to be inserted under the feed lips without having to overcome the force of the magazine spring.

b. Insert the magazine into the magazine housing until the magazine catch (fig 48) engages and holds the magazine in place.

c. If the MP 38 or MP 40 is equipped with a safety latch on the operating handle (fig 48), move it outward as far as possible. Pull the operating handle fully rearward; then ease it forward until the bolt is caught by the sear.

CAUTION: The gun is now ready to fire!

d. If desired, the gun can be made safe by pulling the operating handle to the rear until it can be rotated up into the safety cut (fig 48).

e. The folding stock can be opened or folded by pressing the large, knurled, stock release at the left rear of the receiver (fig 48) and moving the stock to the desired position. The butt plate can be rotated into position.

f. To fire the weapon, first take if off safe by pulling the operating handle rearward and downward out of the safety cut; then ease the handle forward until the bolt is caught by the sear. Flip up the appropriate rear sight leaf, and using a conventional pistol-type sight picture, aim, and press the trigger. The gun will fire until the trigger is released or the magazine is empty. Best results are obtained with from three to five short bursts. The bolt will remain closed when the last round is fired.

g. Remove the magazine by pressing the magazine catch (fig 48) and pulling the magazine out of its housing.

h. If the gun is to be carried with a loaded magazine in place, remove the magazine (g above), press the trigger, and ease the bolt forward. Slide the safety latch (if present) inward, into engagement with the receiver. Reinsert the loaded magazine.

i. To clear the MP 38 or MP 40, remove the magazine (g above), retract the bolt and insure that no cartridges are present, press the trigger, and ease the bolt home. Engage the safety latch (if present) and insert the magazine.

79. Disassembly and Assembly

a. To disassemble either the MP 38 or MP 40 for cleaning, clear the weapon (para 78i), but do not insert the magazine or engage the safety latch. Unfold the stock (para 78e).

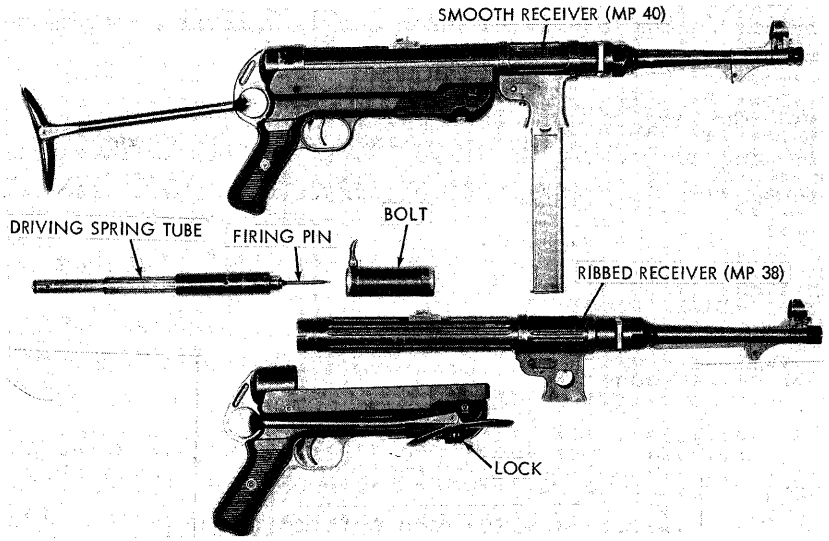


Figure 49. German Model 1938 (bottom) and Model 1940 submachineguns (MP38 and MP40) disassembled.

b. Pull out the lock located at the front end of the frame (fig 49) and twist it to keep it locked out. Hold the magazine housing firmly, press the trigger, and rotate the frame (by means of the pistol grip) to the right. The frame will disengage from the receiver; ease the frame rearward and remove it.

c. Pull the operating handle about 3 inches rearward and remove the telescoping driving spring tube and firing pin (fig 49). Draw the operating handle to the rear to remove the bolt.

d. No further disassembly is necessary or desirable.

e. To reassemble the gun, insert the driving spring tube and firing pin into the bolt, line up the operating handle with its cut in the left side of the receiver, and insert the complete bolt and driving spring tube. Mate the frame to the receiver.

Note: The pistol grip should be turned about 80° to the right of the magazine housing to insure that the front of the frame is engaged with the rear of the magazine housing.

Pull the trigger; turn the frame into line with the magazine housing; and release the trigger. Twist the lock so that it can reseat, and if necessary, twist the receiver slightly to seat the lock.

f. Fold the stock, insert the magazine, and if there is a safety latch, apply it.

80. Functioning

a. The MP 38 and MP 40 are blowback operated and have no positive locking between the bolt and receiver. The weight and inertia of the bolt hold the fired cartridge case in place until the bullet leaves the muzzle and propellant gas pressure subsides. The

rearward thrust of the fired cartridge, however, is sufficient to overcome the weight and inertia and force the bolt rearward against its driving spring.

b. When a loaded magazine is in place and the bolt is cocked, pressure on the trigger, which is transmitted through the trigger bar, rotates the sear out of engagement with the bolt (fig 50). The compressed driving spring drives the bolt forward; the feed rib on the bolt drives the top cartridge from the magazine into the barrel. As the bolt continues forward, the extractor snaps over the rim of the cartridge, and the firing pin, driven by its inertia and the force of the driving spring, strikes the primer and fires the cartridge. Acting like a piston, the fired cartridge drives the bolt rearward and compresses the driving spring. The extractor holds the cartridge case in place in the bolt face until the case strikes the fixed ejector (fig 50) in the rear of the magazine housing. Then the case is expelled through the ejection port. This cycle is repeated until the trigger is released or the magazine is emptied.

c. When the trigger is released, its spring moves it forward, and this action, in turn, moves the trigger bar forward to rotate the sear up to a point where the bolt can be engaged, and, thus, the firing can be stopped (fig 50).

d. When moved inward, the safety latch mates with a cut in the operating handle slot and mechanically locks the bolt forward. This action prevents accidental firing if the gun is dropped on its butt, because without the safety latch, the heavy bolt would move rearward sufficiently to strip a round from the magazine and fire it on the return stroke.

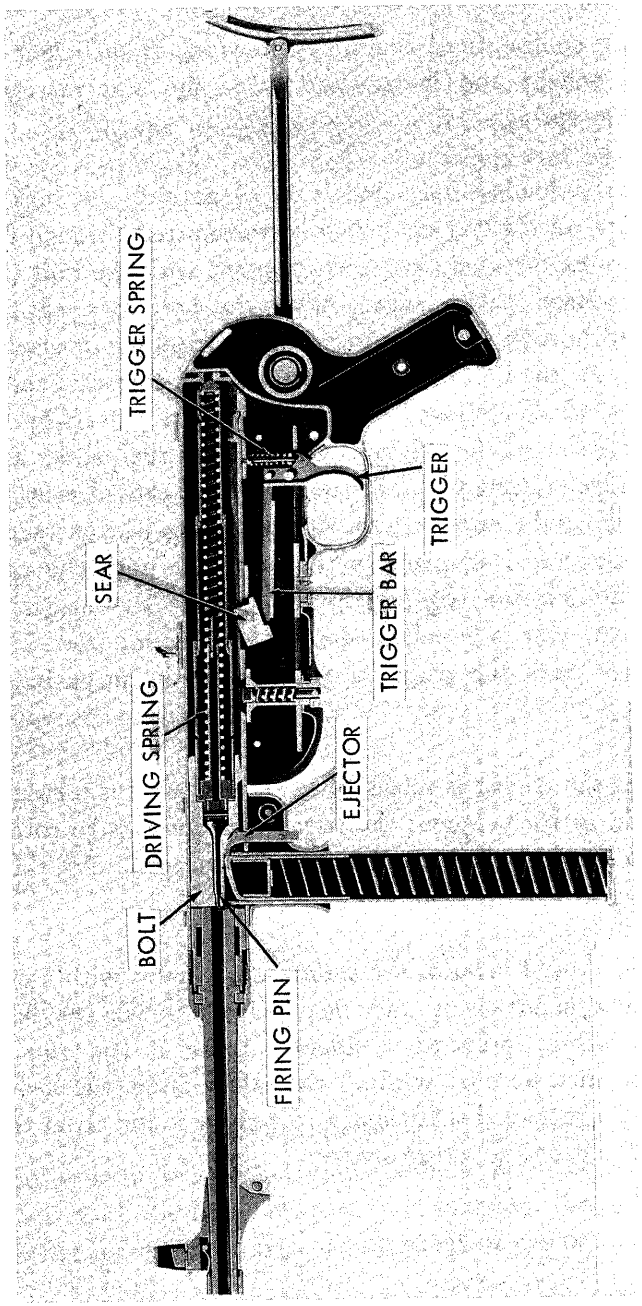


Figure 50. MP40 section.

81. Accessories

A sling, spare magazines, a magazine carrier, and a cleaning rod are usually available accessories.

F. MISCELLANEOUS SUBMACHINE GUNS

82. General

a. Some submachineguns used by Eurasian Communist forces, because of their relative scarcity, do not warrant full coverage in this guide, but must be included for identification purposes. This group includes the PRC Type 64 submachinegun, the North Vietnamese MAT-49 modified submachinegun, the Romanian M1941 "Orita" submachinegun and the Yugoslav M-49 and M-56 submachineguns.

b. Occasionally a submachinegun of World War II or earlier vintage is found in Communist hands. Information on these earlier weapons is readily available in standard reference texts such as Smith and Smith's *Small Arms of the World.*

83. The PRC 7.62-mm Type 64 Submachinegun

The PRC 7.62-mm submachinegun (fig 51) is a selective fire, blowback-operated, magazine-fed weapon equipped with an integral, Maxim-type silencer. The bolt mechanism is similar to that of the PPS submachinegun (para 61) and the trigger mechanism is similar to that of the ZB26 light machinegun (para 190). The PRC Type 64 submachinegun fires 7.62x25-mm cartridges and can be identified by its long slender outline, created by the silencer.

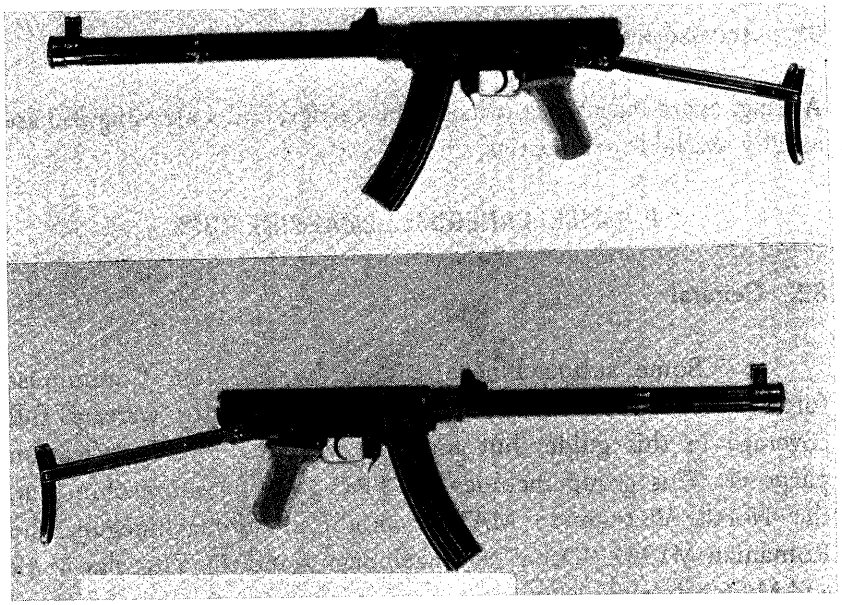


Figure 51. PRC Type 64 submachinegun.

84. The North Vietnamese 7.62-mm Modified M.A.T. 49 Submachinegun

The North Vietnamese 7.62-mm Modified M.A.T. 49 (fig 52) submachinegun is a French 9-mm M.A.T. 49 converted by the North Vietnamese to use 7.62x25-mm ammunition. Full details on the French gun will be found in ST-HB-07-163-74, *Small Arms Identification and Operation Guide—Free World.* The prime difference between the French and North Vietnamese gun is the longer barrel found on the 7.62-mm weapon.

85. The Romanian 9-mm M1941 Orita Submachinegun

The Romanian 9-mm M1941 Orita submachinegun (fig 53) is an old weapon used by People's Militia and Police units. This blowback-operated weapon fires automatically only and can be identified by its wood butt stock and prominent rear sight. The Orita fires 9x19-mm ammunition.

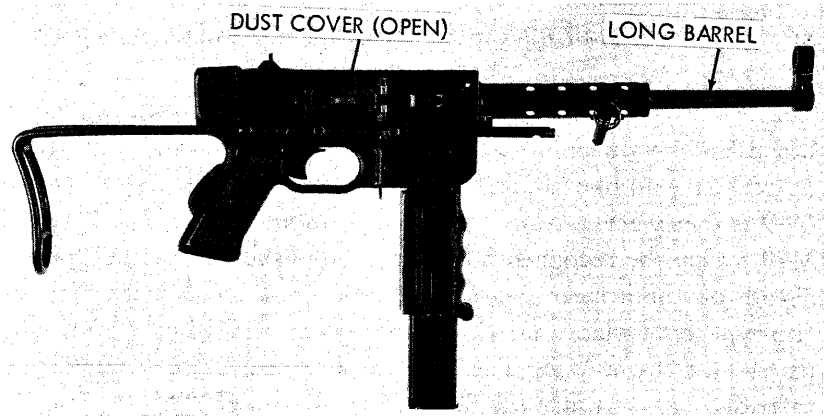


Figure 52. North Vietnamese modified M.A.T. 1949 submachinegun.

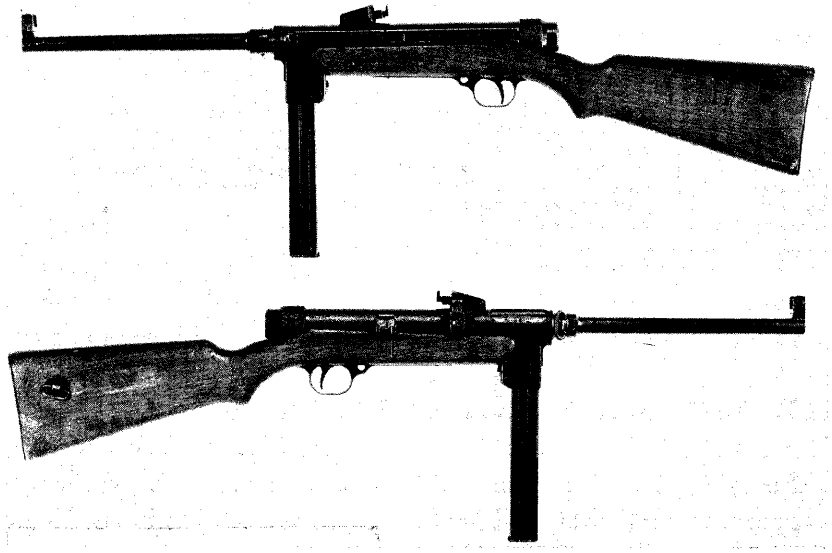


Figure 53. The Romanian M1941 Orita submachinegun.

86. The Yugoslav 7.62-mm M49 and M49/57 Submachinegun

The Yugoslav 7.62-mm M49 and M49/57 submachinegun are based on the design of the Soviet PPSh 41 submachinegun (para 55-59), but unlike the stamped metal Soviet gun, the Yugoslav M49 is constructed from machined or tubular parts. The M49 and M49/57 can be recognized by the large pushbutton safety located ahead of the trigger guard, its wood butt stock with German cup-type butt plate and the round, perforated barrel jacket with its slanted front end. The M49 and M49/57 fire 7.62x25-mm cartridges and can use the Soviet/PRC 35-round PPSh-41/Type 50 box magazines. The M49 and M49/57 differ only in minor details.

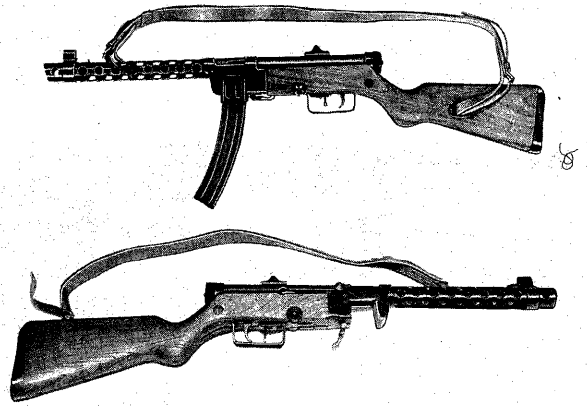


Figure 54. The Yugoslav M49 submachinegun.

87. The Yugoslav 7.62-mm M56 Submachinegun

The Yugoslav 7.62-mm M56 submachinegun is similar in appearance and design to the old German MP40 submachinegun (para 76) but is somewhat better made. The M56 is unusual in that it can accept a bayonet. This weapon can be recognized by its slender exposed barrel, tubular receiver and German style folding metal stock. The M56 fires 7.62x25-mm cartridges.

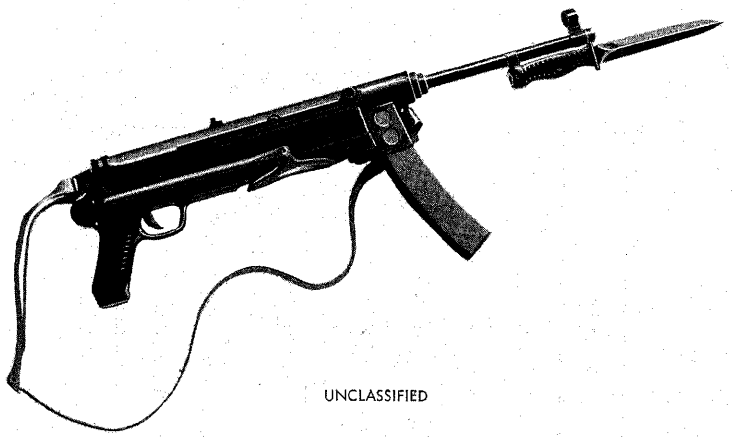


Figure 55. The Yugoslav M56 submachinegun.

G. MAINTENANCE OF SUBMACHINEGUNS

88. Care and Cleaning

The procedure and materials prescribed for cleaning standard US Army submachineguns also apply to Eurasian Communist submachineguns. These weapons should be disassembled only to the extent necessary for adequate cleaning, in order to prevent breakage and subsequent loss of use. No repairs, other than replacement of parts, should be attempted on foreign submachineguns, and this replacement should be done only by a competent armorer.

89. Malfunctions and Stoppages

Most malfunctions and stoppages are caused by defective magazines. Table III lists common problems and their remedies. Malfunctions caused by broken or worn parts can be corrected by replacing the defective parts with serviceable ones. This should be done only by a competent armorer, and the repaired weapon must then be function test fired.

Table III. Submachinegun Malfunctions

Condition	Cause	Remedy
Fails to fire (cartridge in chamber)	Defective cartridge	Retract bolt and fire
	Weak driving spring	Replace spring
Fails to fire (no cartridge in chamber)	Defective magazine	Replace magazine
	Short recoil	Clean and lubricate
	Fouled weapon	Clean and lubricate
Fails to eject	Fouled weapon	Clean and lubricate

Table IV. Submachinegun Technical Data

Weapon	Model 1941	Model 1943	K-50 Mod	Vzor 23 and Vzor 25	Vzor 24 and Vzor 26	MP38 and MP40
Short name	PPSh-41	PPS-43	K-50M	Vz23 and Vz25	Vz24 and Vz26	MP38 and MP40
Caliber (mm)	7.62	7.62	7.62	9	7.62	9
Length (in)	33.2	24.2[1]	22.56[6]	27[3]	27.0	32.8[7]
Weight, empty (lb)	7.7	6.6	7.5 approx.	7.2[4]	7.5	8.9
Barrel length (in)	10.6	9.5	10.6	11.2	11.2	9.9
Magazine-type	Box or drum	Box	Box	Box	Box	Box
Magazine capacity (rd)	Box-35 drum-71	35	35	24 or 40	32	3[3]
Operation	Blowback	Blowback	Blowback	Blowback	Blowback	Blowback
Fire-type	Selective	Automatic	Selective	Selective	Selective	Automatic
Muzzle velocity (m/sec)	500	500	500	450	550[5]	390
Practical range, semiautomatic (m)	200	DNA[2]	200	150	200	DNA[2]
Practical range, full automatic (m)	100	200	100	100	300	200
Rate of fire, semi-automatic (rpm)	40 to 50	DNA[2]	40 to 50	70	70	DNA[2]
Rate of fire, full automatic (rpm)	100	100	100	100	100	100
Rate of fire, cyclic (rpm)	900	650	900	650	700	400-500

[1] 32.7 in with stock extended.
[2] Does not apply.
[3] 17.5 in with stock folded.
[4] Vz25: 7.7 lb
[5] With Czechoslovak M48 cartridge.
[6] 29.75 in with stock extended.
[7] 24.8 in with stock folded.

Section III. ASSAULT RIFLES

A. THE 7.62-MM KALASHNIKOV ASSAULT RIFLE (AK-47)

90. General

a. Assault rifles are short, compact, selective-fire weapons that fire a cartridge intermediate in power between submachinegun and rifle cartridges. Assault rifles have mild recoil characteristics and, because of this, are capable of delivering effective full automatic fire at ranges up to 300 meters.

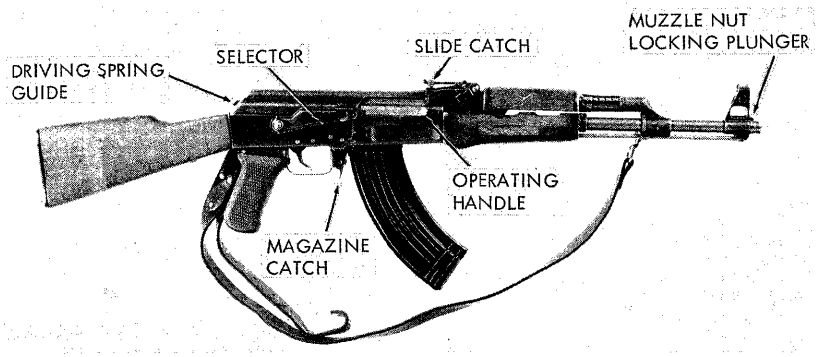


Figure 56. Typical AK-47 (Hungarian).

b. The Soviet designed Kalashnikov AK-47 assault rifle (fig 56), a gas-operated, selective fire, box magazine-fed weapon, was the major infantry arm for most Eurasian Communist countries. The Warsaw Pact Armies, however, have generally replaced the AK-47 with the similar, but improved, AKM assault rifle (sec III, subsec B). The AK-47 remains in wide use in Asia and is still used as a substitute standard weapon in most Warsaw Pact Armies. Large numbers of these weapons have also been passed to other

nations as military aid, and some have been supplied to insurgent groups. In addition to the Soviet Union, the People's Republic of China, East Germany, Poland, Bulgaria, Romania, North Korea, Hungary, and Yugoslavia have manufactured AK-47's. Finland produces a modified AK-47. The selector markings on the right side of the receiver provide a ready means of identifying the country of origin; refer to figure 57 for these markings.

Upper or Full Auto Symbol	Lower or Semi Auto Symbol	Producer	Native Name or Remarks
AB	O	Soviet	AK-47, AKM and AKMS
AB	E	Bulgaria	AK-47 and AKM
C	P	Poland	PMK, PMK-DGN, KbK AK
D	E	E. Germany	MPK, MPiKmS - Rifles do not have cleaning rods MPiKM and MPiKMS have cleaning rods
FA	FF	Romania	Has "S" at top for safe position
		Communist China	Early Production
L	D	Communist China	Type 56 and 56-1 Assault Rifle (Late Production)
∞	1	Hungary	
...		Finland	RYNNAKOKIVAARI - applies to M60 and M62
		North Korea	Types 58 and 68 Assault Rifle
R	J	Yugoslavia	M64 series - has U at top for safe position
30	1	Czechoslovakia	M58 Assault Rifle

Figure 57. Assault rifle selector markings.

c. The AK-47 is produced in two different basic models—one with a conventional, fixed wooden butt stock (fig 56) and the other with a folding, metal shoulder stock (fig 58). There also are early and late production variations of the Soviet model. The earliest models have a stamped sheet metal receiver, without the magazine guide dimples of the later stamped receiver AKM (para 97), but with two prominent rivet heads (fig 59). Few parts

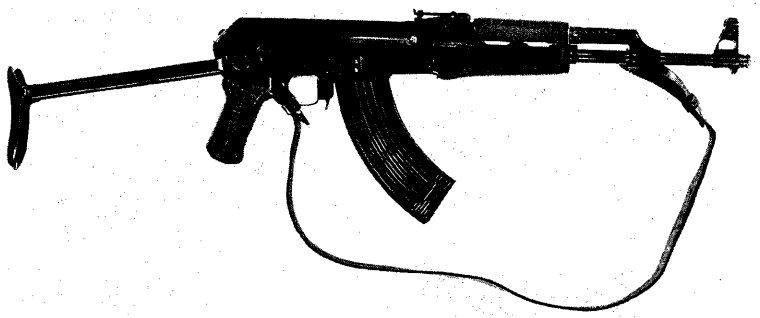


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Figure 58. Typical folding stock AK-47 (E. German).

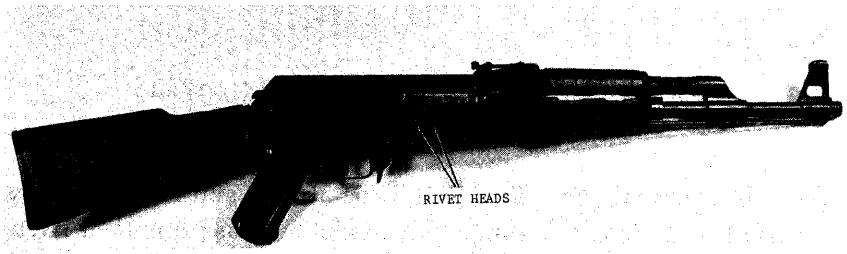

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Figure 59. Stamped receiver AK-47.

of this version are interchangeable with later models. The next earliest model has a built-up, machined receiver and is identified by the angular shape of the rear of the receiver, whereas the latest models have a straight rear end to the receiver (fig 60). The PRC Type 56 is identical to the late Soviet version; however, late production Type 56's now have a permanently attached folding

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Figure 60. Differences between late (top) and early model Soviet AK-47's.

spike bayonet (fig 61). The PRC Type 56-1 assault rifle (fig 62) is similar to the Soviet folding stock model but has prominent rivets in the stock arms. The Polish PMK is similar to the Soviet AK-47, but the PMK-DGN-60 (fig 63), for launching grenades, has a 20-mm diameter LON-1 grenade launcher threaded onto the

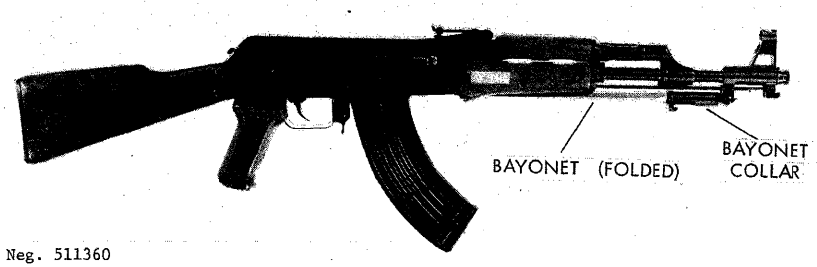

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Figure 61. Late model PRC Type 56 assault rifle.

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Figure 62. PRC Type 56-1 assault rifle.

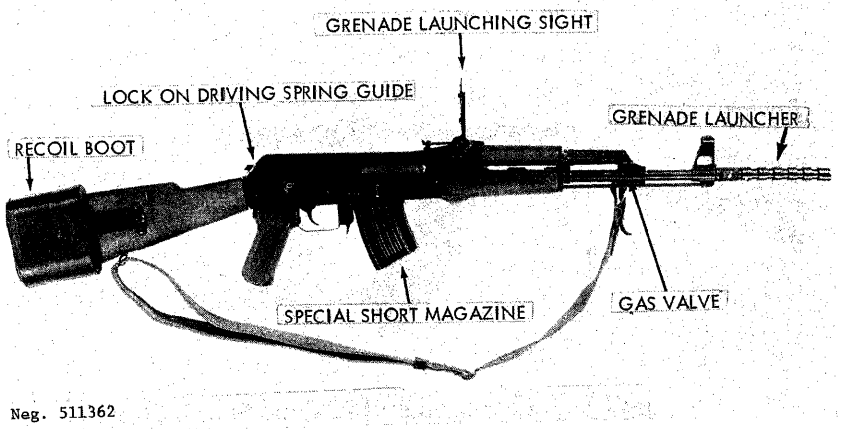

Figure 63. Polish PMK-DGN60 grenade launching rifle.

muzzle. The muzzle is coned to center the launcher; a gas cutoff valve is added to the gas cylinder; and a special grenade launching sight is attached to the regular rear sight. This rifle is fed from a special short 10-round magazine fillable only with launching cartridges, has a recoil absorbing butt pad fitted over the modified butt and a latch that has been added to the recoil spring guide. The Yugoslavian's version of the AK-47, their M64 assault rifle, is made in three models—the M64 with a 20-inch barrel and fixed wooden stock, the M64A with a 16.3-inch barrel and fixed wooden stock, and the M64B with a 16.3-inch barrel and a folding metal stock (fig 64). All versions are equipped with a folding grenade launching sight on the gas cylinder, a multiperforated compensator on the muzzle, and, unique among AK-47's, a hold-open device that catches the bolt rearward when the last cartridge in the magazine is fired. The grenade launching sight, when erected, cuts off the gas flow that normally actuates the rifle machanism. The Finnish M60 or M62 assault rifle (fig 65), while basically an AK-47, has a flash suppressor/bayonet mount, a front sight mounted on the gas cylinder, and an aperture rear sight located at the rear of the bolt cover. The Finnish guns have plastic forearms and tubular butts. East German AK-47's (fig 58) do not

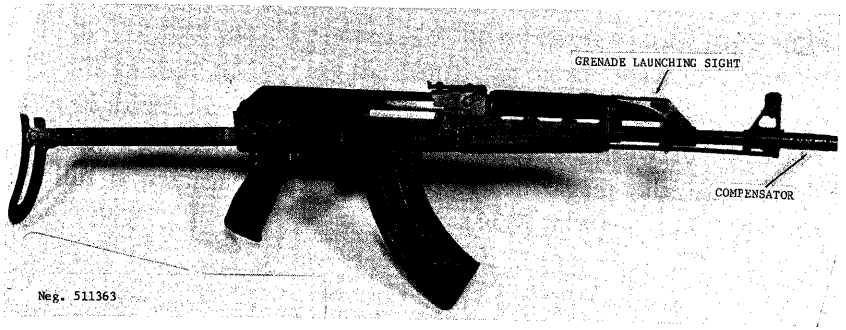

Figure 64. Yugoslav M64B assault rifle.

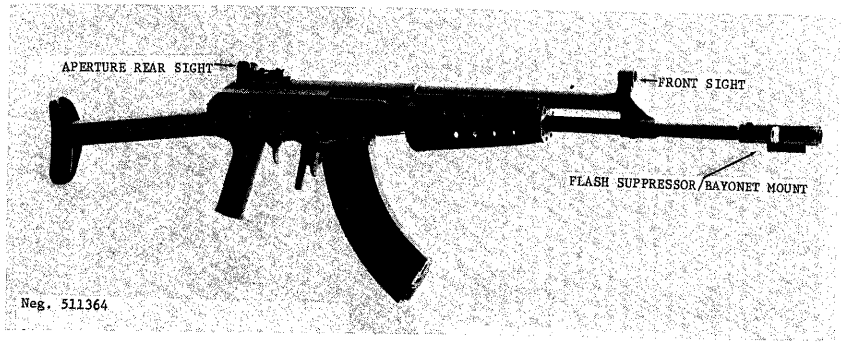

Figure 65. Finnish M60 assault rifle.

have cleaning rods under the barrel or a recess in the butt for the cleaning tools. Except for these specific changes and the selector markings, the Eurasian AK-47's are all similar.

d. All AK-47 type assault rifles fire the 7.62x39-mm M43 cartridge; refer to section VI. Whenever possible, cartridges made by the same country that produced the rifle should be used; this, however, is not mandatory.

91. Technical Data

Technical data concerning the AK-47 assault rifle will be found in table VI.

92. Operation

a. Load the AK-47 magazine by placing a cartridge on the magazine between the feed lips (fig 66) and pressing the cartridge down into the magazine. Repeat until the magazine is full (30 rounds; 20 in Yugoslav M64).

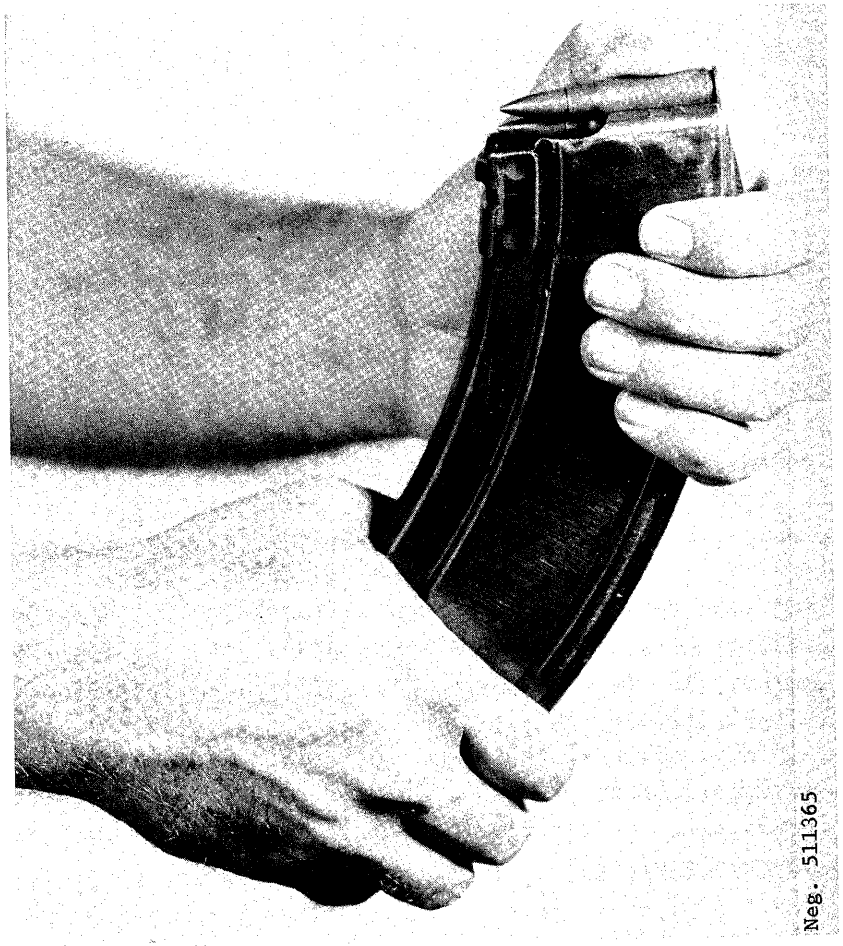

Figure 66. Loading the AK-47 magazine.

b. Insert the magazine into the receiver, canting it forward (fig 67) so that the lug on the top front of the magazine engages with its recess in the magazine well. Swing the magazine rearward until the magazine catch snaps into place.

Figure 67. Inserting magazine into the AK-47.

c. If necessary, press the selector (fig 56) down from the safe position; pull the operating handle fully to the rear and release it.

CAUTION: The rifle is now ready to fire!

(If rifle is a Polish PMK-DGN or Yugoslav M64 series, refer to paragraph 95 j, k, l, and m.)

d. Unless the rifle is to be fired immediately, put it on safe by moving the selector fully upward. This locks the trigger and bolt; however, the bolt can still be opened sufficiently to ascertain whether a round is in the chamber.

e. If the AK-47 is equipped with a folding stock, the best firing results will be obtained by using the stock to brace the rifle during firing. Press in the knurled stock latch (fig 57) and swing the stock rearward into position. The stock can be folded forward by reversing this action, but the stock latch has to be depressed before the stock can be moved.

f. Set the rear sight for the desired range by pressing the slide catch (fig 56) and moving the sight bar along the leaf until the front edge of the bar is aligned with the line below the number that corresponds with the range in hundreds of meters. The first character on the sight leaf is a battlesight setting, used in combat for shooting at ranges up to 300 meters.

g. The front sight is adjustable for zero. The front sight post can be screwed in or out of its base to adjust for elevation zero. (The wrench in the combination tool kit is used for this purpose (para 95b(2)). Lateral zeroing is done by moving the cylindrical front-sight post mount from side to side. Once a good zero is established, do not disturb the front sight.

h. If the rifle is a Yugoslavian M64, fold the grenade sight (fig 64) back along the gas cylinder for conventional firing.

i. To fire, move the selector to its middle position for full automatic fire, or to its bottom position for semiautomatic fire; then aim, using a normal sight picture, and press the trigger. The bolt will remain closed after the last round has been fired, except that on the Yugoslav M64's it will remain open when the last round is fired.

j. Remove the magazine by pressing the magazine catch (fig 56) toward the magazine; then swing the magazine forward and out of the receiver. Close the M64 bolt by pulling the operating handle slightly rearward and then releasing it.

k. To clear the AK-47, remove the magazine and pull the operating handle fully to the rear. Inspect the receiver and the chamber to insure that no cartridges are present; then release the operating handle. Press the trigger, press the selector up to the safe position, and insert the magazine.

93. Disassembly and Assembly

a. To disassemble the AK-47 for cleaning:

(1) Clear the weapon (para 92k) but do not insert the magazine or set the selector on safe.

(2) Press the serrated end of the driving spring guide (fig 56) into the bolt cover and, while holding the guide in, lift off the bolt cover, rear end first. If the rifle is a Polish PMK-DGN, press down and unlock the driving-spring guide lock (fig 63) before pressing the guide in; or if a Yugoslav M64, press in the lock at the left rear of the receiver before pressing the guide in.

(3) Press the driving-spring guide forward and disengage it from its seat; then pull the complete driving-spring assembly out of the bolt carrier.

(4) Pull the operating handle fully to the rear, left the bolt carrier slightly upward, and then remove the bolt and carrier to the rear.

(5) Press the bolt into the carrier until the bolt operating lug can be twisted free of its cam path in the carrier. Pull the bolt straight forward and remove it from the carrier.

(6) Rotate the gas cylinder tube lock (fig 68) upward to free the gas cylinder tube. Some combination tool kit cases

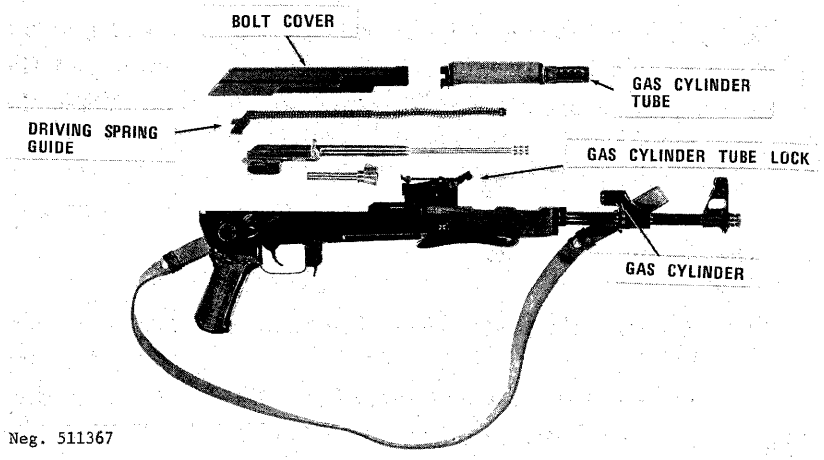

Figure 68. AK-47 field stripped.

have a long slot along one side to help rotate the tube lock if it is stiff. Remove the tube by pulling up on the rear of the handguard.

(7) No further disassembly is necessary or desirable.

b. To reassemble the AK-47:

(1) First, engage the front opening of the gas cylinder tube with the gas cylinder (fig 68); then seat the rear of the tube into the rear sight base. Rotate the gas cylinder tube lock down to its locked position.

(2) Slide the spindle of the bolt into its hole in the carrier and rotate the bolt to mate the operating lug with its cam path. Pull the bolt as far forward as possible in the carrier.

(3) Slide the piston into the hole under the rear sight until the carrier fits into its cuts at the rear of the receiver. Press the carrier down (bolt head must be fully forward) and then slide the carrier fully forward.

(4) Insert the driving spring into its hole in the bolt carrier and reseat the guide into the receiver.

(5) Insert the front end of the bolt cover into the circular groove in the rear sight base. Some covers have antirattle dimples pressed into their front ends; this sometimes requires force to fit a cover into its groove. Apply thumb pressure over the square opening in the rear of the cover; press forward and down until the end of the driving-spring guide snaps through the opening. If the weapon is a PMK-DGN, press the driving-spring guide lock down, into position; or if a Yugoslav M64, press the lock button at the left rear of the receiver.

(6) Press the trigger to release the hammer, set the selector to safe and insert the magazine. See paragraph 95 for information concerning the operation of the accessories for the AK-47.

94. Functioning

a. The AK-47 is gas operated; i.e., a portion of the gas that propels the bullet through the barrel is tapped off through a port in the barrel and is used to drive the bolt mechanism to the rear during firing. A strong driving spring returns the bolt forward.

b. When the AK-47 is loaded and cocked, finger pressure on the trigger causes the twin lugs on the top of the trigger (fig 69) to disengage from the hammer; the hammer, under pressure of the hammer spring, swings forward and fires the weapon. The bullet is driven through the barrel by the propellant gases. After the bullet passes the gas port, some of the gases are tapped off and directed against the piston extending from the bolt carrier.

c. The propellant gases drive the piston and the bolt carrier (fig 69) rearward, compressing the driving spring. After one-third

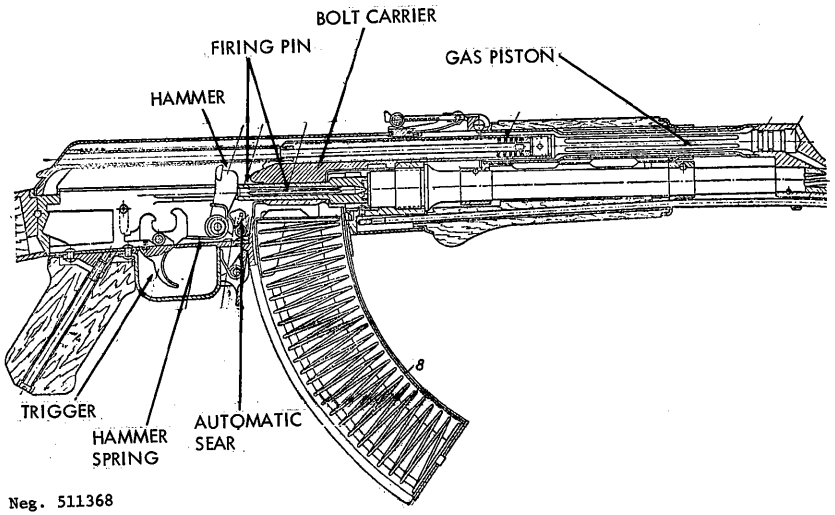

Figure 69. AK-47 section.

inch of free travel, a cam in the bolt carrier contacts the cam stud on the bolt; further travel rotates the bolt 35° and unlocks it from the receiver. The piston, carrier, and bolt move rearward together, rocking the hammer back. The extractor withdraws the empty cartridge case from the chamber and holds it against the bolt until the case strikes the fixed ejector; the case then pivots around the extractor and is expelled. The bolt carrier hits the inner rear wall of the receiver and stops.

d. The driving spring drives the recoiling parts forward, and as the bolt moves, its feed rib drives the top cartridge out of the magazine and into the barrel. The extractor snaps into the groove of the cartridge case, and, as the bolt carrier continues forward, its cam rotates the bolt to its locked position. During the final one-third inch of travel, the carrier depresses the automatic sear. The forward movement terminates when the front of the bolt carrier strikes the receiver.

e. The selector controls the functioning of the trigger mechanism by causing its arm inside the receiver to change postions, in relation to the trigger, as the selector is moved. The automatic sear (fig 70), which also holds the hammer cocked, is not affected by the selector in any way, but is operated solely by the bolt carrier. A projection on the rear of the bolt carrier above the bolt spindle prevents the hammer from striking the firing pin unless the bolt carrier has moved sufficiently forward to lock the bolt to the receiver.

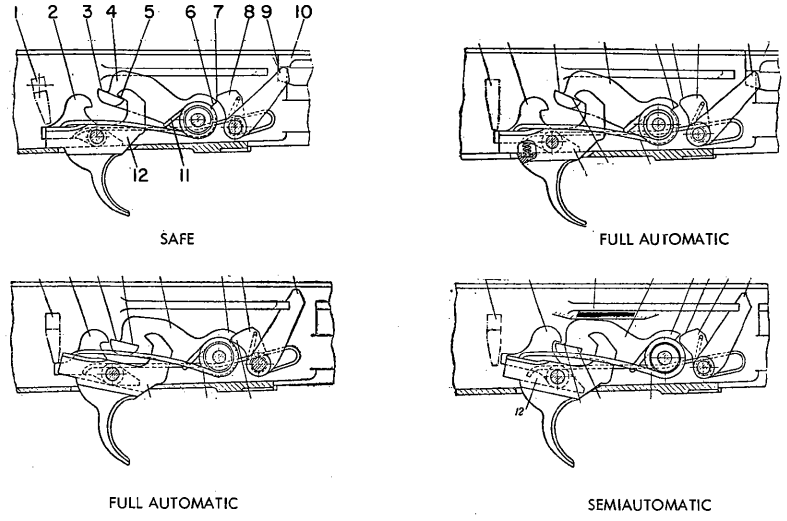

Figure 70. AK-47 trigger mechanism.

f. When the selector is in its lowest (semiautomatic) position, the arm of the selector moves to its rearmost position (fig 70) and has no effect on the trigger mechanism. As the trigger is pressed, the twin lugs on the trigger disengage from the hammer,

which swings forward. The recoiling bolt carrier rocks the hammer to the rear, and the hammer forces the semiautomatic sear (which because of the movement of the trigger, has moved forward) to the rear against its spring. As the hammer passes the semiautomatic sear, the sear snaps forward, where it can catch the hammer. Therefore, when the counterrecoiling bolt carrier trips the automatic sear, the semiautomatic sear holds the hammer. When the trigger is released, the semiautomatic sear moves rearward and releases the hammer, which is then caught by the twin lugs of the trigger. The trigger must be pressed again to fire another round.

g. By moving the selector to its middle (automatic fire) position, the arm inside the receiver is positioned over the tail of the semiautomatic sear (fig 70). As the trigger is pressed, the semiautomatic sear contacts the arm and is rocked rearward; it then cannot catch the hammer. Only the automatic sear holds the hammer cocked, and, as the carrier in its final travel depresses the automatic sear and releases the hammer, the weapon fires. This action continues as long as the trigger is held depressed and ammunition is present. To stop firing, the trigger is released and its twin lugs intercept the hammer and hold it cocked.

h. As the selector is moved to its upper (safe) position (fig 70), the arm moves over the rear of the trigger and blocks any trigger movement. If the hammer is uncocked, interference between the hammer and the twin lugs of the locked trigger prevents full retraction of the bolt.

i. The bolt stop of the Yugoslav M64 is actuated by the follower. A pin on the bolt stop protrudes into the magazine opening and into a square notch cut into the magazine forward of the left feed lip. When the magazine is empty, the follower contacts the pin and causes the bolt stop to rise to intercept the

bolt. A light spring normally holds the bolt stop depressed except when the follower acts upon the pin.

95. Accessories

a. The following accessories are available for the AK-47:

(1) Combination tool kit.

(2) Bayonet.

(3) Sling.

(4) Blank firing device.

(5) Night sighting device.

(6) Magazine carrier.

(7) Standard Soviet pattern two-compartment oil and cleaning solvent container.

(8) LON-1 20-mm spigot grenade launcher and sights (Polish PMK-DGN only).

(9) Yugoslav 22-mm M64 spigot grenade launcher.

b. The combination tool kit can be ejected by pressing in the circular cover in the butt plate. Although the design of the combination tool kit might vary slightly, it is used as follows:

(1) The case serves as a container for the components and as a handle for the cleaning rod. Remove the cleaning rod by

disengaging its head from the front-sight base and pulling it out of the weapon. Insert the threaded end through the empty case—into the largest hole first and out through the hole diagonally opposite—and straighten the rod so that its head rests against the inner wall of the case. Slip the case cap over the rod; screw either the brush or the patch holder onto the rod. Slip the cap onto the muzzle nut and turn it slightly to lock it in place. Depress the muzzle nut lock plunger to unlock the case cap in order to remove it. The long slot in the side of some cases is used to turn the gas cylinder tube locks.

(2) The combined drift, screwdriver, and wrench have several uses: To adjust the front sight, mate the screwdriver blade to the slot near the end of the case, slip the wrench over the front-sight post, and turn as necessary. Unscrew the post in order to move the strike of the bullet downward. To use the screwdriver, reverse the combination tool, but place it in the center oval holes, with the wrench end engaged in the smaller hole.

c. The bayonet (fig 71) is affixed by positioning its loops in front of the muzzle nut and the gas cylinder body, and sliding the bayonet to the rear until the bayonet catch engages the muzzle nut. The bayonet is removed by pulling the catch—located behind the hilt—away from the handle and sliding the bayonet forward and off.

Note: The AK-47 bayonet, the AKM bayonet (fig 89), and the Czechoslovak M58 bayonet (fig 95) are not interchangeable.

d. The bayonet on the late model PRC Type 56 assault rifle is swung to the desired position by pressing the collar (fig 61) toward the point of the blade and pivoting the blade to the desired position.

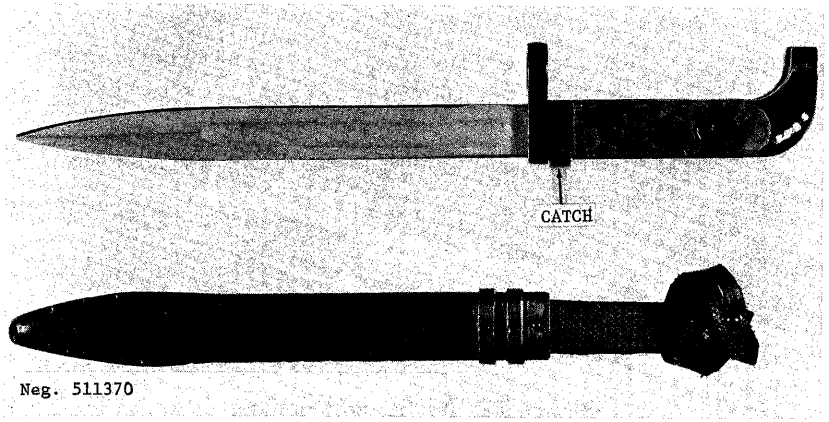

Figure 71. AK-47 bayonet.

e. The sling is attached by looping it through the lower sling swivel and hooking the snap onto the upper swivel.

f. The blank firing device is installed by pressing in the muzzle nut locking plunger (fig 56), unscrewing the muzzle nut, and replacing it with the device. It is removed in the same way as the muzzle nut.

CAUTION: Do not fire any bulleted ammunition when the blank firing device is in place, and do not use the cap of the combination tool kit as a blank firing device.

g. The night sighting device is attached by snapping it on over the sights (fig 72); it can be moved out of the way in order to use conventional sights in the daytime. To use this device, align the luminous dots over each other and on the target, aim, and fire.

h. There are a variety of magazine carriers. A typical one holds three magazines and a combination tool kit; some carriers hold four magazines.

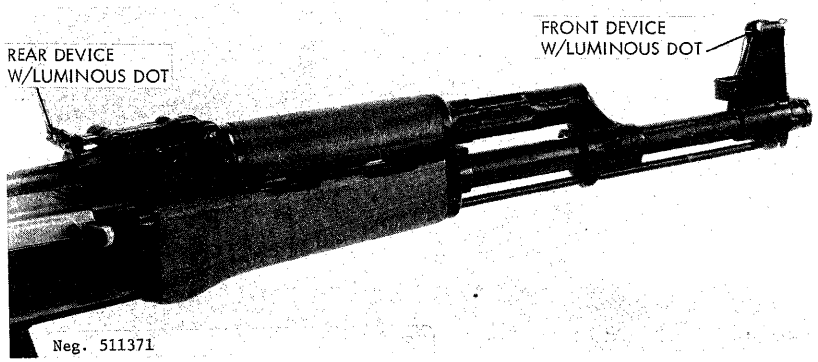

Figure 72. Night sight device.

i. A standard Soviet pattern two-compartment oil and cleaning solvent container is used to carry a supply of lubricating oil and bore cleaning solvent. This container is placed in a small pouch carried separately from the weapon.

j. The Polish LON-1 grenade launcher (fig 73) is usable only on rifles with a coned muzzle and gas cutoff. The muzzle nut is removed (left-hand thread) after depressing the muzzle nut lock, and the LON-1 launcher is screwed onto the muzzle. The launcher is hand tightened until it seats. Be sure to hold the modified lock (fig 73) fully in until the launcher is snug. Whenever the launcher is removed, the muzzle nut must be replaced to protect the threads.

k. The grenade launcher sight (fig 74) is attached to the normal rear sight base of the rifle. Unscrew the thumbscrew on the sight as far as possible and mate the stud on the left inner side of the sight leaf with the hole in the left front of the sight base. Tighten the thumbscrew, finger tight, insuring that the end of the screw enters the right of the sight base. The sight is removed by loosening the thumbscrew sufficiently to remove the sight. The Yugoslav M64 grenade sight is permanently attached to the rifle.

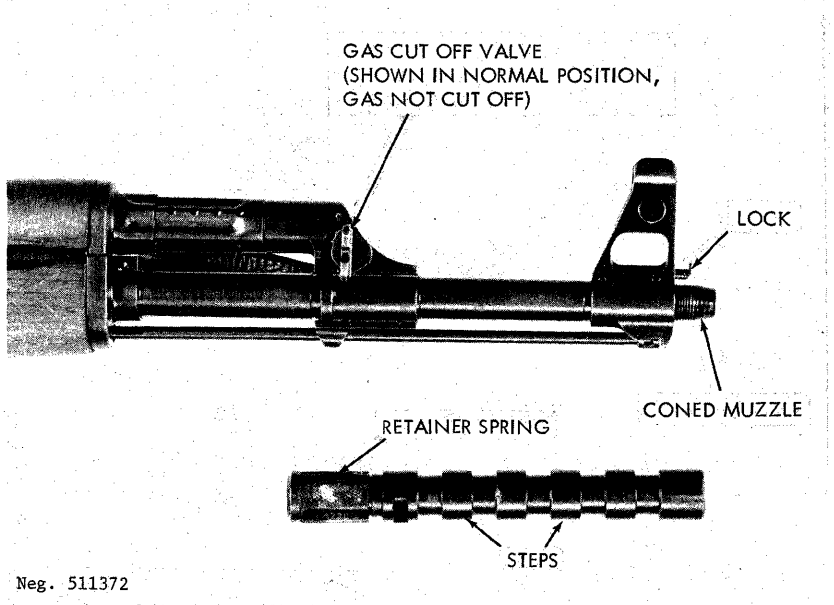

Figure 73. LON-1 grenade launcher.

l. The recoil pad should be used to soften the recoil of the PMK-DGN/60 rifle against the shoulder when launching grenades. Seat the butt in the recess in the pad and pull the straps forward until they can be attached to the key slot in the butt.

m. The Yugoslav grenade launcher (fig 75) should be used only on Yugoslav M64 series assault rifles that are equipped with a grenade sight (fig 64). The compensator (fig 64) is unscrewed (left-hand thread) after the lock plunger is depressed. The grenade launcher is screwed on, in place of the compensator. It may be necessary to depress the lock to insure that the launcher is fully screwed on (hand tight only!) (fig 75). Replace the compensator whenever the launcher is removed.

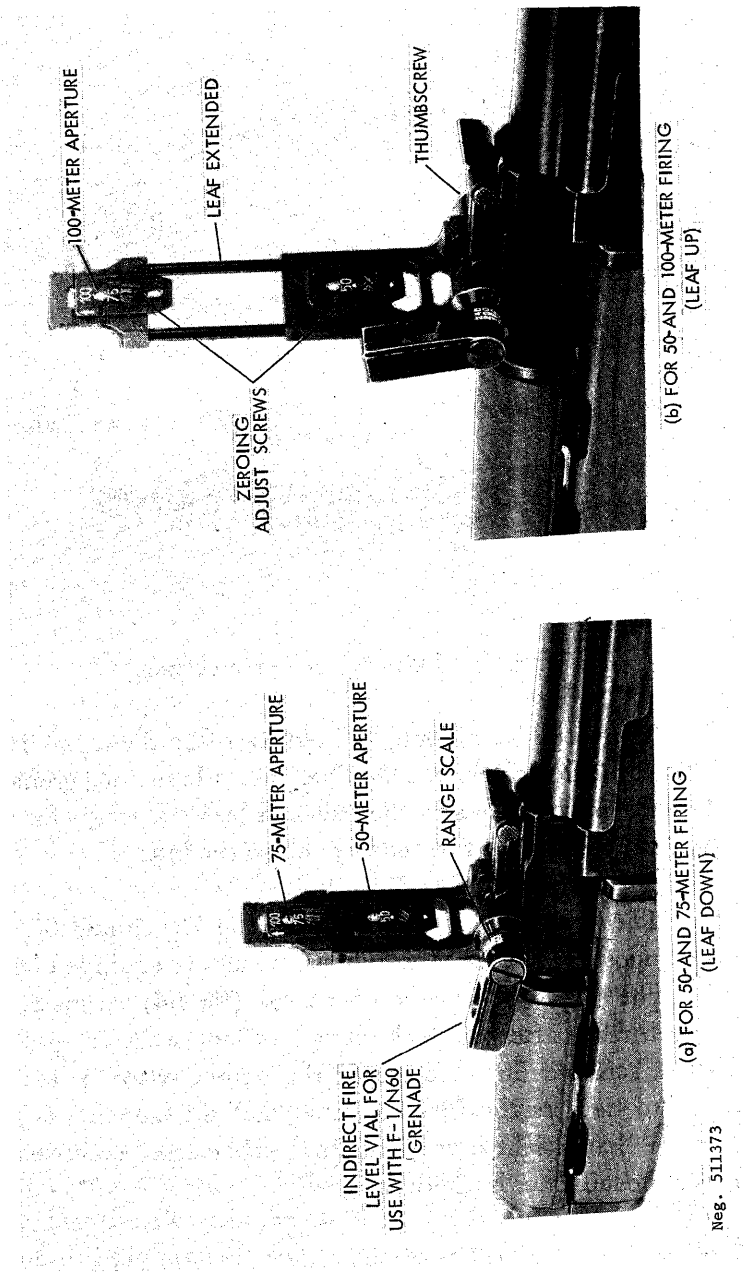

Figure 74. Grenade launching sights.

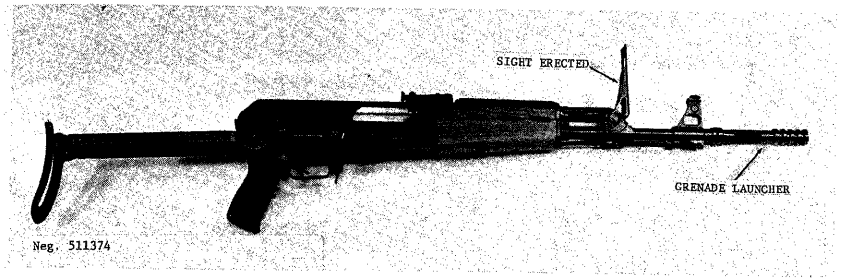

Figure 75. Yugoslav grenade launcher.

96. Grenade Launching

CAUTION: Fire foreign rifle grenades only when absolutely necessary!

a. Only the Polish-made F1/N60 antipersonnel and PGN-60 antitank grenades (fig 76) can be launched from the Polish PMK-DGN-60. These grenades have 20-mm tubes; all other rifle grenades have 22-mm tubes. It is extremely hazardous to launch any grenade other than an F1/N60 or PGN-60 from the PMK-DGN-60. The Yugoslav M64 series rifles use only 22-mm tubed grenades (fig 77) of Yugoslav manufacture.

b. The head of the Polish grenade normally must be screwed onto the tail boom. F1/N60 grenades use a finless boom; the PGN-60 has fins. Insure that the threads are free of foreign matter and screw the head onto the boom, hand tight. The Yugoslav rifle grenades are issued ready for use; these grenades carry launching cartridges stored inside their tail boom.

c. Load the special 10-round Polish or regular Yugoslav magazine with white-tipped crimped cartridges (fig 78). Other

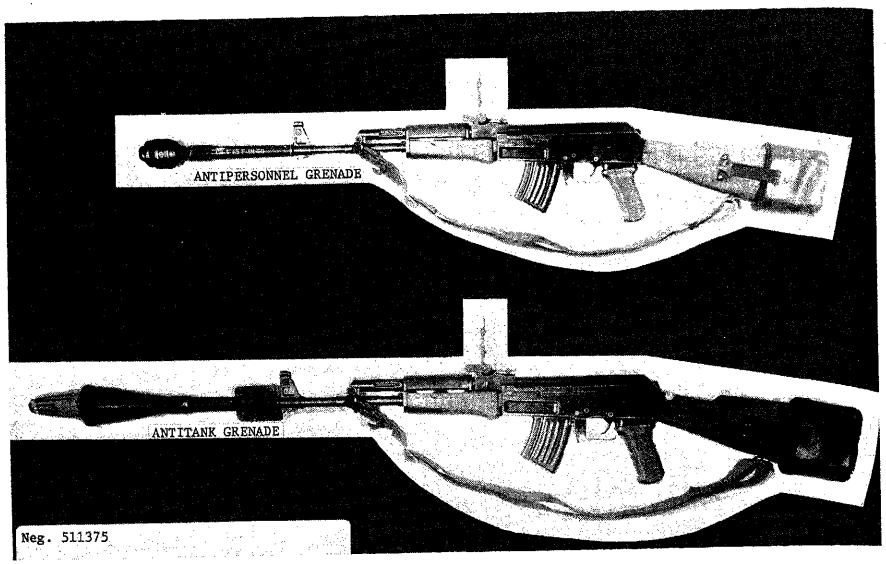

Figure 76. Polish rifle grenade.

cartridges must not be used; the use of any other cartridge will result in injury or death. Insert the magazine and load the rifle (para 89 a-d). Rotate the gas cutoff valve on the gas cylinder of the Polish PMK-DGN-60 (fig 73) so that the valve finger piece is parallel to the barrel, or erect the grenade sight of the Yugoslav M64 series rifle. This prevents damage to the rifle mechanism when grenades are being launched.

d. Select the appropriate type of grenade—Polish F1/N60 (fig 76) or Yugoslav M60 fragmentation grenade (fig 77) against personnel, Polish DGN/60 (fig 76) or Yugoslav M60 shaped charge grenade (fig 77) against armored vehicles—slide the grenade boom over the launcher and seat the grenade fully, until it stops.

e. If the rifle is a Polish PMK-DGN-60, and if the target is at a distance of 100 meters or less, use the direct fire aperture sight when firing. At 50 or 75 meters range, leave the leaf down

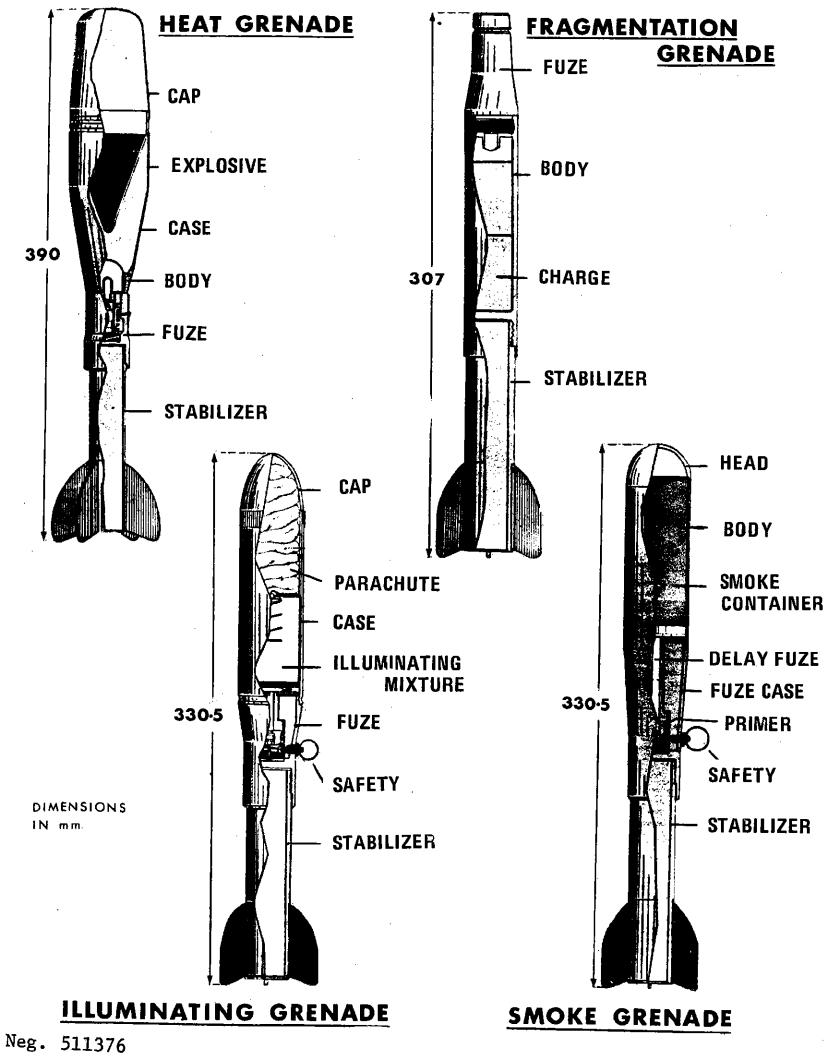

Figure 77. Yugoslav rifle grenades.

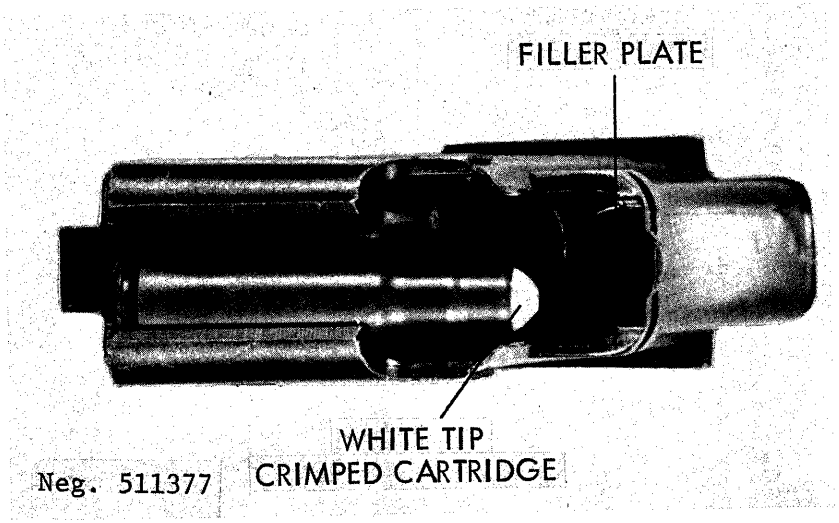

Figure 78. Grenade cartridge and magazine.

((a), fig 74) and use the appropriately marked aperture. To fire at 100 meters range, extend leaf ((b), fig 74) and use the 75-meter aperture for sighting. Align the curved bottom of the grenade sight aperture with the grenade ogive and then align the grenade with the target. The right side of the sight of the Yugoslav M64 is graduated for shaped-charge antitank grenades, the left for impact antipersonnel grenades.

f. If it is necessary to fire the Polish F-1/60 antipersonnel grenade at ranges in excess of 100 meters, align the appropriate number on the range scale on the indirect fire level (fig 74) with the index line. Place the butt of the rifle on the ground, elevate the rifle until the bubble in the vial is centered. and then align the rifle in azimuth with the target.

g. To fire the grenade, move the selector from the safe position and press the trigger. The grenade will automatically arm upon launch. When firing indirect fire, turn the face to one side to

avoid muzzle blast. The operating handle of the rifle must be operated manually to eject the fired cartridge and to reload a fresh launching cartridge. Firing positions are shown in figure 79. At no time must the shoulder be against a firm surface—severe injury will result!

CAUTION: Recoil is severe!

h. The F-1/N60 antipersonnel grenade has a maximum lethal radius of 200 meters. Fire this grenade from cover. The PGN-60 will penetrate about 5 inches of steel upon impact at any range. The Yugoslav M60 impact antipersonnel grenade has a maximum lethal radius of 25 meters. The M60 shaped-charged antitank grenade will penetrate about 4 to 7 inches of steel upon impact at any range.

B. THE 7.62-MM MODERNIZED KALASHNIKOV ASSAULT RIFLE (AKM)

97. General

a. The modernized Kalashnikov assault rifle (AKM) (fig 80), while basically similar to the AK-47, has a number of major differences from the earlier weapon. The major change is in the receiver, which is a stamped component in the AKM, but is a forged and machined component in the AK-47. The two weapons are mechanically indentical, except that the AKM has a cyclic rate reducer in its trigger mechanism. The AKM can be recognized by the sheet metal receiver with a small magazine guide dimple pressed into each side, by the grasping rails on the forestock, by the ribbed receiver cover, by the presence of a bayonet lug, and by the absence of vent holes in the gas tube. The rear sight (except for one version) is graduated to 1000 meters. Late Model AKM's are fitted with a compensator (fig 81).

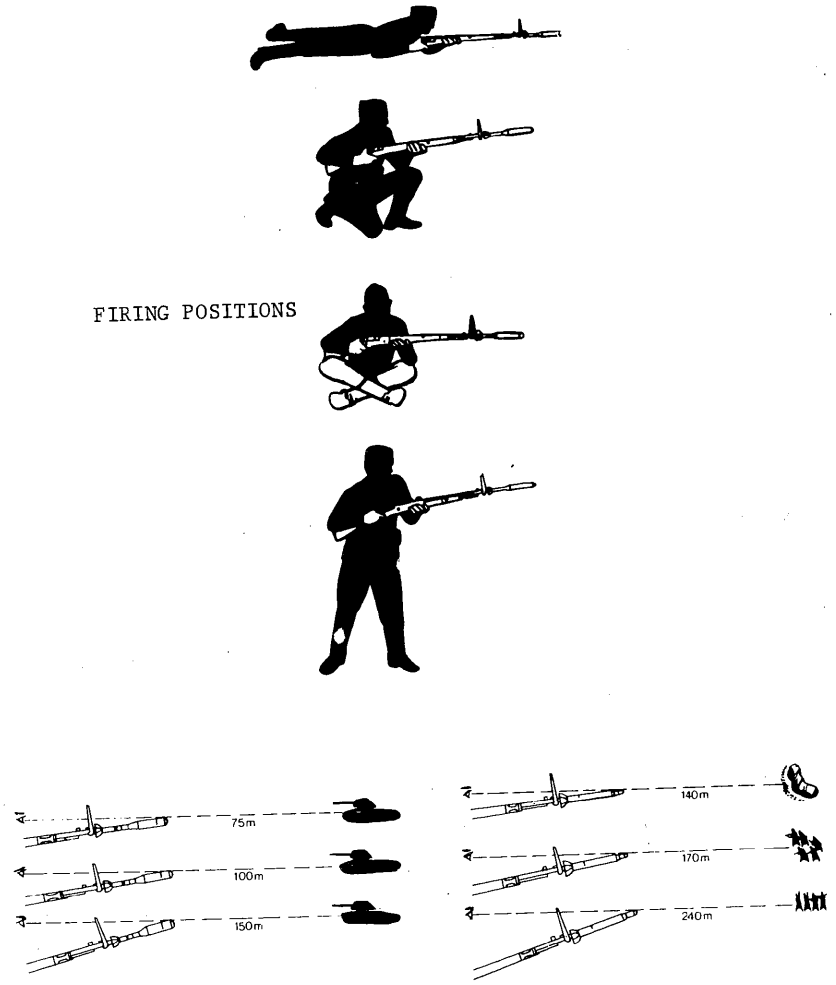

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Figure 79. Firing positions for launching grenades.

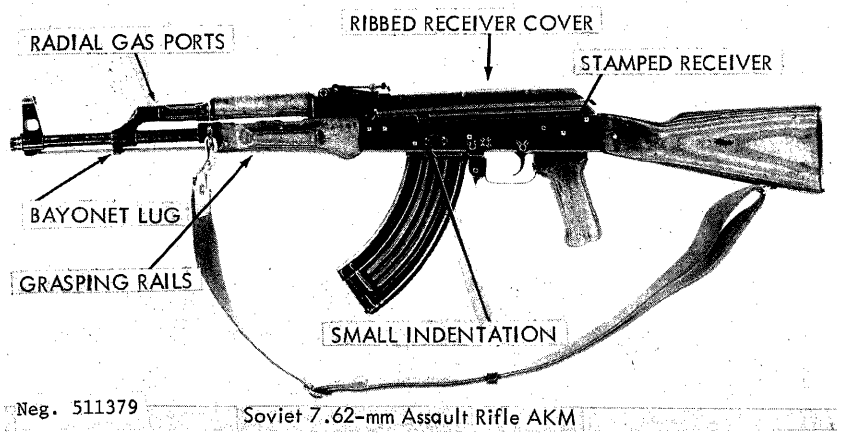

Figure 80. Soviet AKM assault rifle.

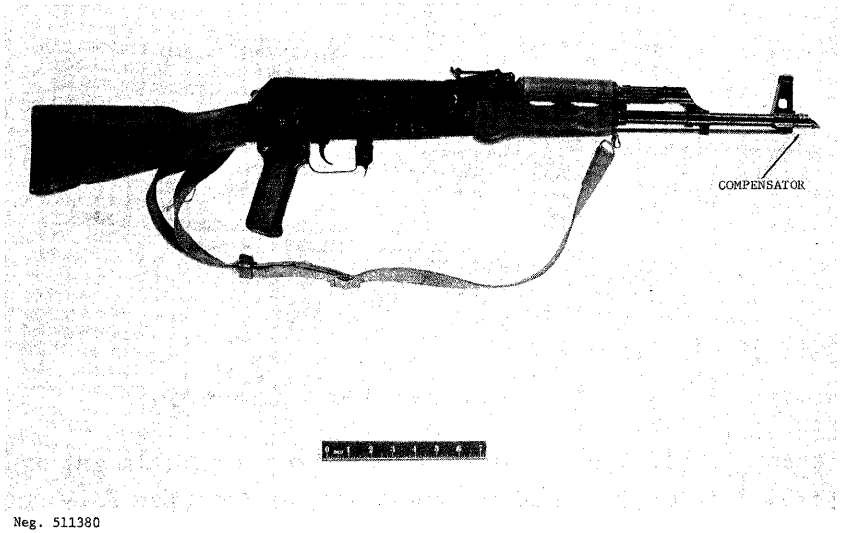

Figure 81. Polish PMKM assault rifle.

b. The AKM is produced by several countries in a number of versions. There are the conventionally stocked models (figs 80 and 81) and the folding stock models (fig 82); these generally conform to the similar type AK-47. The East Germans produce two versions of the AKM: One is a conventional model, except for its plastic grip and handguard (fig 83). A later model is

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Figure 82. Romanian folding stock AKM assault rifle.

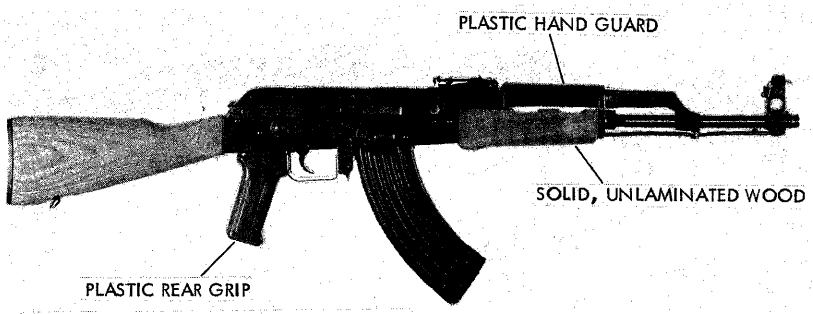

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Figure 83. East German MPiKM assault rifle.

equipped with a plastic stock, grip, and handguard; the grip and stock have prominent protruding studs. The Romanian AKM (fig 84) has a wooden pistol grip integral with the forearm. The Hungarian AKM has a distinctive perforated sheet metal forearm with a nylon foregrip (fig 85); a short version with a muzzle brake, the AMD (fig 86), is also produced in Hungary. This model does

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Figure 84. Romanian AKM assault rifle.

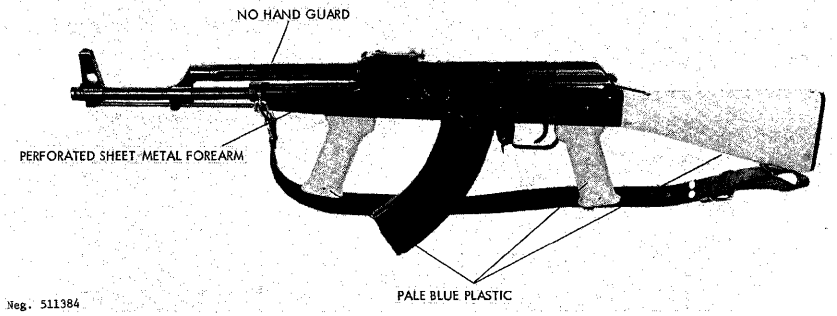

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Figure 85. Hungarian AKM assault rifle.

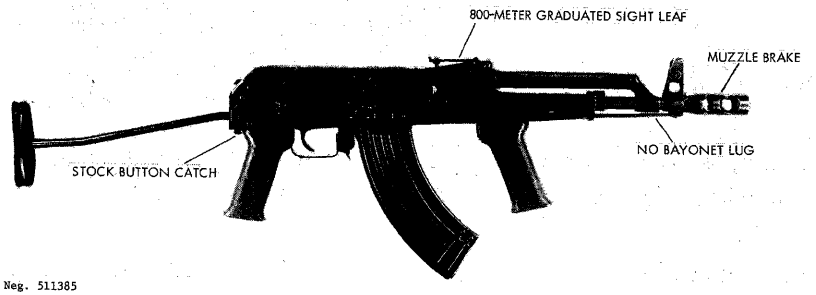

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Figure 86. Hungarian AMD assault rifle.

not have a bayonet lug and has a sidewise folding stock, with a rear sight graduated only to 800 meters. The North Koreans also produce a version of the AKM, the Type 68 assault rifle (fig 87). This model has the lightest weight of any AKM and does not have a rate reducer or rails on the forestock; the folding stock version has perforations in the stock arms. All AKM's fire the 7.62x39-mm M1943 cartridge (sec VI).

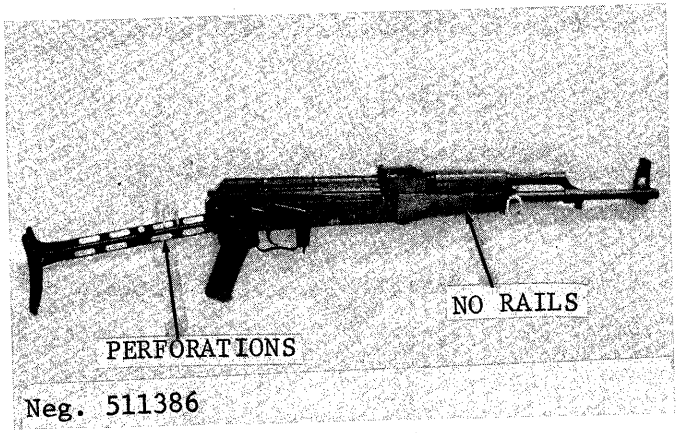


Figure 87. North Korean Type 68 assault rifle (folding stock)

98. Technical Data

Technical data concerning the modernized Kalashnikov assault rifle will be found in table VI.

99. Operation

The AKM is operated in the same manner as the AK-47 assault rifle (para 89). The stock of the Hungarian AMD can be opened or folded after pressing the stock button (fig 86).

100. Disassembly and Assembly

Disassembly and assembly of the AKM is accomplished in exactly the same way as the AK-47 assault rifle (para 93).

101. Functioning

The AKM's functioning is identical to that of the AK-47 (para 94), except that AKM's (except the North Korean Type 68) have a cyclic rate reducer. This unit (fig 88) lies alongside the trigger and the semiautomatic sear and replaces one of the twin lugs on the trigger. The cyclic rate reducer functions by momentarily holding the hammer in the cocked position after the automatic sear has disengaged. The hammer has to overcome the inertia of the heavy rate reducer before it is released; this causes a slight delay, with a resultant decrease in the automatic rate of fire.

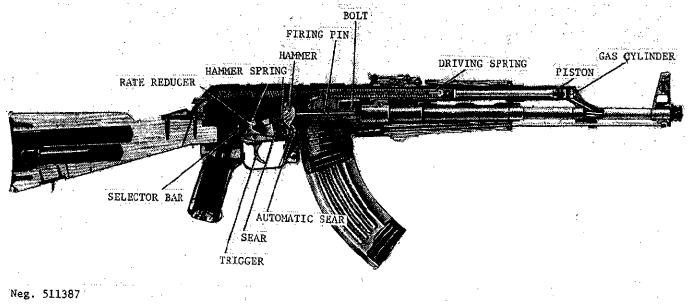


Figure 88. AKM section.

102. Accessories

The AKM has the same accessories as the AK-47 (para 95), except that the bayonet is different. The AKM bayonet (fig 89) is affixed by sliding its loop over the muzzle nut and at the same time sliding its groove over the bayonet lug. It is removed by depressing the

catch button and sliding the bayonet forward, off the rifle. By mating the slot in the blade with the lug on the scabbard, the AKM bayonet can be used as a wire cutter. The AKM compensator (fig 90) can be removed by pressing in the lock in the front sight and unscrewing the compensator (left hand thread).

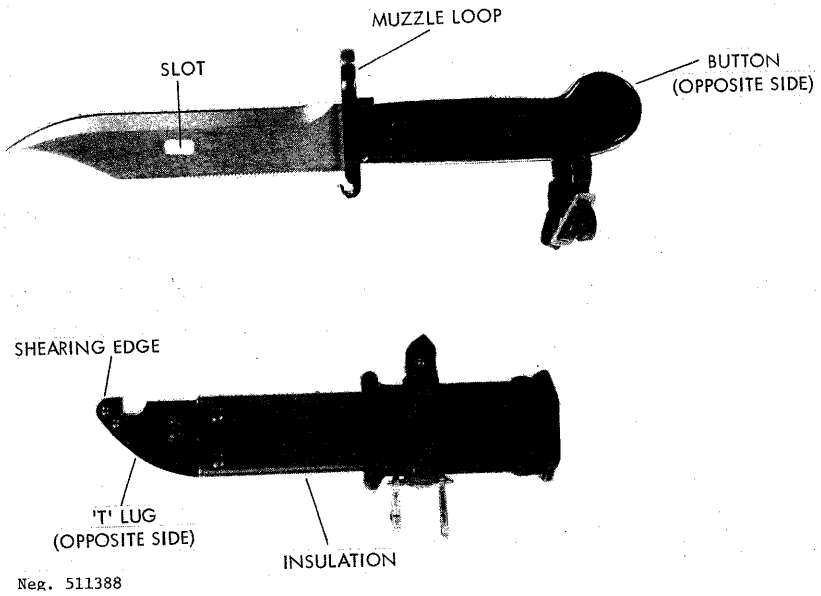


Figure 89. AKM bayonet.

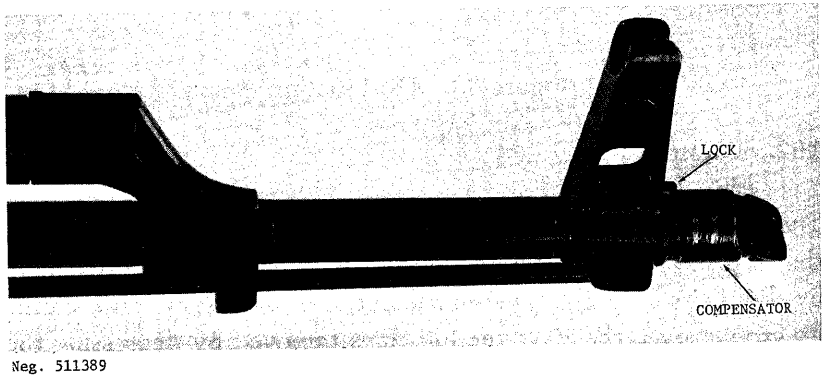


Figure 90. AKM compensator.

C. THE 7.62-MM VZOR 58 ASSAULT RIFLE (Bz58P or Vz58V)

103. General

a. The Czechoslovak-designed and produced Vz58 assault rifle, a gas-operated, selective fire, box magazine-fed weapon, is the standard shoulder arm of the Czechoslovak Army. These assault rifles have also been sold to several other nations. Two versions of this rifle exist: The Vz58P (fig 91), with a

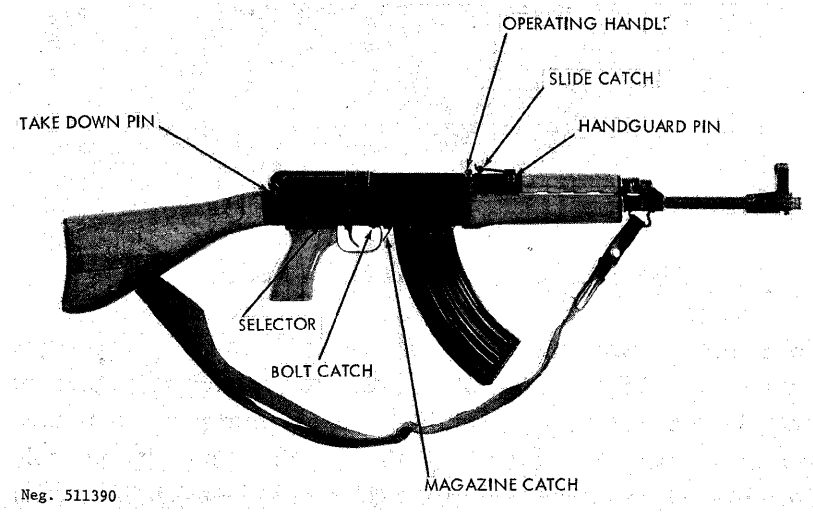


Figure 91. Czechoslovak M58P assault rifle.

conventional fixed butt stock, and the Vz58V (fig 92), with a folding metal butt stock. Early production weapons had wooden forearms, pistol grips, and, in the case of the Vz58P, butt stocks, current production weapons have these components fabricated from a wood fiber-filled plastic material.

b. The Vzor 58 rifles superficially resemble the Soviet AK-47; however, the two weapons are mechanically different. The

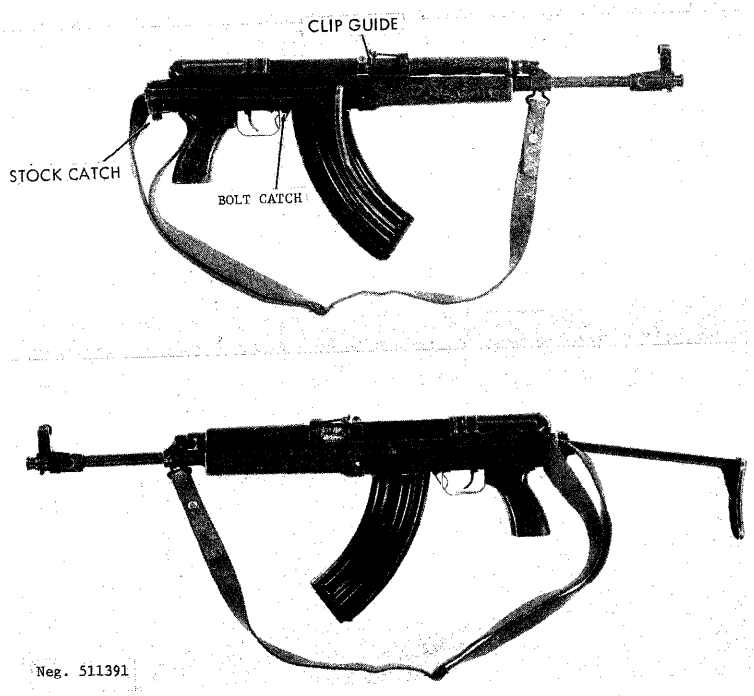


Figure 92. Czechoslovak M58V assault rifle.

Vz58 has a swinging wedge breech lock and a plunger-type hammer; the AK-47 has a rotary bolt and a swinging hammer. All 7.62x39-mm cartridges manufactured in Eurasian Communist countries can be fired in the Vz58; but, if possible, Czechoslovak-manufactured cartridges should be used. See section VI for information concerning the ammunition used with this rifle.

104. Technical Data

Technical data concerning the Vz58 assault rifle will be found in table VI.

105. Operation

To operate the Vz58 assault rifle:

a. Load the magazine, using 10-round SKS stripper clips (para 113a). With an empty magazine in the weapon, fully retract the operating handle (fig 91) and release it. The bolt mechanism will be held open. Place a stripper clip into the clip guides (fig 92) formed at the top front of the bolt carrier and, with the thumb as close as possible to the base of the top cartridge, press the cartridges off the clip and into the magazine (fig 91). Remove the empty stripper clip and repeat until 30 rounds have been loaded. If SKS stripper clips are not available, load the magazine as for the AK-47 (para 89a) and, after loading, engage the T-lug on the front of the magazine with its recess in the magazine opening of the receiver. Then swing the magazine rearward until the magazine catch snaps into place. Alternatively, individual cartridges can be pressed into the magazine one at a time with the magazine in place in the receiver.

b. Pull the operating handle fully to the rear and release it.

CAUTION: The rifle is now ready to fire!

c. Unless the rifle is to be fired immediately, put it on safe by rotating the selector (fig 91) to the vertical position. This locks only the trigger; the bolt can be opened if necessary.

d. If the rifle is a Vz58V, the best firing results are obtained by using the stock to brace the rifle. Press up the stock catch (fig 92) at the rear of the receiver and swing the stock sideways until it locks in its extended position. The stock is folded by pressing in the stock latch and swinging the stock forward.

e. Set the rear sight for the desired range by depressing the slide catch (fig 84) and moving the sight bar along the leaf until the front edge of the bar is aligned with the line below the number that corresponds with the range in hundreds of meters. The "U" symbol in the sight leaf is a battle sight setting used in combat for shooting at ranges up to 300 meters.

f. The front sight is adjustable for zero. Refer to paragraph 95b(2) for the procedure to be followed.

g. To fire, rotate the selector forward to "30" for full automatic fire or rearward to "1" for semiautomatic fire; then aim, using a normal sight picture, and press the trigger. The bolt will remain open after the last round has been fired.

h. Remove the magazine by pressing the magazine catch (fig 91) toward the magazine; then swing the magazine forward and out of the receiver.

i. To clear the Vz58, set the safety to its vertical (safe) position, remove the magazine, and pull the operating handle fully to the rear. Press up on the bolt catch (fig 91) located at the right front of the trigger guard and release the operating handle. The bolt will remain open. Inspect the receiver and chamber to insure that no cartridges are present, then pull the operating handle to the rear and release it. Rotate the selector to "30" or "1", press the trigger, and then rotate the safety to its vertical (safe) position. Insert the magazine.

106. Disassembly and Assembly

a. To disassemble the weapon:

(1) Clear the weapon (para 105i), but do not insert the magazine or put the weapon on safe. If the weapon is a Vz58V, extend the stock.

(2) Pull the receiver cover pin, located at the top rear of the receiver (figs 91 and 92), to the right as far as possible. Press the receiver cover slightly forward and lift up its rear end. Ease the receiver cover rearward and remove it along with the hammer and the driving springs.

(3) Pull the operating handle fully rearward. Then, with an upward motion of the operating handle, rotate the bolt carrier and the bolt from the receiver.

CAUTION: The bolt and lock (fig 93) may fall free from the carrier; if the bolt and lock do not fall free, pull the hammer (fig 93) to the rear and lift off the bolt and lock.

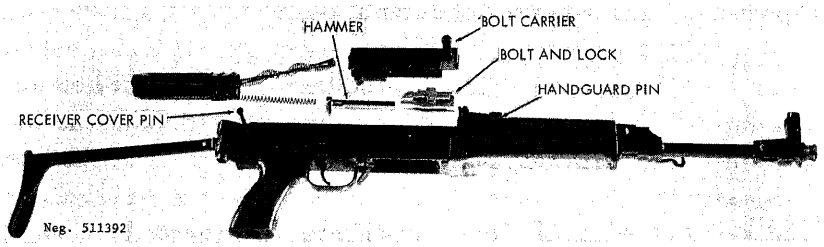


Figure 93. M58V field stripped.

The hammer can be removed by moving it forward about one-fourth inch from its rearmost position; then rotate it counterclockwise and withdraw it from the bolt carrier.

(4) Pull the handguard pin (figs 91 and 92) (located at the front of the rear sight base) to the right as far as possible and lift off the handguard. Grasp the shaft of the gas piston and force

it rearward against its spring; when the piston head is clear of the gas cylinder, tilt the piston up and remove it. Pull the piston return spring from the rear sight base.

(5) No further disassembly is necessary or desirable.

b. To reassemble the Vzor 58 assault rifle:

(1) Place the piston return spring into the rear sight base and insert the small end of the piston into the spring. Force the piston to the rear until its head can be inserted into the gas cylinder. Slip the claws at the front of the handguard under the lugs on the gas cylinder, drop the rear of the handguard into place, and insert the handguard pin.

(2) While applying a clockwise twist to the hammer, insert the hammer into the bolt carrier. After the hammer enters the carrier, it will rotate to its engaged position; when this happens, pull the hammer out as far as possible.

(3) Attach the lock to the bolt and place the bolt and lock into the bolt carrier, extractor up and forward. Slide the bolt forward in the carrier by pushing the hammer in as far as possible.

(4) Place the bolt carrier into the receiver by aligning the rails on the lower sides of the carrier with the cutout portions at the rear of the receiver; then press the carrier down into place. Slide the bolt carrier forward in the receiver.

Note: The bolt must be fully forward in the carrier before this can be done.

(5) Apply finger pressure on the hammer, pull the trigger, and press the hammer forward.

(6) Attach the receiver cover by inserting the driving spring into the large hole in the bolt carrier and inserting the smaller diameter hammer spring into the hammer; then slide the cover forward. Apply a forward and downward pressure on the triangular plate on the rear of the cover until the cover snaps into the receiver.

Note: Be sure that the inward curved lower edge of the cover is mated with the undercuts at the lower sides of the bolt carrier.

Reseat the receiver cover pin, place the weapon on safe, and insert the magazine.

107. Functioning

a. The Vz58 assault rifle is gas operated. When the Vz58 is loaded and cocked, pressure on the trigger releases the hammer, which impacts against the firing pin and fires the rifle. The propellant gases drive the bullet through the barrel, and after the bullet passes the gas port, some of the gases are tapped off and directed against the piston.

b. The propellant gases drive the piston rearward against the bolt carrier, forcing the carrier to the rear and compressing the driving and hammer spring (fig 94). The hammer, because its head rests against the rear of the bolt carrier, moves to the rear, away from the firing pin. The piston is returned forward by its return spring. The bolt carrier continues rearward and, after five-eights of an inch of free travel, a cam on the inside top of the carrier contacts the bolt lock and lifts it up, out of engagement with the locking recesses in the receiver. After the lock is fully disengaged, the bolt moves rearward with the bolt carrier, and the extractor withdraws the empty cartridge case from the chamber. The case is held to the bolt until the case strikes the fixed ejector in the receiver, at which time the case pivots around the extractor and is

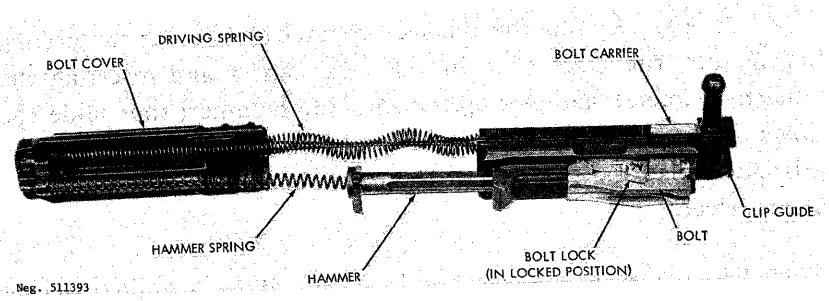


Figure 94. M58 bolt and firing mechanism.

expelled. The rear end of the bolt carrier strikes the inner rear wall of the receiver and terminates the rearward movement.

c. The driving and hammer springs expand and force the bolt carrier forward; the bolt, moving with the bolt carrier, drives the top cartridge out of the magazine and into the chamber. The hammer is caught by the automatic sear. When the cartridge is fully seated in the chamber, the extractor snaps into the groove in the cartridge case and forward bolt motion ceases. The bolt carrier continues forward, and a transverse rib in the inner top of the carrier forces the bolt lock down into its locked position. The bolt carrier trips the automatic sear and releases the hammer just before the carrier is stopped by the front of the receiver.

d. The Vz58 has an extremely simple trigger mechanism consisting of a right-hand automatic sear with a sear trip, a trigger and trigger bar, a left-hand semiautomatic sear, and a disconnector. A rotary selector controls the engagement of either the disconnector or the trigger bar with the semiautomatic sear.

e. When the selector is placed at its full automatic position, the shaft of the selector depresses the disconnector out of engagement with the semiautomatic sear and allows the trigger

bar to rise to engage the semiautomatic sear. The bolt carrier has tripped the automatic sear, and the hammer is held only by the semiautomatic sear. As the trigger is pressed, the trigger bar moves forward and engages with and rotates the semiautomatic sear, which releases the hammer to fire the weapon. As the bolt carrier recoils, it releases the sear trip; this allows the automatic sear to rise. During the counterrecoil stroke of the bolt carrier, the hammer is caught by the raised automatic sear and is held until the bolt carrier completes its stroke and depresses the sear trip and automatic sear. This releases the hammer to fire another shot. This action continues until the trigger is released and allows the semiautomatic sear to rise and intercept the hammer. The connector moves rearward and upward into engagement with the semiautomatic sear. Pressing the trigger will now depress the semiautomatic sear and fire one more shot.

f. When the selector is rotated to the safe position, both the disconnector and the trigger bar are depressed so that they cannot engage the semiautomatic sear. Thus, the hammer cannot be released to fire.

g. When the magazine is empty, a projection on the right rear of the magazine platform contacts the bolt catch and forces it up to intercept the bolt carrier when it counterrecoils. The bolt catch can also be actuated by finger pressure on its head. A weak spring normally holds the bolt catch depressed.

108. Accessories

a. The Vz58 assault rifles do not have a combination tool kit; however, the following accessories are available:

(1) Sling.

(2) Bayonet and scabbard (fig 95).

(3) Flash hider (fig 96).

(4) Bipod (fig 96).

(5) Sectional cleaning rod with brush and patch holder.

(6) Oil bottle.

(7) Magazine carrier.

(8) Front sight wrench.

b. The fabric sling is attached by looping it through the lower sling swivel and passing the leather end through the upper swivel loop and securing it with its button.

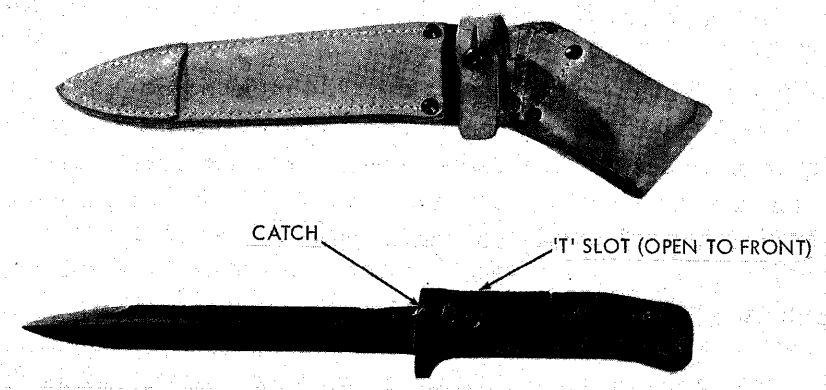


Figure 95. M58 bayonet and scabbard.

c. The bayonet is attached by sliding it forward onto the dovetail under the front sight base until the bayonet catch locks into place. The bayonet is removed by pressing its catch (fig 95) and sliding it rearward off the rifle.

d. The flash hider (fig 96) is installed by removing the muzzle nut (press in on its locking plunger and unscrew) and then screwing the flash hider on in its place. The locking plunger has to be depressed to allow the flash hider to be fully seated. Remove the flash hider by unscrewing it after depressing the locking plunger. The muzzle nut should then be replaced.

Figure 96. M58 bipod.

e. The bipod (fig 96) is installed on the front sight base. Fold the legs forward on their base until the locking plunger retracts into the base; then slide the base onto the bayonet mount. Rotate the legs downward for use, or rearward (beneath the forearm) for carrying. Remove the bipod by folding the legs forward and sliding the bipod off the front sight base. The bayonet cannot be attached when the bipod is installed.

f. The sectional cleaning rod is screwed together for use with either the brush or the cleaning patch holder. The grooved end of the rod is inserted into the cap of the oil bottle and is held in place with the handle of the front sight wrench.

g. The heavy steel oil bottle has a screw cap to which an oiling brush is attached. This bottle also serves as the cleaning rod handle.

h. The front sight wrench is used to adjust the front sight for elevation zero. Refer to paragraph 95b(2) for the procedure to be followed. The handle of the wrench is used as a punch when disassembling the rifle and also is used for locking the cleaning rod to the oil bottle.

i. A fabric three-pocket magazine carrier is used. Cleaning material can also be carried in the carrier.

D. MAINTENANCE OF ASSAULT RIFLES

109. Care and Cleaning

The procedures and materials prescribed for cleaning standard US Army rifles also apply to Eurasian Communist country assault rifles. These weapons should be disassembled only to the extent necessary for adequate cleaning in order to prevent breakage and subsequent loss of use. No repairs other than replacement of parts

should be attempted on foreign assault rifles, and this replacement should be made only by a competent armorer.

110. Malfunctions and Stoppages

Eurasian Communist country assault rifles are extremely rugged weapons. Table V lists the most common malfunctions and their remedies. Malfunctions caused by broken or worn parts can be corrected by replacing the defective part with serviceable ones. This should be done only by a competent armorer, and the repaired weapon must then be function test fired.

Table V. Assault Rifle Malfunctions

Condition	Cause	Remedy
Fails to fire (cartridge in chamber)	Defective cartridge	Reload
	Bolt not fully locked	Clean and lubricate
Fails to fire (no cartridge in chamber)	Short recoil	Clean and lubricate
Fails to extract or eject	Fouled weapon	Clean and lubricate

Table VI. Assault Rifle Technical Data
(Data, unless otherwise stated, apply to both wooden and folding stock versions.)

Weapon	Kalashnikov	Modernized Kalashnikov	Vzor 58
Short name	AK-47	AKM[1]	Vz58P[2]
Caliber (mm)	7.62	7.62	7.62
Length (in)	34.2	34.5	33.2
Weight, empty (lb)	9.48	6.93	6.9
Barrel length (in)	16.3	16.3	15.8
Magazine capacity (rd)	30	30	30
Operation	Gas	Gas	Gas
Locking feature	Rotating bolt	Rotating bolt	Swinging wedge
Fire-type	Selective	Selective	Selective
Muzzle velocity (m/sec)	710	715	700
Practical range, semiautomatic (m)	300	300	300
Practical range, full automatic (m)	200	200	200
Rate of fire, semiautomatic (rpm)	40	40	40
Rate of fire, full automatic (rpm)	100	100	80 to 100
Rate of fire, cyclic (rpm)	600	600	820

[1]Does not include Hungarian AMD.
[2]Folding stock version is M58V; all other data are identical.

Section IV. RIFLES

A. THE 7.62-MM SIMONOV SEMIAUTOMATIC CARBINE (SKS)

111. General

The Soviet-designed Simonov semiautomatic carbine (fig 97), a gas-operated, integral box magazine-fed weapon equipped with a folding blade bayonet, is now obsolete in the Soviet Army, but is used by most of the other Eurasian Communist countries. This weapon has been manufactured in East Germany as the Karabiner-S (fig 98), in the People's Republic of China as the Type 56 semiautomatic carbine, in North Korea as the Type 63 carbine, and in Yugoslavia as the M59/66 rifle. The country of origin can be determined by the markings. The Soviet and East German weapons usually carry the year of manufacture and the serial number on the front left of the receiver; the PRC weapons have the symbol 五六式 (Type 56) located there, and the late PRC Type 56 has a spike bayonet. The North Korean weapons have "63" stamped into the receiver cover. The East German version has a hole through the stock for attaching the lower end of the sling; the others all have sling swivels. The Yugoslav M59/66 (fig 99) has a prominent spigot-type grenade launcher permanently attached to the muzzle and a folding grenade launching sight (fig 100) at the rear of the launcher.

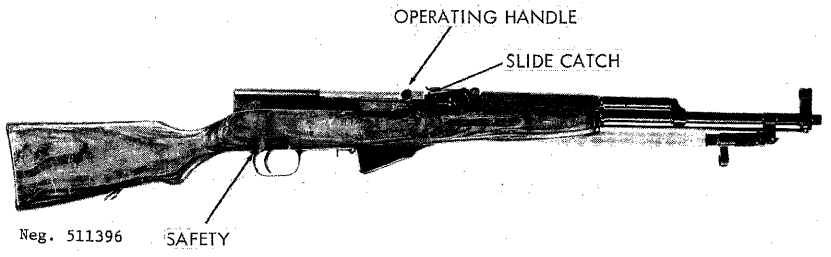


Figure 97. Soviet Simonov semiautomatic carbine (SKS).

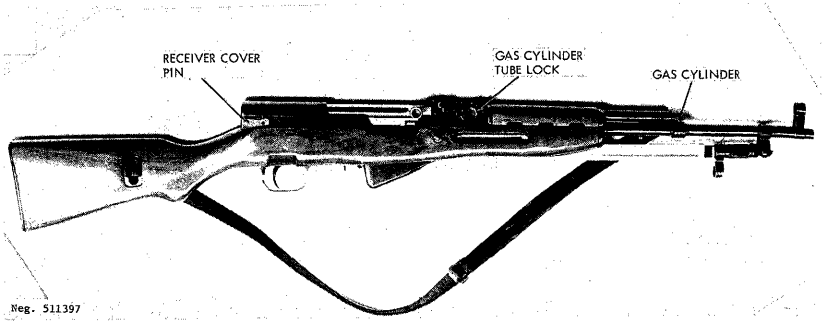


Figure 98. East German Karabiner-S.

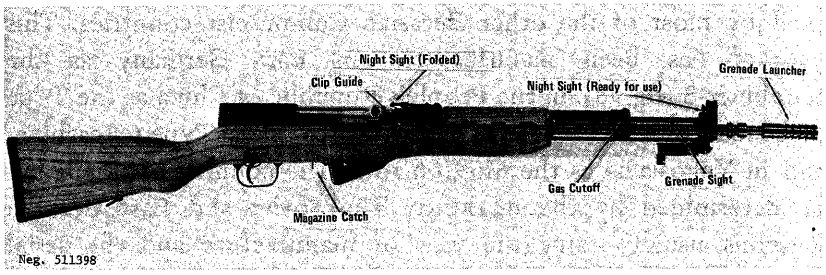


Figure 99. Yugoslav M59/66 rifle.

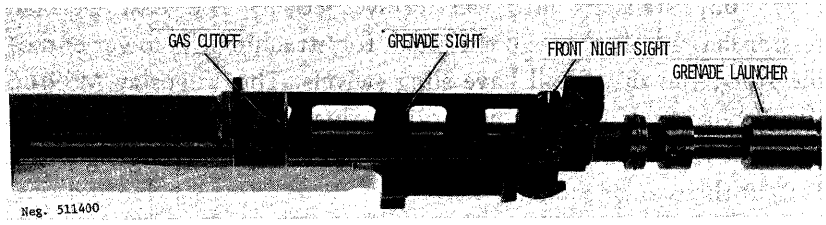


Figure 100. M59/66 gas cutoff.

112. Technical Data

Technical data concerning the SKS carbine will be found in table VIII.

113. Operation

a. Grasp the operating handle (fig 97), pull it fully to the rear, and release it. If the magazine is empty, the bolt will remain open. Insert a stripper clip into the clip guides at the top front of the bolt carrier, and with the thumb as close as possible to the base of the top cartridge, press the cartridges off the clip and into the magazine (fig 101). Remove the empty clip. If clipped

Figure 101. Loading the SKS.

ammunition is not available, individual cartridges can be placed on top of the magazine follower and pressed down into the magazine until it is full. Pull operating handle rearward and release it; the bolt will run forward and chamber a cartridge.

CAUTION: The rifle is now ready to fire!

b. If the rifle is not to be fired immediately, apply the safety (fig 97) by rotating it forward and upward.

c. Set the rear sight for the desired range by depressing the slide catch (fig 97) and moving the sight bar along the leaf until the front edge of the bar is aligned with the line below the number that corresponds to the range in hundreds of meters. The first character on the sight leaf is a battle sight setting that is used in combat, for shooting at ranges up to 300 meters. The Yugoslav M59/66 has folddown luminous sights (fig 99) for use when firing under poor light conditions; flip these up for use.

d. The front sight is adjustable for zero. Refer to paragraph 95b(2) for the procedure to be followed.

e. To fire the weapon, rotate the safety rearward until it is parallel to the trigger; then aim, using a normal sight picture, and press the trigger. The SKS will fire one shot and reload itself; when the last round has been fired, the bolt will remain open. (The gas cutoff of the Yugoslav M59/66 must be turned to the right for the rifle to function. Press the gas cutoff button (fig 100) down and swing to the right).

f. To unload or clear the SKS, apply the safety, then pull back the magazine catch (fig 99) and allow the magazine to swing open. Remove all cartridges and close the magazine. Grasp the operating handle, pull it fully rearward to eject any cartridge that might have been in the chamber, and release the handle; the bolt will remain open. Inspect to insure that no cartridges remain in the magazine, barrel, or receiver. Close the bolt, either by opening the magazine again and pulling rearward on the operating handle and releasing it, or by pressing the magazine platform down slightly and pulling the operating handle rearward and releasing it. Move the safety to the ready position, press the trigger and apply the safety.

g. The SKS bayonet is affixed by forcing the hilt to the rear (against spring pressure) and swinging the bayonet forward until it locks to the muzzle. This action is reversed to fold the bayonet in its stowed position.

h. The Yugoslav M49/56 can launch rifle grenades. The grenades must have tail booms of 22-mm inside diameter and if at all possible, only Yugoslav-made grenades should be launched. Prior to firing grenades, clear the rifle (para 113f) and cut off the gas mechanism by pressing in the lock (fig 100) and rotating it to the top of the gas cylinder. Lift the grenade sight to its vertical position. Pull the operating handle rearward until it is caught open and insert a grenade launching cartridge into the chamber. (Note: These cartridges are packed in the tail booms of the Yugoslav grenades.) Under no circumstances can a bulleted cartridge be used; to do so will cause the grenade to explode on the launcher. Depress the follower and while holding it down pull the operating handle rearward then ease it forward. Tap the operating handle forward to insure that the bolt locked. Slide the appropriate type grenade fully onto the launcher. To launch the grenade, move the safety to the fire position, align the appropriate range arc (fig 102) with the ogive (largest diameter) of the grenade and then align the sight and grenade on the target. Press the trigger. Refer to paragraph 96 for grenade performance data.

i. Prior to firing successive rounds, the operating handle must be smartly drawn rearward to eject the fired cartridge case. Prior to firing bulleted rounds, fold the grenade sight rearward, press in the lock (fig 102) and rotate it to the right as far as possible.

114. Disassembly and Assembly

a. To disassemble the SKS carbine:

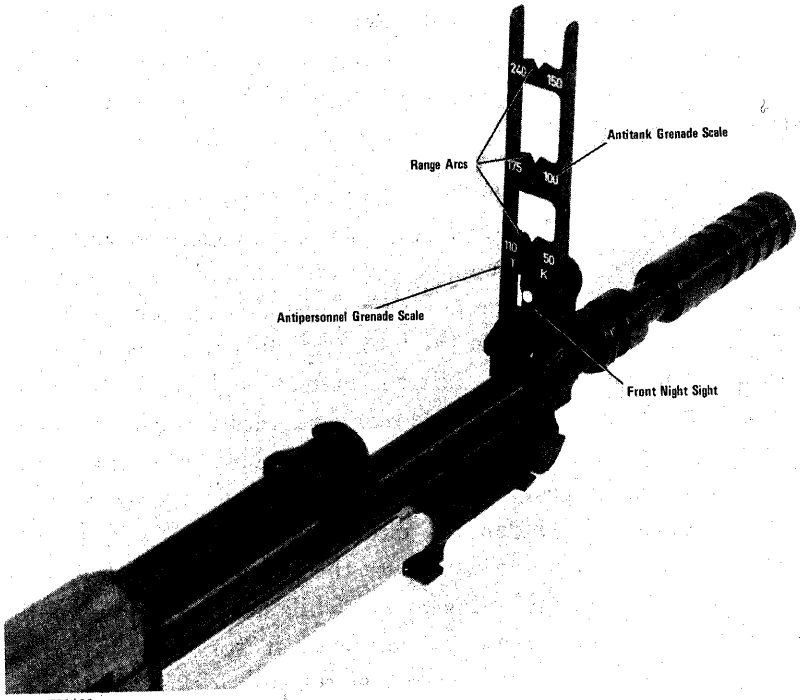


Figure 102. M59/66 grenade sight erected.

(1) Clear the weapon (para 113f).

(2) Press in on the cover in the butt plate until the combination tool case is ejected. Unlock the bayonet, let it hang vertically, and after disengaging the head of the cleaning rod from the front sight base, pull the cleaning rod out of the rifle.

Note: The East German Karabiner-S does not have a combination tool case in the butt, nor does it have a cleaning rod; these are carried separately.

(3) Rotate the receiver cover pin (fig 98) to a vertical position and pull it out as far as possible.

Note: It may be necessary to pry the receiver cover pin handle away from the receiver before it can be rotated.

Remove the receiver cover to the rear and pull the driving spring assembly out of the bolt carrier.

(4) Open the magazine by pulling the magazine catch (fig 99) to the rear. Pull the operating handle fully rearward, and lift the bolt carrier and bolt out of the receiver. Separate the bolt from the bolt carrier.

(5) Rotate the gas cylinder tube lock (fig 98) to its uppermost position and lift the rear of the handguard to remove the gas cylinder tube and the gas piston. The tube can be upended and the piston will slide out.

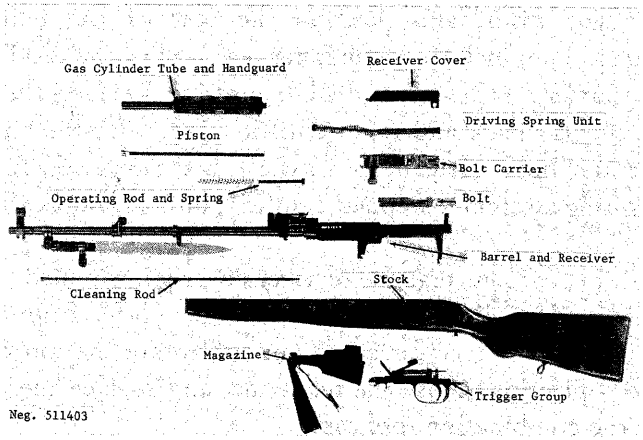


Figure 103. SKS field stripped.

(6) If necessary, the trigger group can be removed by depressing the catch located behind the loop of the trigger guard and pulling the trigger group down and out of the rifle. The safety must be in the safe position before the catch can be depressed.

(7) No further disassembly is necessary or desirable.

b. To reassemble the weapon, follow the procedure listed below:

(1) Invert the rifle and engage the pins at the front of the trigger group with the notches behind the magazine box. Swing the trigger group into position in the stock and seat it by a blow of the hand on the loop of the trigger guard. Move the safety to the fire position to insure that the catch is fully engaged.

(2) Slide the gas piston, small end first, into the gas cylinder tube; fit the large end of the tube over the gas cylinder (fig 98). Swing the rear end of the gas cylinder tube into the rear sight base and turn the gas cylinder lock downward.

(3) Place the bolt into the receiver, with the extractor to the right front, and position the rear of the bolt about three-eights of an inch from the inner rear wall of the receiver. Lay the bolt carrier on the bolt and while pressing down on the carrier, move it slightly back and forth until it mates with the bolt. Slide the bolt and bolt carrier fully forward in the receiver. Insert the driving spring assembly, stepped end first, into the bolt carrier.

(4) Insure that the receiver cover pin is pulled fully out to the right, then slide the receiver cover into place from the rear. Secure it with the receiver cover pin and rotate the pin down to the locked position. Close the magazine, and replace the cleaning rod and the combination tool case.

115. Functioning

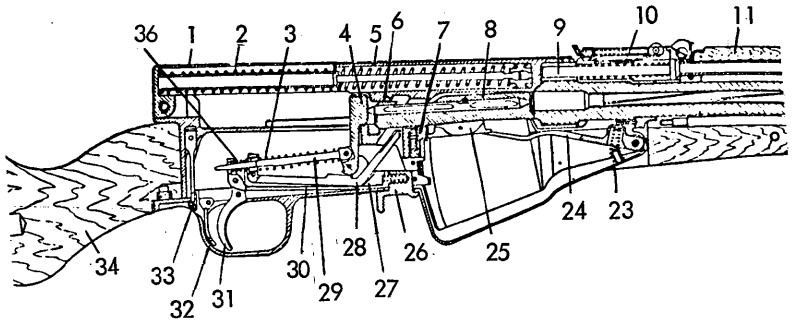
a. The SKS semiautomatic carbine is gas operated (fig 104). After the SKS has been loaded, pressure on the trigger releases the hammer, which impacts against the firing pin, firing the rifle. The propellant gases drive the bullet through the barrel,

and after the bullet passes the gas port, some of the gases are tapped off and directed against the piston head.

b. The propellant gases drive the piston and operating rod rearward against the bolt carrier. This forces the carrier and the hammer rearward and compresses the driving and hammer springs. After the bolt carrier moves rearward about one-fourth inch, a cam on the inner top of the bolt carrier (6, fig 104) contacts a projection on the top rear of the bolt and lifts the rear of the bolt up and out of its seat in the receiver. The disconnector, which has been held down by the bolt, now rises. The bolt and bolt carrier now travel rearward as a unit, while the piston is returned forward by the spring. The extractor withdraws the fired cartridge case from the chamber and holds it to the bolt until the case strikes the fixed ejector and is expelled. The rear end of the bolt carrier strikes the inner wall of the receiver, and all rearward movement then terminates.

c. The driving spring expands and forces the bolt and bolt carrier forward; the bolt drives the top round out of the magazine and into the chamber. When the cartridge is fully seated in the chamber, the extractor snaps into the groove of the cartridge, and forward movement of the bolt ceases. The bolt carrier still has a short distance to travel, and as it does, cams the rear of the bolt down into its seat in the receiver; the bolt, as it seats, forces the disconnector down. All forward movement terminates when the bolt carrier strikes the receiver.

d. The SKS has a complicated trigger mechanism (fig 105). The hammer is cocked by the recoiling bolt and is held cocked by a sliding sear. The sear is disengaged from the hammer by a spring-loaded trigger bar pivoted to the top of the trigger. The vertical alignment of the trigger bar is controlled by the disconnector; this, when depressed by the locking of the bolt,



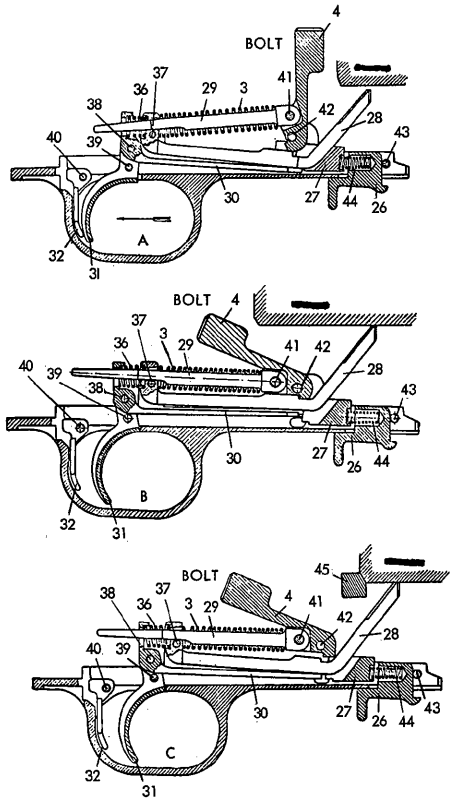
1 BOLT COVER
2 DRIVING SPRING
3 HAMMER SPRING
4 HAMMER
5 BOLT CARRIER
6 LOCKING CAM
7 LAST ROUND STOP
8 BOLT
9 TAPPET
10 TAPPET RETURN SPRING
11 HANDGUARD
23 FOLLOWER SPRING
24 FOLLOWER ARM
25 FOLLOWER
26 MAGAZINE CATCH
27 SEAR
28 DISCONNECTOR
29 HAMMER SPRING PLUNGER
30 TRIGGER BAR
31 TRIGGER
32 SAFETY
33 LATCH
34 STOCK
36 DISCONNECTOR SPRING

Neg. 511404

Figure 104. SKS section.

presses down on the trigger bar and thus aligns the trigger bar and sear. Pressure on the trigger will force the trigger bar to move forward and disengage the sear from the hammer. The hammer swings forward to fire the rifle (A, fig 105), and as it does, a cam on the bottom of the hammer depresses the disconnector, which in turn depresses the trigger bar below the sear. The sear spring forces the sear back against the hammer.

e. When the hammer is rocked back by the bolt, it strikes the disconnector and depresses it. The disconnector insures that the contact between the trigger bar and the sear is broken by depressing the trigger bar (B, fig 105). When the bolt



3 HAMMER SPRING
4 HAMMER
26 MAGAZINE CATCH
27 SEAR
28 DISCONNECTOR
29 HAMMER SPRING PLUNGER
30 TRIGGER BAR
31 TRIGGER
32 SAFETY
36 DISCONNECTOR SPRING
37 DISCONNECTOR PIN
38 TRIGGER BAR PIN
39 TRIGGER PIN
40 SAFETY PIVOT
41 HAMMER SPRING PLUNGER PIN
42 HAMMER PIN
43 MAGAZINE CATCH STOP PIN
44 SEAR SPRING
45 LOCKING SHOULDER

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Figure 105. SKS trigger mechanism.

counterrecoils, the hammer moves forward slightly, off the disconnector, which rises and allows the trigger bar to rise against the bottom of the sear (the disconnector having risen to its highest point). When the trigger is released, the trigger bar moves rearward until it is clear of the sear, then it springs up (if the bolt is locked) against the disconnector, and the rifle is ready for another shot (C, fig 105).

f. The disconnector (B, fig 105) prevents the rifle from firing if the bolt is not fully locked. It does this in two ways: by its control of the position of the trigger bar; and by a notch in the disconnector, which intercepts the sear notch of the hammer if the disconnector is not fully depressed, such as when the bolt is not fully locked.

g. The safety, when rotated up to the safe position, places a block behind the trigger and prevents the trigger from being pressed.

h. The bolt catch is normally held depressed by a light spring. When the last round is fed from the magazine, a nib on the magazine platform contacts the catch and forces it upward. As the recoiling bolt passes the catch, the catch protrudes into the bolt path and holds the bolt open.

116. Accessories

a. The following accessories are available for use with the SKS semiautomatic carbine:

(1) Combination tool kit.

(2) Sling.

(3) Charger clips.

(4) Standard Soviet pattern two-compartment oil and cleaning solvent container, or Yugoslav one-compartment oiler.

b. The combination tool kit, except for its cap, is similar in appearance and use to the kit for the AK-47 assault rifle. When

used as a cleaning rod guide, the cap is twisted into engagement with the front sight base. See paragraph 95 for instructions on the use of this kit.

c. The stripper clips are used to charge the rifle's magazine. Each holds 10 cartridges.

B. THE 7.62-MM VZOR 52 (Vz52) and VZOR 52/57 (Vz52/57) SEMIAUTOMATIC RIFLES

117. General

a. The Czechoslovak-designed and produced Vzor 52 and Vzor 52/57 semiautomatic rifles (fig 106) are gas-operated, box magazine-fed shoulder weapons, equipped with permanently attached folding bayonets. The Vz52 and Vz52/57 rifles are obsolete in the Czechoslovak Army; however, large quantities of both weapons have been supplied to Communist-aligned nations.

b. The two rifles are almost identical in outward appearance; the Vz52 is unmarked, while the Vz52/57 bears the imprint "Vz52/57" on the right front of the receiver. The main differences between the two rifles are those required by the different cartridges used: The Vz52 fires the Czechoslovak 7.62x45-mm M1952 cartridge; the Vz52/57 fires the 7.62x39-mm M1943 cartridge. If possible, Czechoslovak-manufactured ammunition should be used; however, any Communist-produced 7.62x39-mm cartridges will suffice for the Vz52/57. Refer to section VI for information on the ammunition used with these rifles.

118. Technical Data

Technical data concerning the Vz52 and Vz52/57 semiautomatic rifles will be found in table VIII.

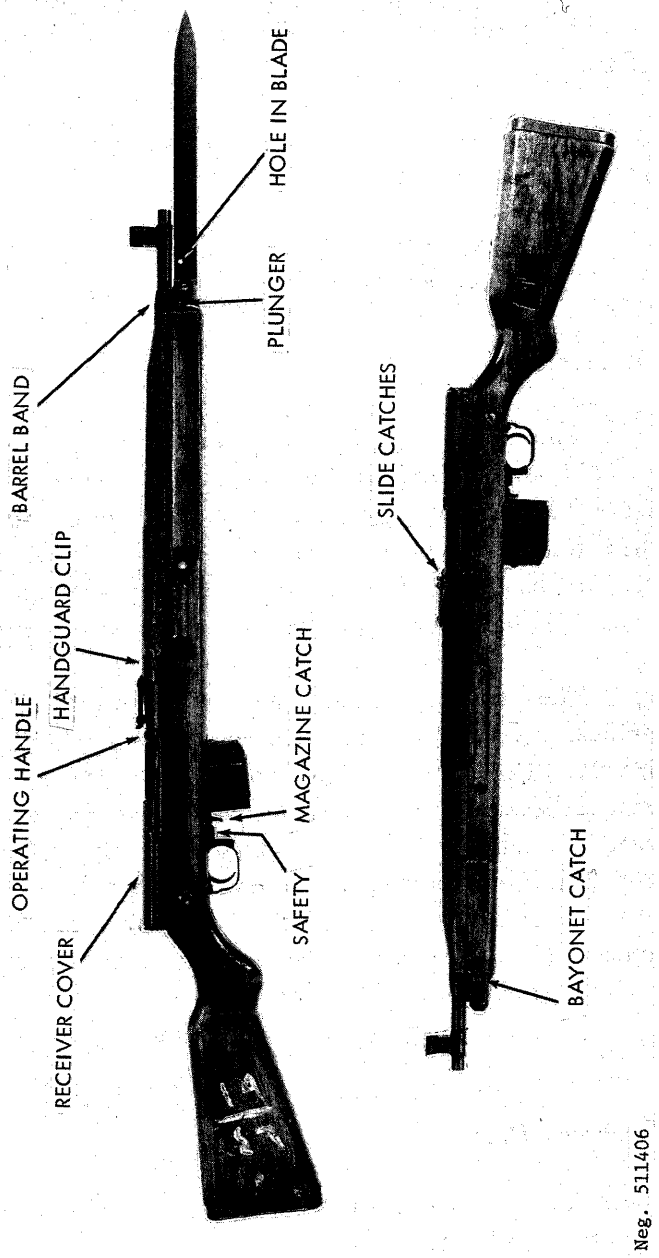

Figure 106. Czechoslovak M52 or M52/57 rifle.

119. Operation

a. The Vz52 and Vz52/57 are identical in operation. These rifles can be loaded by any one of three different methods. In any case, the bolt must be drawn fully rearward by the operating handle (fig 106) until the bolt is caught to the rear by the bolt catch; an empty magazine must be in place in the rifle to actuate the bolt catch. The three methods of loading are listed below:

(1) Insert a five-round stripper clip into the clip guides machined into the front of the bolt carrier; then using thumb pressure, press the cartridges from the clip into the magazine.

(2) If clipped ammunition is not available, place individual cartridges in the magazine opening and press them into the magazine.

(3) If spare loaded magazines are available, press the magazine catch (fig 106) toward the magazine, and with a forward rotary motion, swing the empty magazine out of the rifle. Hold the loaded magazine slightly canted forward and mate the groove across its top front edge with the lip in the magazine well. Swing the magazine rearward until the magazine catch snaps into place.

b. Pull the operating handle rearward and release it; the bolt will go forward and load the first cartridge.

CAUTION: The rifle is now ready to fire!

c. If the Vz52 is not to be fired immediately, apply the safety (fig 106) by moving it rearward.

d. Set the rear sight for the desired range by pressing the slide catches (fig 106) and moving the sight bar along the leaf until

the front edge of the bar is aligned with the line below the number that corresponds with the range in hundreds of meters. The Vz52 and Vz52/57 rifles have no battle sight setting.

e. The front sight is adjustable for windage zero only; it can be tapped from side to side.

f. To fire, press the safety forward; then aim, using a normal sight picture, and press the trigger. The Vz52 will fire one shot and reload itself; when the last round has been fired, the bolt will remain open.

g. To unload or clear the Vz52, first remove the magazine and then draw the operating handle fully rearward. While holding the bolt open with the operating handle, inspect to insure that no cartridges remain in the receiver or chamber. Release the operating handle, press the trigger, and insert the magazine.

h. The Vz52 bayonet is affixed by pressing on the bayonet catch (fig 106) (located at the left front end of the stock) and swinging the bayonet forward until it locks into place. The bayonet is folded back by again pressing on the bayonet catch and swinging the bayonet rearward until it locks into place.

120. Disassembly and Assembly

a. Disassemble the weapon in the following manner:

(1) Clear the weapon (para 119g), but do not replace the magazine. Set the safety on safe by pressing it to the rear.

(2) Force the receiver cover (fig 107) forward as far as possible; press in on the plunger protruding from the rear of the

cover and lift the cover straight up and off the receiver. Ease the plunger and the driving spring to the rear and upward, and remove them.

CAUTION: Keep the strong driving spring under control!

(3) Use the operating handle to pull the bolt carrier to the rear; at the same time firmly press the bolt carrier to the right. This will cause the bolt carrier to slip into the disassembly notch as it moves rearward; when this happens, press down on the operating handle, and the bolt carrier will disengage from the receiver. Lift the bolt carrier away from the receiver.

(4) Push the bolt rearward in the carrier; pull down on the front end of the bolt and, when the bolt has disengaged, pull it forward out of the carrier.

(5) Press in on the handguard clips (fig 106) in front of the rear sight and lift the handguard off the rifle.

(6) Pull the rear end of the trigger guard to the rear to unlock it, then swing it forward. Slide the trigger group forward into the magazine opening and remove it.

(7) Use a punch or the point of a bullet to press in on the plunger underneath the hole in the bayonet; then slide the barrel band (fig 106) forward. Lift the muzzle end of the barrel away from the stock and separate the stock from the rifle.

(8) Hold the gas cylinder sleeve (fig 107) in place and force the connector as far to the rear as possible until it can be lifted away from the gas cylinder sleeve. Pull the connector forward out of the actuator (fig 107). The gas cylinder sleeve can be moved to the rear for cleaning.

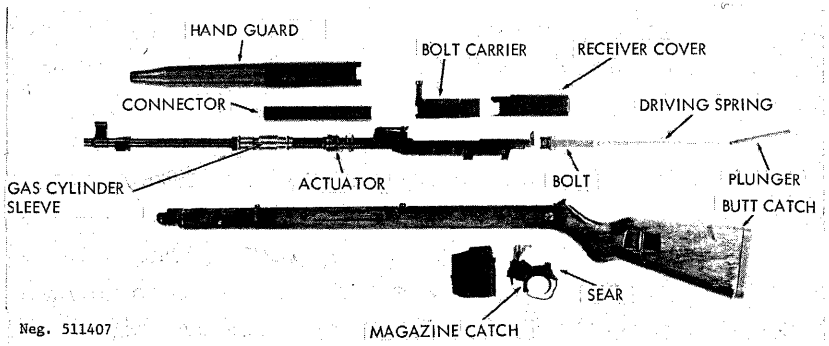

Figure 107. Vz52 field stripped.

(9) No further disassembly is necessary or desirable.

b. Reassemble the weapon by taking the following actions:

(1) Insure that the actuator is in place, with its semicircular cut facing upward. It should be possible to push the actuator in, flush with the front of the receiver. Slide the gas cylinder sleeve forward. Insert one end of the connector into the actuator and force both parts rearward until the connector can be placed onto the gas cylinder sleeve. If necessary, rotate the connector slightly to insure that it is mated with the two slots in the bottom of the actuator.

(2) Align the recess at the lower rear end of the receiver with the recoil lug on the stock; then lower the barrel into the stock. Start the barrel band into its seat in the stock tip, press in on the plunger, and fully seat the barrel band. Insert the lip at the front of the handguard into the barrel band, and press the rear of the handguard down until it snaps into place.

(3) Place the trigger group into the magazine opening and, with a rearward twisting motion, align the trigger housing lugs with their slots in the receiver. Slide the trigger housing to the rear and close the trigger guard.

(4) Insert the round end of the bolt into the loop in the bolt carrier, and push the bolt as far as possible to the rear. Press the front end of the bolt into the carrier; at the same time, push the bolt forward until it snaps into the bolt carrier and the extractor is flush with the front of the bolt carrier.

(5) Tilt the bolt carrier so that the operating handle tilts downward, and insert the bottom right rail of the bolt carrier into its groove in the receiver. Press down on the carrier and move it forward or rearward until its left side seats into the receiver, then slide the carrier fully forward.

(6) Insert the driving spring into the bolt carrier; then insert the plunger into the spring. Force the plunger forward until it can be inserted into the upper hole in the rear wall of the receiver.

(7) Place the receiver cover on the receiver, with the rear of the cover resting on the plunger. Press the plunger forward until the cover drops over it; then force the cover forward until it seats into its tracks in the receiver. Ease the cover to the rear. Insert the magazine.

121. Functioning

a. The Vzor 52 and Vzor 52/57 rifles are identical in their functioning. The rifles are gas operated; however, they employ an unusual concentric gas cylinder that surrounds the barrel. The gas mechanism is composed of a bearing mounted on the barrel, with a gas port drilled through it into the barrel. A sliding gas cylinder sleeve is positioned over the bearing and is connected to the actuator by means of a sheet-steel connector (fig 107).

b. When the rifle is loaded and cocked, pressure on the trigger releases the hammer, which impacts against the firing pin and fires the rifle. The propellant gases drive the bullet through the barrel; after the bullet passes the gas port, some of the gases are tapped off and expand between the rear of the barrel bearing and the gas cylinder sleeve. The sleeve is forced to the rear, and this motion is transmitted through the connector to the actuator. The actuator, by means of projections that pass through the sides of the receiver, forces the bolt carrier rearward. This movement of the carrier compresses the driving spring and rocks the hammer to the rear. As the carrier continues rearward, cams on the inner sides of the carrier mate with the lugs on the bolt and lift the front end of the bolt out of its locking recess in the receiver. When the bolt is completely unlocked, it and the carrier travel to the rear as one unit. The actuator, connector, and gas cylinder sleeve are returned forward by a spring pressing against the actuator (fig 107).

c. The stirrup-type extractor withdraws the cartridge case from the chamber and holds it to the bolt. The plunger-type ejector contacts a lug in the rear floor of the receiver and stops. The bolt continues to the rear, and the now stationary ejector protrudes through the bolt face and strikes the cartridge case, which pivots around the extractor and is expelled. The bolt carrier strikes the rear wall of the receiver and stops.

d. The driving spring forces the bolt and bolt carrier forward. The bolt drives the top cartridge out of the magazine and into the chamber; the extractor snaps into the groove in the cartridge case. The forward movement of the bolt now ceases. The bolt carrier continues to move forward, and as it does, the cams in its inner sides force the bolt down into its locking recess. The bolt carrier finally strikes the receiver and stops.

e. If the bolt does not lock fully, the firing pin will not align with the cartridge primer, and the bolt carrier will not go

fully forward. If this happens, the loop on the bolt carrier prevents the hammer from striking the firing pin.

f. The trigger mechanism of the Vz52 and Vz52/57 rifles is similar to that of the US M14 rifle. When the hammer is cocked, pressure on the trigger causes it to pivot about its pin; the front hooks of the trigger disengage from the front lugs of the hammer, and the hammer, under pressure of its spring, swings forward to fire the rifle.

g. The recoiling bolt carrier forces the hammer back to its cocked position. The sear, which because of the trigger rotation has moved forward, is pushed back against its spring as the rear hammer hooks pass. When the rear hooks completely pass the sear, it snaps back into position, and as the bolt counterrecoils, the sear engages the hammer and holds it to the rear. When the trigger is released, the sear moves to the rear and releases the hammer; however, as the front trigger hooks have now moved to the rear, they intercept the hammer and hold it cocked. The trigger must be pressed again to fire another shot.

h. When the safety is applied, a hook on the front of the safety locks the hammer and also blocks the trigger so that it cannot be pressed.

i. When the magazine is empty, a projection on the rear of the magazine platform contacts the bolt catch and forces it up to intercept the bolt when it counterrecoils. A weak spring normally holds the bolt catch in its retracted position.

122. Accessories

a. The accessories used with the Vzor 52 and Vzor 52/57 rifles are carried in recesses in the butt and are removed by

depressing the butt catch and removing the butt plate. The accessories are:

(1) A three-piece sectional cleaning rod.

(2) A bore brush.

(3) An oil bottle.

(4) A breech shield.

(5) A fabric sling.

b. The sections of the cleaning rod are screwed together for use; the assembled rod can be screwed into the lid of the oil bottle, which then serves as a handle. The bore brush can also be screwed onto the rod.

c. The breech shield keeps dirt out of the breech during cleaning and prevents damage to the bolt.

C. THE 7.62-MM TYPE 68 RIFLE

123. General

a. The 7.62-mm Type 68 rifle recently came into service with the army of the People's Republic of China. This gas-operated selective fire rifle is fed from a detachable 15-round capacity box magazine. The rifle has a two-position gas regulator and a permanently attached folding bayonet.

b. Two versions of this rifle exist. The earlier version (fig 108) has a receiver machined out of steel; the later model has a pressed steel receiver and can be identified by the large rivets at each side of the receiver (fig 109). There also are other minor differences between the two weapons.

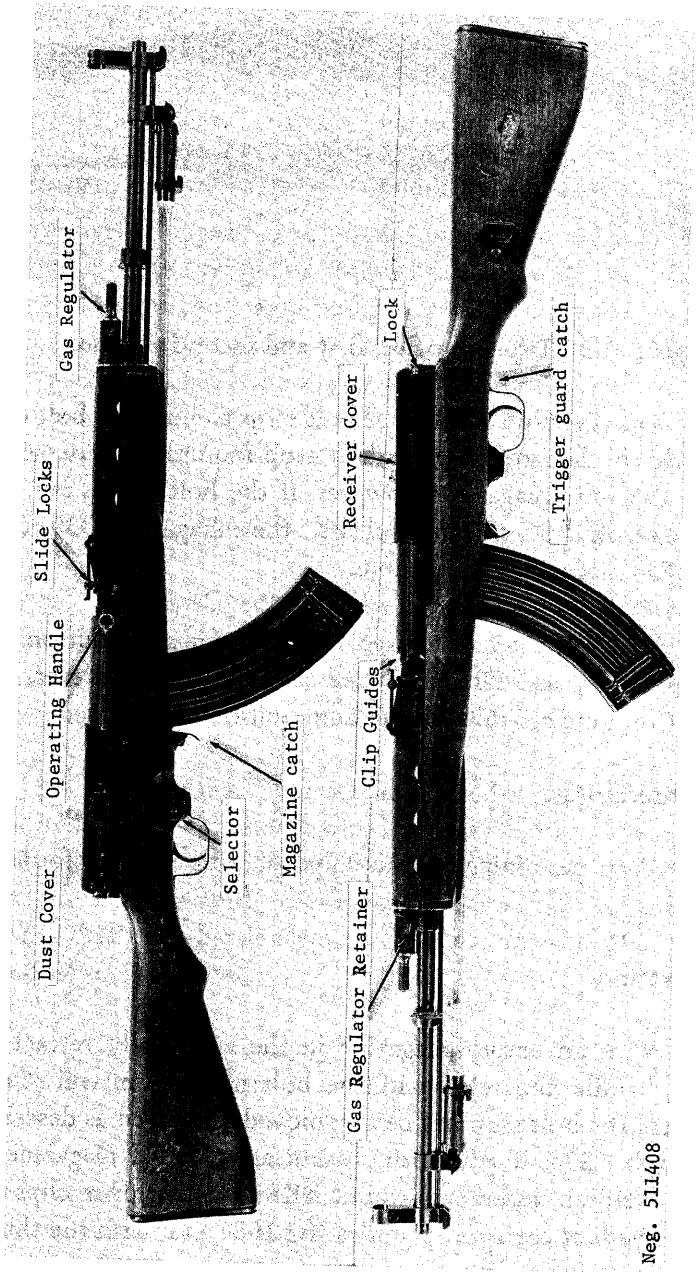

Figure 108. PRC Type 68 rifle (first version).

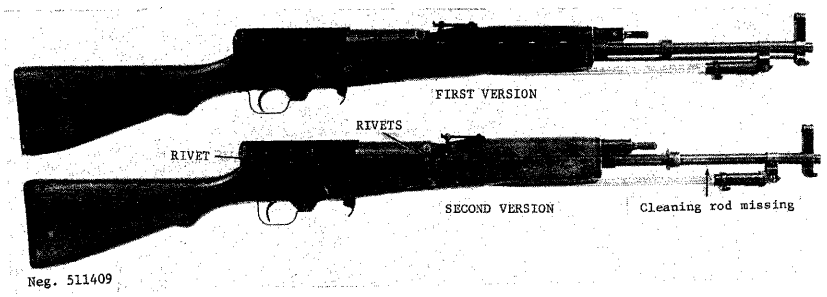

Figure 109. Type 68 rifles, first and second versions.

c. The Type 68 rifle has a bolt stop to hold the bolt open after firing the last round. The bolt stop requires the use of the Type 68 15-round magazine; however, if the bolt stop is removed or ground off so that it clears the magazine, 30-round AK-47/AKM magazines are useable.

d. The Type 68 rifle fires 7.62x39-mm ammunition (sec IX). If possible, use PRC-produced ammunition; however, any standard Communist 7.62x39-mm ammunition can be used.

124. Technical Data

Technical data pertaining to the Type 68 rifle will be found in table VIII.

125. Operation

a. With an empty magazine in the rifle, fully retract the operating handle and release it (the bolt mechanism will remain open unless the bolt stop has been removed or altered as described in paragraph 123c; if this is the case use preloaded magazines as described below). Insert ten-round SKS type stripper clips (fig 101) into the bolt carrier clip guides (fig 108) and, with the thumb

close to the clip, press the cartridges off the clip, into the magazine. Remove the clip, replace it with a fresh one, and press five additional cartridges into the magazine. Then remove the clip with the remaining cartridges. If stripper clips are not available, place individual cartridges on the magazine follower and press them down until they roll under one of the magazine lips. Alternatively, magazines can be loaded, out of the rifle, by placing cartridges on the magazine follower and pressing them down until they roll under the magazine lip. Load the magazine into the rifle by holding it canted forward and engage the lug on its front top with its recess inside the magazine well, then swing the magazine rearward until the magazine catch (fig 108) snaps into place. Pull the operating handle fully rearward and release it.

CAUTION: The rifle is now loaded and ready to fire!

b. Unless the rifle is to be fired immediately, put it on safe by rotating the selector (fig 108) to the rear or "0" position. This locks only the trigger; the breech mechanism can be opened if necessary. Slide the dust cover (fig 108) forward.

c. Set the rear sight to the desired range by depressing the slide locks (fig 108) and moving the sight bar along the leaf until the front edge of the bar is aligned with the line below the number that corresponds with the range in hundreds of meters. The symbol "III" is a battle sight setting used in combat for shooting at ranges to 300 meters.

d. The front sight is adjustable for zero; refer to paragraph 95b(2) for the procedure to be followed.

e. To fire, rotate the selector (fig 108) forward off safe; the vertical or middle position (indicated by "1" provides semiautomatic fire and the forward position (indicated by "2"

provides fully automatic fire. Aim—using a normal sight picture—and press the trigger. If firing fully automatic, bursts should be limited to three to five shots. The bolt will remain closed between shots or bursts and open when the last round is fired (if the bolt stop is present).

f. Remove the magazine by pressing the magazine catch (fig 108) toward the magazine and then rotating the magazine forward until it comes out.

g. If the rifle is sluggish from cold or fouling, the gas regulator (fig 108) should be adjusted to admit additional gas to operate the mechanism. Press the gas regulator retainer (fig 110) in toward the gas cylinder until it disengages from the handguard. Rotate the retainer down until it can be pulled out of the gas cylinder.

CAUTION: Hold the gas regulator; it is under spring pressure and can fly out.

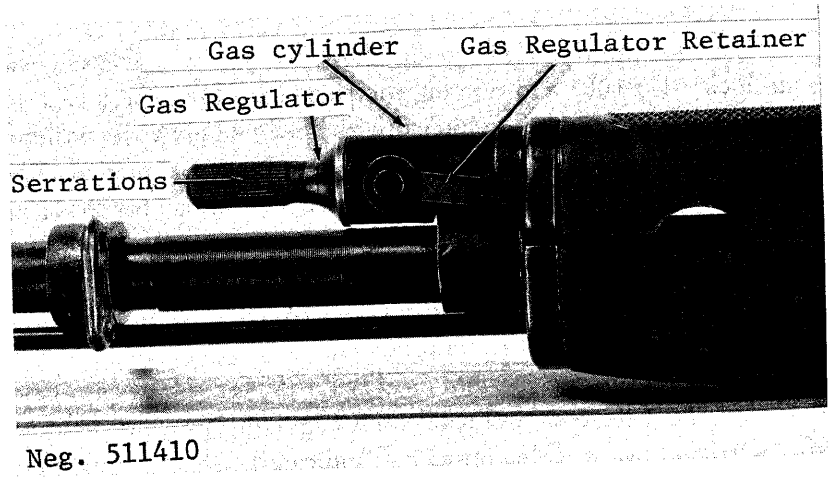

Figure 110. Gas regulator.

The gas regulator has indicator holes at the end of the serrations (fig 110). The diameter of these holes corresponds with the gas ports in the regulator, and normally the small hole is nearest the barrel. To remedy sluggish action, turn the regulator so that the largest hole is nearest the barrel, then align the holes in the regulator and gas cylinder and insert the retainer. Swing the retainer up until it locks into the handguard.

h. The bayonet is affixed by forcing its hilt to the rear (against spring pressure) and then swinging the bayonet forward until it locks to the muzzle. This action is reversed to fold the bayonet in its stowed position.

i. To unload or clear the Type 68 rifle, set the selector to its rear ("0") position, remove the magazine (f, above) and pull the operating handle fully rearward. Inspect to insure that no cartridge is present, then release the operating handle. Rotate the selector off safe, press the trigger and reset the selector back to safe. Insert the magazine. Slide the dust cover (fig 108) forward.

126. Disassembly and Assembly

a. Clear the weapon (para 125i) but do not insert the magazine. Press in the lock (fig 108) at the left rear of the receiver cover and pull the cover rearward, off the receiver.

b. If the rifle is an early model with a machined receiver, pull the rear end of the driving spring guide up out of its seat in the rear of the receiver, and remove the driving spring assembly.

c. If the rifle is a later model with the stamped receiver, press in the lock (fig 108) and pull the driving spring and its guide forward until they clear their seat. Ease the spring upward, then remove it.

d. Pull the operating handle (fig 108) to the rear; at the same time, press down on it. When the bolt carrier is about one inch from the rear end of the receiver it will disengage from the receiver. Lift the bolt carrier out of the receiver.

e. Push the bolt to the rear in the carrier; then twist the bolt (fig 112) until it can be pulled forward and out.

f. Disengage the gas regulator retainer (fig 110) from the handguard and rotate the retainer downward. Hold the gas regulator and remove the retainer. Point the muzzle down and catch the piston as it comes out of the gas cylinder (fig 110). Remove the piston and its spring. Slide the handguard forward and remove it; then move the piston heat shield (if present) rearward off the gas cylinder to remove it.

g. Invert the rifle and rotate the trigger guard catch (fig 108) located at the rear of the trigger guard until the trigger group disengages. Pull the trigger guard upward until it comes free. If desired, remove the stock by first moving the bayonet from its stowed position, then pull the rear of the stock away from the receiver.

h. Further disassembly is neither necessary nor desirable.

i. To reassemble the rifle, first engage the front of the stock with the ferrule on the gas cylinder (fig 111) and seat the stock onto the receiver. Fold the bayonet. Cock the hammer (fig 113), then press the automatic sear (fig 113) out of engagement with the hammer. Place the trigger group into the stock and guide the automatic sear into its slot at the left rear side of the magazine opening in the receiver. Seat the pins in the front of the trigger group into the recesses in the receiver, then force the rear end of the trigger group down against the stock. Rotate the trigger guard catch to the rear until it is flush with the guard.

Figure 111. Type 68 field stripped.

j. Place the large end of the piston heat shield over the end of the gas cylinder and roughly align the shield with the front of the rear sight base. Insert the piston and spring, small end first, into the gas cylinder, through the heat shield, and into the hole in the rear sight base. Slip the handguard in place over the gas cylinder. Place the gas regulator (smallest port toward barrel) into the gas cylinder and, after aligning the holes in the gas cylinder and regulators, install the regulator retainer (fig 110). Swing the retainer up until it locks into the handguard.

k. Place the spindle of the bolt into its hole in the bolt carrier and twist the bolt until the operating lug (fig 112) slips into its groove in the bolt carrier. Pull the bolt forward in the carrier. Mate the slot on the right side of the carrier with the upper lip on the right side of the receiver, lay the carrier onto the left upper lip, then move the carrier until the lug on its left side enters the cut in the left rear receiver lip. Push the bolt carrier fully forward.

l. Insert the flat end of the driving spring assembly into its hole in the bolt carrier. If the rifle is an early, machined receiver model, seat the stem of the guide into its hole in the rear of the receiver. If the rifle is a later, stamped receiver model, seat the small end of the guide into the hole in the rear wall of the receiver, then press the lock until the guide snaps into its seat.

m. Install the receiver cover by placing the tab on the left side of the cover immediately behind its slot in the receiver, insuring that the cover is over the lock (fig 108). Press the cover down so that the tab on its right side is aligned with its slot in the receiver. Press the receiver cover forward until the lock snaps into its hole in the receiver cover. Install the magazine.

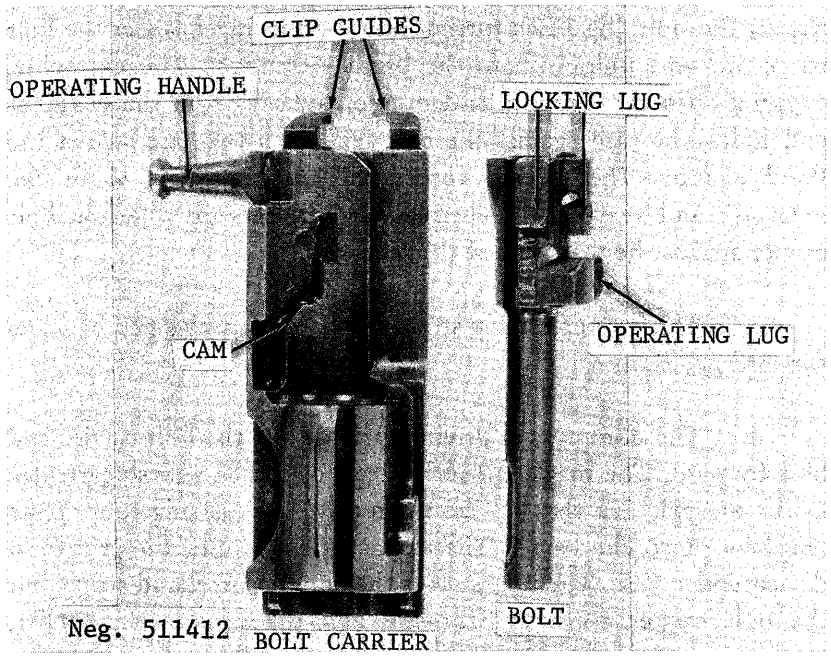

Figure 112. Type 68 bolt.

127. Functioning

a. The Type 68 rifle is gas operated. When the trigger is pressed, the hammer strikes the firing pin and ignites the cartridge. The gases generated drive the bullet down the barrel and, when the bullet passes the gas port, some of the propellant gases enter the gas cylinder and drive the piston rearward. The rearward movement of the piston causes the piston spring to compress and drives the bolt carrier to the rear.

b. As the bolt carrier moves rearward it compresses the driving spring and rocks the hammer rearward. After a short initial free travel, the cam cut into the bolt carrier contacts the operating

lug on the bolt (fig 112); further bolt carrier travel causes the bolt to rotate and unlock from the barrel extension. The extractor, engaged with the fired cartridge case, pulls it from the chamber and holds the case against the bolt face until the case strikes the fixed ejector. The ejector forces the case to pivot about the extractor and be expelled. The rearward travel stops when the bolt carrier strikes the rear wall of the receiver.

c. The compressed piston spring returns the piston to its forward position.

d. The compressed driving spring starts the bolt carrier and bolt forward. The magazine spring has positioned a fresh cartridge in the magazine so that the bolt can drive the cartridge out of the magazine, into the barrel. The extractor snaps into the groove in the cartridge case. The bolt strikes the end of barrel and stops, but the bolt carrier continues forward and the cam in the carrier, working on the operating lug of the bolt, rotates the bolt to its locked position. The carrier trips the automatic sear, then strikes the inner front of the receiver and stops.

e. The trigger mechanism has three sears (fig 113). The automatic sear is located in front of the hammer and is actuated by the bolt carrier (d above). The trigger sear is to the right, behind the hammer and the semiautomatic sear is to the left. The trigger sear always moves when the trigger is pressed or released, but the semiautomatic sear functions only when the selector is set at "1" or semiautomatic fire.

f. At the commencement of fire, the automatic sear has been tripped by the bolt carrier and only the trigger sear holds the hammer cocked. When the trigger is pressed, the trigger sear releases the hammer, which, under pressure of its spring, rotates and strikes the firing pin, firing the cartridge. As the bolt carrier

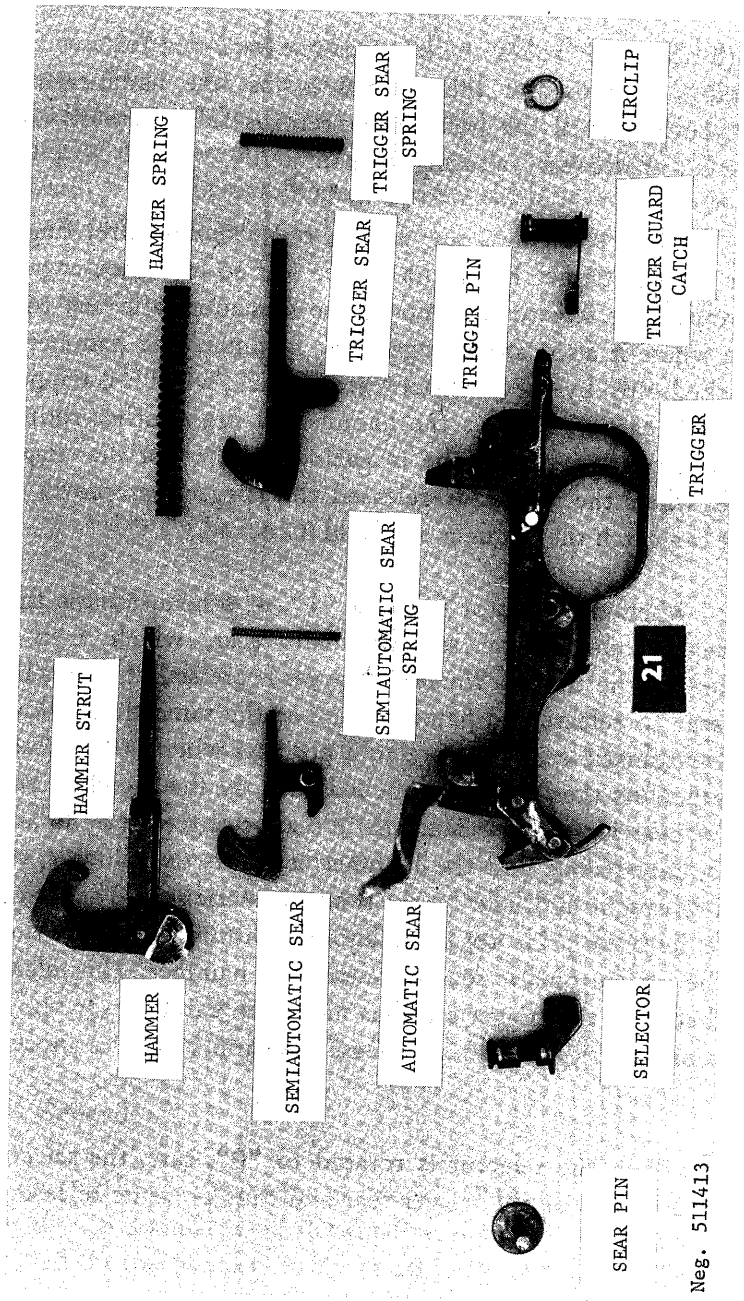

Figure 113. Type 68 trigger mechanism.

recoils (b above), it rocks the hammer rearward and releases the automatic sear. This sear then moves against the hammer and holds it cocked until the bolt carrier returns fully forward and trips the automatic sear, releasing the hammer.

g. If the selector is set at "2", or automatic fire, finger pressure on the trigger holds the trigger sear so it cannot engage the hammer. The selector has moved the semiautomatic sear to a position where it also cannot engage the hammer. The hammer is held cocked only by the automatic sear, which, when it is tripped by the bolt carrier, releases the hammer to fire another round. This action continues until the magazine is empty or the trigger released. When the trigger is released the trigger sear moves to where it can catch the hammer and hold it cocked.

h. When the selector is set at "1", or semiautomatic fire, the selector releases the semiautomatic sear, which then is controlled by the trigger. When the trigger is pressed, it causes the trigger sear to release the hammer and, at the same time, allows the semiautomatic sear to move to a position where it can catch the hammer. As the hammer is rocked back by the recoiling bolt carrier, it overrides the semiautomatic sear so that when the bolt carrier counterrecoils and the hammer attempts to follow it, the hammer is caught and held by the semiautomatic sear. The trigger must be released prior to firing another shot. The trigger then forces the semiautomatic sear to release the hammer. This release is timed so that the trigger sear has moved to catch the hammer. Pressure on the trigger will now release the hammer to fire another shot.

i. When the selector is rotated to "0", safe, the selector blocks movement of the trigger sear and thus prevents release of the hammer.

j. The bolt stop is normally held disengaged by a light spring. When the last round is fed from the magazine, the magazine follower engages the bolt stop and because the magazine spring is stronger than the bolt stop spring, forces the bolt stop upward. When the recoiling bolt passes the bolt stops, it rises to its highest point and catches the bolt upon counterrecoil.

128. Accessories

a. The accessories for the Type 68 rifle include:

(1) Extra magazines.

(2) Web sling.

(3) Cleaning kit.

(4) Oiler.

b. The cleaning kit is similar to that used with the AK-47 (para 95b). The Type 68 cleaning kit also has a reamer (fig 111) for cleaning the gas port. With the regulator and piston removed, insert the reamer into the angled hole in the top of the gas cylinder and gently twist it inward until it enters the barrel bore. Use care; the reamer can cut the gas port oversize and ruin the barrel.

D. THE 7.62-MM CARBINE MODEL 1944

129. General

a. The Soviet-designed Model 1944 carbine (fig 114)—a rifle by US standards—is the final version of a weapon originally adopted by the Russian Army in 1891. Variations of the original

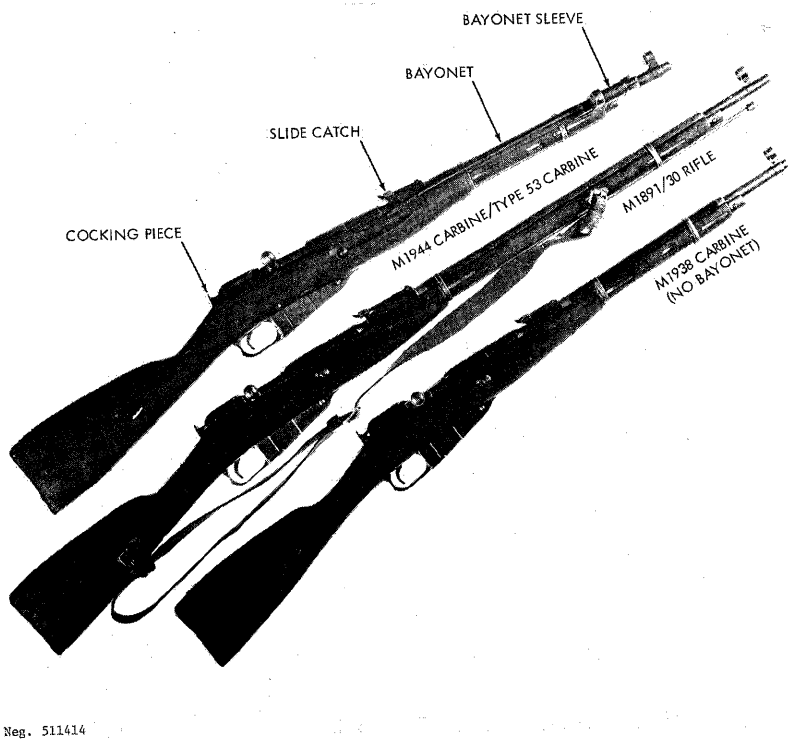

Figure 114. M1891 to M1944 rifles.

weapon include rifles, short rifles, carbines, and sniper's rifles. Only the Model 1944 carbine is still in use. Earlier versions, such as the Model 1891/30 rifle and the Model 1938 carbine, may occasionally be encountered (fig 114). Instructions for the Model 1944 carbine also apply to these earlier weapons. These old Russian weapons are simple, rugged, and reliable.

b. The Model 1944 carbine is a short, 5-round capacity, magazine-fed, manually operated bolt action weapon, equipped with a permanently attached folding spike bayonet. This weapon can easily be recognized by its protruding streamlined magazine, by its short straight bolt handle, and by its large, flanged cocking

piece. The People's Republic of China has also produced this rifle (Type 53 carbine); it can be distinguished from the Soviet Model 1944 by the Chinese characters stamped into its receiver. All versions of this weapon fire the 7.62x54R long-rimmed cartridge. See section VI for additional information on the ammunition used with these rifles.

130. Technical Data

Technical data concerning the Model 1944 carbine will be found in table VIII.

131. Operation

a. Open the bolt by turning the bolt handle to the vertical position (fig 115); then pull the bolt fully to the rear. Load the magazine by one of the actions listed below:

(1) Insert a 5-round stripper clip into the clip guides in the receiver (fig 115) and press the cartridges from the clip into the magazine.

(2) Place individual cartridges in the receiver and press them down into the magazine until they are caught by the interrupter. Be sure that the rim of each cartridge, as it is loaded, is ahead of the rim of the preceding cartridge.

b. Individual cartridges can also be inserted directly into the chamber.

c. Slide the bolt forward and rotate the handle to its horizontal position.

CAUTION: The rifle is now ready to fire!

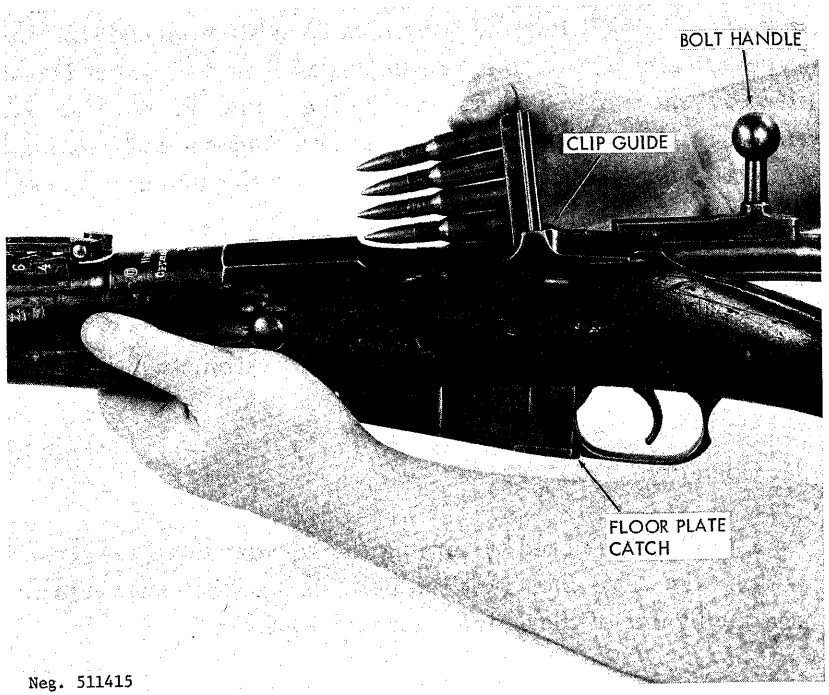

Figure 115. Loading the M1891 or M44 rifle.

If the weapon is not to be fired immediately, make it safe by grasping the cocking piece and drawing it back against the force of the firing pin spring, and rotating the cocking piece to the left to engage it with the receiver wall. Reverse this action to prepare the rifle for use.

d. Set the rear sight for the desired range by pressing the slide catch and moving the sight bar along the leaf until the front edge of the bar is aligned with the line below the number that corresponds with the range in hundreds of meters. There is no battlesight setting.

e. The front sight post is adjustable for zero; it can be screwed in or out for elevation adjustment, and can be tapped

from side to side for windage adjustment (M1891/30, M1938, and M1944 only).

f. To fire the weapon, if the rifle is on safe, pull the cocking piece to the rear and rotate it to the fire position; then aim, using a normal sight picture, and press the trigger. Rotate the bolt handle up and pull it vigorously to the rear. Then push it forward and rotate it down. The weapon can again be fired. These rifles have no device to hold the bolt open when the last round is fired.

g. To unload or clear these weapons, open the bolt (a above) and release the floorplate catch (fig 115) by pressing it to the rear. The floorplate and the magazine platform will swing out of the magazine, along with any cartridges. Inspect to insure that no cartridges remain in the chamber or magazine, then swing the floorplate back into position, close the bolt, and press the trigger.

132. Disassembly and Assembly

a. To disassemble the Model 1944 carbine, the following steps are necessary:

(1) Clear the weapon (para 131g).

(2) Open the bolt, press the trigger, and, while holding it, pull the bolt out of the rifle.

(3) Open the magazine by pressing the floorplate catch (fig 115) to the rear and swinging the floorplate down. Squeeze the magazine platform against the floorplate and pull the floorplate away from the magazine.

(4) No further disassembly is necessary or desirable.

b. To reassemble the rifle, squeeze the magazine platform against the floorplate and engage this unit with the large crosspin at the front of the magazine. Release the platform and swing the floorplate up into its latched position. Push the bolt into the receiver.

133. Functioning

a. The Model 1944 carbine is manually operated; all power to operate its mechanism comes from the shooter. When the bolt handle is raised, a cam on the cocking piece is forced back by a cam cut in the bolt to retract and cock the firing pin. As the bolt is drawn back, the extractor removes the cartridge case from the chamber and holds it to the bolt until it strikes the ejector-interrupter, at which time it is expelled. The guide rail on the bottom of the bolt contacts the top of the trigger and stops the rearward travel of the bolt.

b. When the bolt is pushed forward, it drives the top cartridge out of the magazine and into the chamber. As the bolt is rotated shut, the extractor snaps over the rim of the cartridge, and a cam on the bolt pushes the interrupter in and releases another cartridge into the feedway. Finally, the cam on the cocking piece alignes with the cam cut in the bolt.

c. When the trigger is pressed, it bends the flexible sear down and out of engagement with the cocking piece. The firing-pin spring drives the firing pin forward to fire the weapon.

134. Accessories

a. The following accessories are issued with the Model 1944 carbine, but are carried separately from the weapon:

(1) Cleaning rod patch holder.

(2) Bore brush.

(3) Screwdriver.

(4) Oil and solvent container.

b. The patch holder is attached to the cleaning rod and used to hold patches when cleaning the barrel. The screwdriver is used for tightening the trigger guard/magazine screw.

E. THE 7.62-MM SNIPER'S RIFLE MODELS 1891/30 AND Vz54

135. General

a. The Model 1891/30 sniper's rifle (fig 116) is a Model 1891/30 rifle, specially selected for accuracy, and fitted with a telescopic sight. In addition, the bolt handle has been lengthened and turned down alongside the stock.

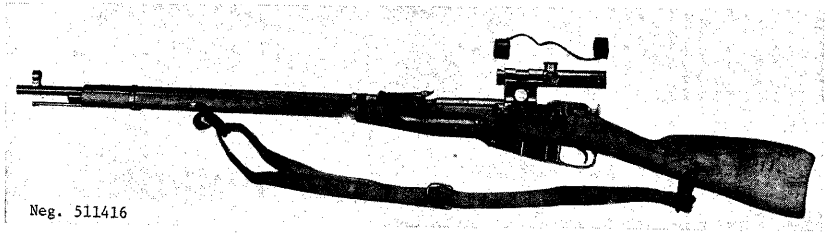

Figure 116. Model 1891/30 sniper's rifle w/PU telescope.

b. These rifles can be fitted with the 3.5-power PU telescope or the 4-power PE telescope (fig 118). The PU is the more common telescope. These telescopes have large pointed post reticles and rather coarse adjustments.

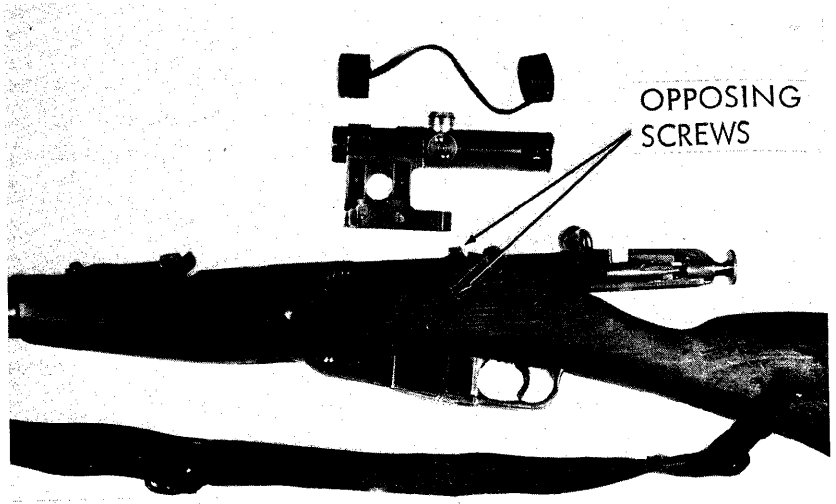

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Figure 117. Zero adjustment for PU telescope.

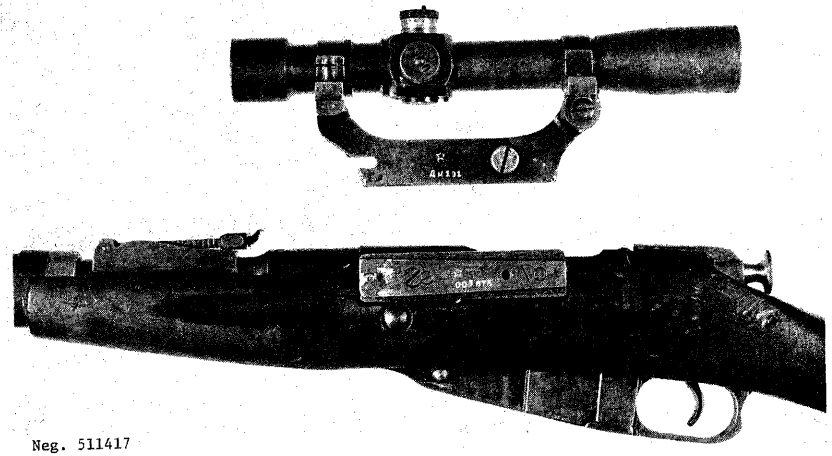

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Figure 118. Model 1891/30 Sniper's rifle w/PE telescope.

c. The Vz54 is a Czechoslovak version of the M1891/30 sniper's rifle with a hunting rifle type stock and exposed barrel.

136. Technical Data

Technical data concerning the Model 1891/30 sniper's rifle will be found in table VIII.

137. Operation

Refer to paragraph 131.

138. Disassembly and Assembly

Refer to paragraph 132.

139. Functioning

Refer to paragraph 133.

140. Accessories

a. The PU and PE telescopes are removed by loosening their lock screws and removing the telescope and its upper mount.

b. The PU telescope can be zeroed to the rifle by means of adjustment screws in the mount. Elevation zero is accomplished by alternately loosening and tightening the vertical opposing screws (fig 117) near the lock screw. Windage zero is accomplished by adjusting the screw in the upper mount that bears against the lower mount; this determines how close to the receiver the rear end of the mount can move.

c. The PE telescope can be adjusted for windage zero by means of the screw in the rear mount (fig 118).

d. Handle these telescopes with care. Avoid scratching the lenses, and clean them only with a soft, grit-free cloth.

F. THE 7.62-MM DRAGUNOV SNIPER'S RIFLE (SVD)

141. General

a. The Dragunov sniper's rifle (fig 119) is one of the newest Soviet small arms and has replaced the older M1891/30 sniper's rifle (subsec E) in most of the Warsaw Pact Armies. The Dragunov, also known as the SVD, is a gas-operated, magazine-fed, semiautomatic weapon fitted with a PSO-1 telescopic sight. The PSO-1 telescope can be used for conventional aiming during daylight and can also be used to detect and fire upon active infrared sources at night. Conventional open sights are also provided for emergency use. The Warsaw Pact AKM bayonet-wirecutters (fig 89) can be affixed to the SVD.

b. The SVD fire 7.62x54R ammunition (sec VI). Only ball cartridges should be used in order to preserve accuracy. Tracer ammunition, in particular, should not be fired.

142. Technical Data

Technical data pertaining to the Dragunov sniper's rifle will be found in table VIII.

143. Operation

a. Remove the magazine by pressing the magazine catch (fig 119) toward the magazine and rocking the magazine forward. Place a cartridge on the magazine platform and press it down until it rolls under one of the magazine lips. Repeat until the magazine

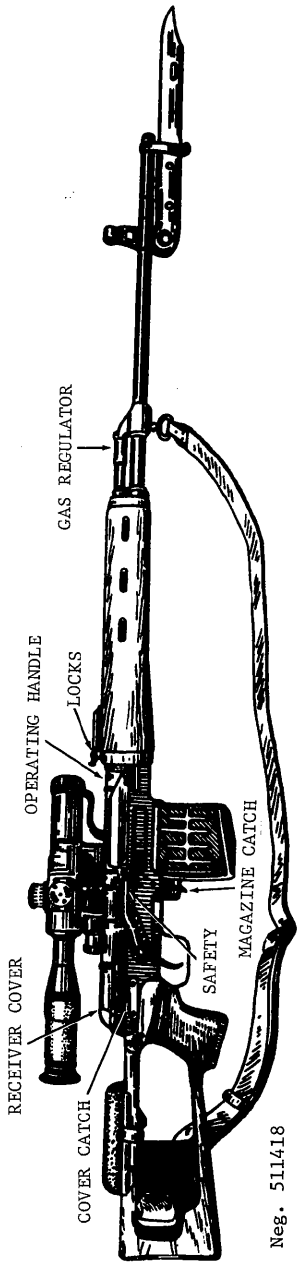

Figure 119. Dragunov Sniper's Rifle (SVD).

is full. Insure that the rim of each cartridge, as it is loaded into the magazine, is in front of the rim of the preceeding cartridge. Insert the loaded magazine into the magazine well so that the top front edge engages, then rock the magazine rearward until the magazine catch (fig 119) snaps into place and retains the magazine.

b. Press the safety (fig 119) down, if necessary, then pull the operating handle (fig 119) fully rearward and release it.

CAUTION: The rifle is now loaded and ready to fire!

If the SVD is not to be immediately fired, move the safety to its uppermost position. To fire, press the safety down, aim (paras c and e below) and press the trigger. The rifle will fire one shot and reload itself. To fire successive shots release and repress the trigger. The bolt remains closed between shots and open after the last round is fired.

c. If the open sights are to be used, set the rear sight by pressing in the locks on the rear sight slide (fig 119), then move the slide along the rear sight leaf. The front edge of the slide should be aligned with the numeral that corresponds to the range in hundreds of meters. Use the same sight picture as for firing a pistol.

d. If the PSO-1 telescopic sight (fig 120) is used, rotate the elevation knob until the figure that corresponds to the range in hundreds of meters is aligned with its index. The range can be fairly accurately determined by use of the range finder located in the lower left of the telescope reticle (fig 121). This rangefinder is graduated to the height of a man (5'7"). Look through the telescope and place the horizontal line at the bottom line of the target. Move the telescope until the upper (curved) line just touches the top of the target's head. The number indicates the

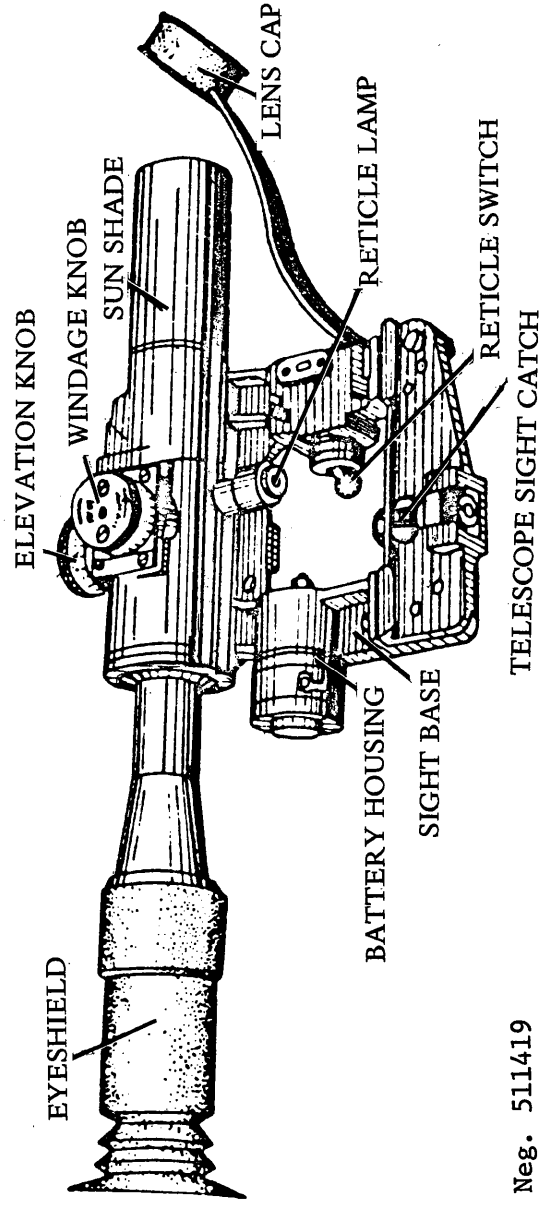

Figure 120. PSO-1 telescopic sight.

range in hundreds of meters; if the target falls between numbers, the remaining distance then must be estimated. When the range is determined and set into the elevation knob, use the point of the top chevron on the reticle as an aiming point. The three lower chevrons are used for firing at 1100, 1200, and 1300 meters with the elevation knob set at 10. The horizontal scale extending out from the sides of the top chevron are used for hasty wind corrections; deliberate changes are made by rotating the windage knob (fig 120).

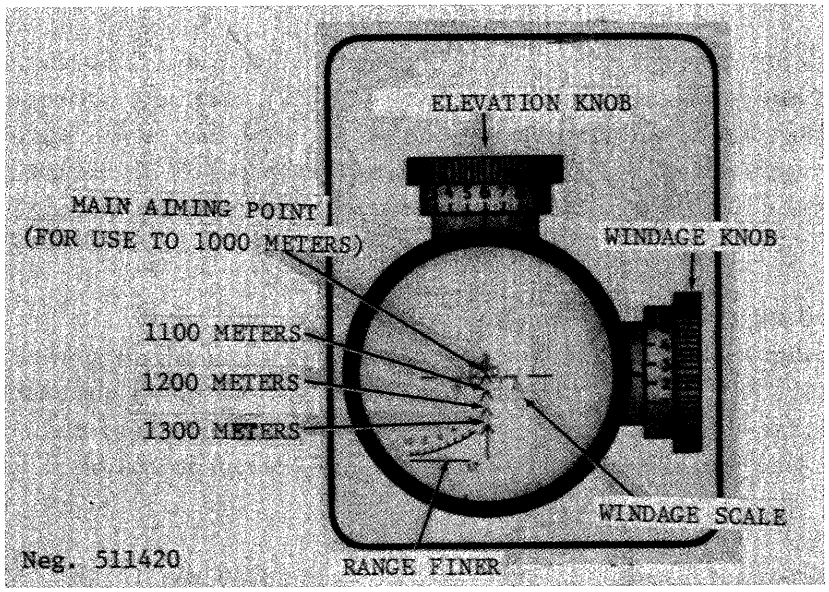

Figure 121. PSO-1 reticle pattern.

e. For firing when the light is dim, illuminate the reticle by turning on the switch in the telescopic sight mount (fig 120). If active infrared light sources are believed to be in use by the opponents, set the range drum (fig 120) at "4" and switch the infrared detector into place. Scan the area to the front; if any active infrared light sources are in use they will appear as

orange-red blobs in the telescope. Align the point of the reticle on the light and fire. Turn off the reticle light when not in use to conserve the battery and swing the infrared detector out of the way so that it will be activated by light during the day.

f. To unload or clear the SVD, remove the magazine (a above) and pull the operating handle fully rearward. Inspect to insure that no cartridges are present. Release the operating handle, press the trigger and move the safety fully upward. Empty the magazine by pushing the cartridges forward, out of the magazine. Replace the magazine.

g. The regulator (fig 119) is normally set at "1" to obtain best functioning. If the SVD becomes sluggish, slip the rim of a cartridge case into the lugs on the side of the regulator and rotate the regulator to "2". Clean the rifle as soon as possible and reset the regulator back to "1".

144. Disassembly and Assembly

a. Clear the SVD, but do not set the safety to safe or replace the magazine. Release the telescope sight catch (fig 120) and pull the telescope off the rear. Place the telescope in its carrying case. Remove the cheek pad (fig 119).

b. Press the receiver cover catch (fig 119) upward and pull the receiver cover and driving spring upward and off the receiver. Pull the operating handle (fig 119) to the rear, then lift the bolt carrier and bolt out of the rifle. Push the bolt into the bolt carrier until it can be rotated so that the operating lug on the bolt is free of its cam recess in the bolt carrier. Pull the bolt out of the carrier.

c. Rotate the safety until it is vertical, then pull it to the right out of the receiver. Pull the trigger group out of the receiver.

d. Press the handguard catch (fig 119) in until it is free of the handguard ferrule, then rotate the catch to the right. Push the ferrule (fig 119) forward; then pull the handguard down and out to remove them. It may be necessary to pry tight handguards off the barrel.

e. Pull the operating rod to the rear against pressure of its spring, then gently move the front of the rod to one side. Pull the piston off the gas block, then ease the operating rod forward and remove it and its spring.

f. Further disassembly is neither necessary nor desirable.

g. To reassemble the SVD, first insert the operating rod and its spring in its recess in the rear sight base (fig 119). Press the rod to one side and slip the piston onto the gas block, then insert the operating rod into the piston.

h. Slip the rear end of the handguards into their seats, swing the front ends together and push the ferrule (fig 119) rearward to hold the handguards in place. Rotate the ferrule until the handguard catch snaps into place.

i. Insert the trigger group into its recess in the receiver and when the trigger and receiver are lined up, insert the shaft of the safety (fig 122) into its hole in the receiver. Turn the safety so that its arm is vertical, fully seat the safety into the receiver, then turn it down to its position.

j. Insert the bolt spindle into the bolt carrier until the operating lug on the bolt can be turned into the cam groove in the bolt carrier. Pull the bolt fully forward in the carrier. Mate the lugs on the bolt carrier with the cutaways in the receiver and insert the bolt carrier and bolt into the receiver, then move them fully forward.

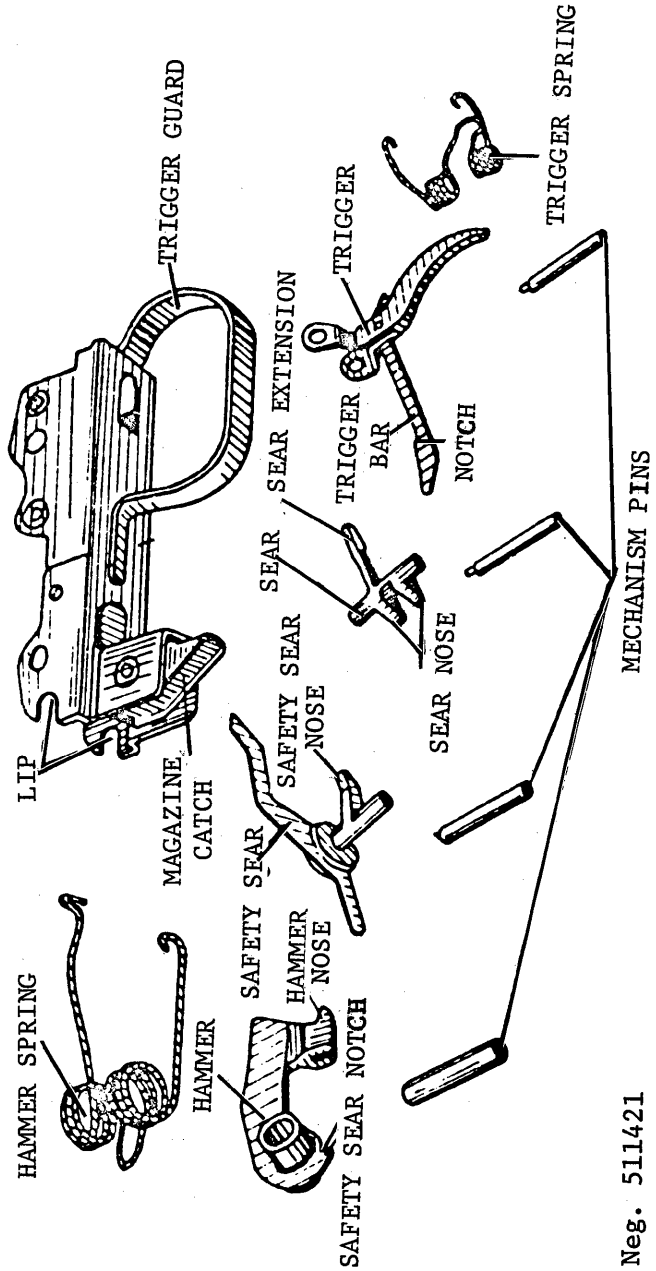

Figure 122. SVD trigger mechanism parts.

k. Insert the driving spring into the bolt carrier and, while holding the receiver cover catch up, slide the receiver cover onto the receiver.

l. Replace the cheek pad and, while holding the telescope sight catch (fig 120), slide the sight onto its seat from the rear. Replace the magazine, press the trigger and move the safety upward.

145. Functioning

a. The Dragunov sniper's rifle is gas operated. Some of the propellant gases are tapped off the barrel and directed into the gas block. The gases drive the piston and operating rod rearward and the end of the operating rod drives the bolt carrier rearward. After an initial free travel, the bolt carrier cam contacts the operating lug on the bolt and rotates the bolt clockwise to its unlocked position. The bolt and carrier move rearward together, compressing the driving spring and rocking the hammer rearward. The extractor draws the empty cartridge case from the chamber and holds it to the bolt face until the case strikes the fixed ejector and is expelled. The operating rod spring meanwhile has returned the operating rod and piston forward.

b. As the bolt and carrier continue rearward, the magazine is uncovered and the magazine spring drives a fresh cartridge up between the feed lips. The bolt carrier strikes the rear of the receiver and stops.

c. The compressed driving spring drives the bolt carrier forward and the feed rib on the bolt drives the top cartridge out of the magazine and into the barrel. The extractor snaps over the cartridge rim and forward motion of the bolt stops. The bolt

carrier continues forward and the cam in the carrier, acting upon the bolt operating lug, rotates the bolt into the locking recesses in the receiver. After the bolt locks, the carrier continues forward for a short distance; this travel causes the safety lug on the carrier to move out of the path of the hammer and the carrier to trip the automatic safety sear (fig 122). The carrier finally strikes the receiver and stops.

d. When the hammer is cocked and the bolt has released the automatic safety, pressure on the trigger causes it to pivot on

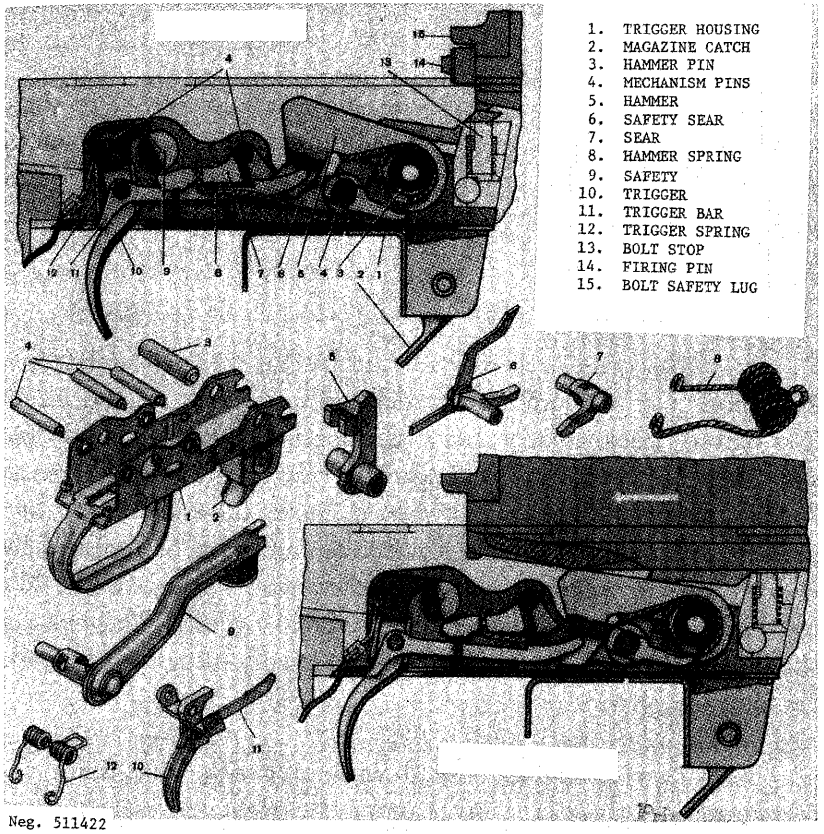

Figure 123. SVD trigger mechanism section.

its pin; this motion moves the trigger bar rearward (fig 123). The notch in the trigger bar engages the sear (fig 123) and forces it to pivot on its pin, releasing the hammer nose. The hammer swings forward, under pressure of its spring, and strikes the firing pin, firing the cartridge. The bolt and its carrier recoil (a above) and swing the hammer rearward. The hammer strikes the trigger bar (fig 123) and forces it down, releasing the sear. The sear spring then returns the sear to position where it can engage the hammer after the counterrecoiling bolt carrier has tripped the automatic sear. To fire another shot, the trigger must be released; this action causes the trigger bar to move forward where its notch can reengage the sear.

e. The safety, when on safe, places a solid part of its shaft in position to block the trigger. When the safety is moved down to its "fire" position, a cutaway section of the shaft swings into line with the trigger and allows it to move sufficiently to fire the rifle.

146. Accessories

a. The main accessory for the SVD is its PSO-1 telescope. This scope has an illuminated reticle powered by a small dry cell. The battery housing is located at the bottom rear of the telescopic sight mount (fig 120). To change batteries, press in and rotate the battery housing counterclockwise. Remove the old battery and replace with the same type. The reticle lamp can be replaced by unscrewing its housing (fig 120) and removing the bulb. The reticle light is turned on or off by its switch (fig 120). The lens cap should always be in place except when actually using the telescope for aiming.

b. Two covers are issued with each rifle; one is for the telescope sight alone, the other covers the sight and breech of the rifle. A belt pouch is provided for carrying the telescope when dismounted from the rifle, four magazines, a cleaning kit, and an extra battery and lamp for the telescopic sight.

G. MAUSER MODEL 1898 RIFLES

147. General

a. The Mauser Model 1898 rifle (fig 124) was the final refinement of a series of German rifles whose basic design began in 1871. The 1898 was developed just before the turn of the century, and after final improvements (in the early 1900's), its use spread throughout the world. There are few nations who did not use the 1898 or a rifle whose design was based on it. The prime producer of this rifle was Germany, but many other nations produced it under license. Belgium, Spain, Czechoslovakia, Poland, China, and Yugoslavia were the major non-German producers; however, the Mauser company exercised close supervision over production, and as a result, most of these rifle parts are interchangeable regardless of country of manufacture. This results in some current 1898's bearing markings of several countries. In addition to true 1898's, variants such as the US M1903 and 1917 rifles and the British No. 3 Mark 1* are based on the 1898 design. The final model of the original 1898 Mauser is the Yugoslav M1948 rifle (fig 124).

b. Mausers are still used by several of the smaller nations, and many are used by militia, irregular, and insurgent groups. Country of origin can usually be determined by the markings on the receiver; these markings, however, because of the sale and resale of obsolete rifles, normally have little current significance.

c. Mauser 1898's fire a wide variety of cartridges; most are based on a 57-mm long cartridge case. The most common cartridge is the 7.92x57-mm. Some of these rifles that are chambered for the US 30 M1906 cartridge have been made since World War II. Refer to section V for information concerning ammunition used with these rifles.

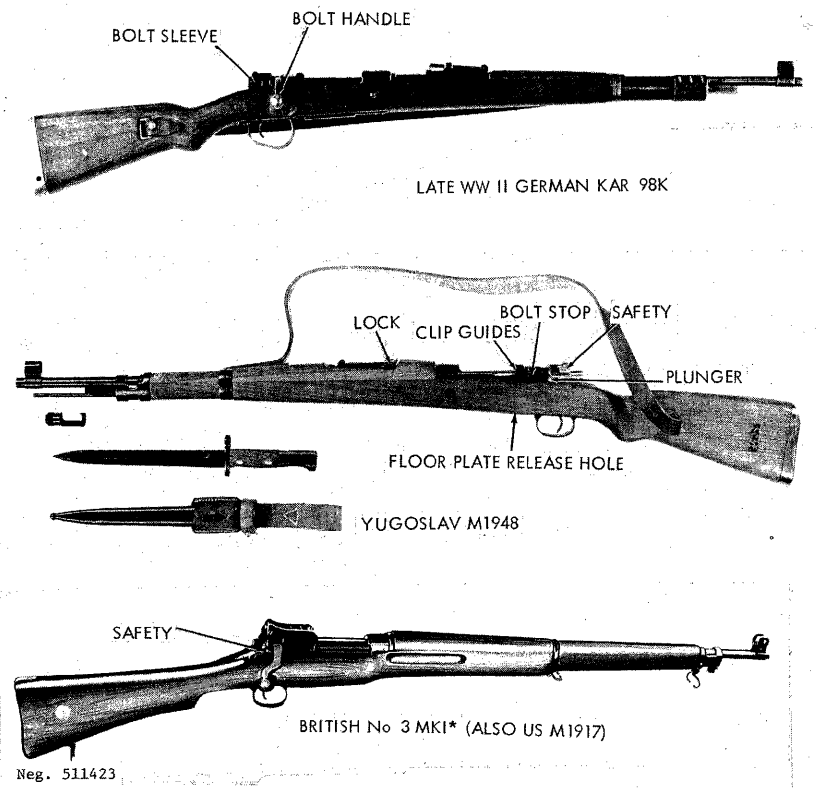

Figure 124. Typical Mauser rifles.

148. Technical Data

Technical data concerning the Mauser Model 1898 rifle are given in table VIII.

149. Operation

a. Open the bolt by turning the bolt handle (fig 124) up as far as possible; then pull the bolt fully rearward.

b. Load the magazine by placing a charger clip of five cartridges into the clip guides (fig 124). Hold the thumb as close as possible to the charger clip and press the cartridges down into the magazine. If desired, remove the clip and save it for reuse; otherwise, the forward movement of the bolt will expel it. If clipped ammunition is not available, place individual cartridges on the magazine follower and press them down until they roll sideways under the feed lips. Repeat this action until five cartridges have been loaded into the magazine. To prevent damage to the extractor, always load by inserting the cartridges, even single ones, into the magazine; never load cartridges directly into the barrel.

c. Thrust the bolt forward and turn the bolt handle down.

CAUTION: The rifle is now ready to fire!

d. If desired, make the rifle safe by swinging the safety (fig 124) to the right; this locks the firing pin and bolt. On US M1917 and British No. 3 Mark 1 (fig 124) rifles, rock the safety to the rear.

e. To fire the weapon, swing the safety to the left, or press it forward (US M17 type), set the sights for the desired range by pressing the locks (fig 124) and sliding the bar along the sight leaf until the top of the bar is aligned with the number on the leaf corresponding to the range in hundreds of meters. (Lift the leaf up before doing this on the M17 or No. 3 rifles.) Using a normal sight picture, aim and squeeze the trigger. The rifle will fire one shot.

f. To reload, turn the bolt handle up, pull the bolt smartly to the rear and thrust it forward, and turn the handle down; aim

and fire again. On most 1898's, when the last round is fired, the bolt will be caught to the rear.

g. To unload or clear the weapon, turn the bolt handle up and down once, set the safety to a vertical position, and operate the bolt. On M17 and No. 3 rifles, open the bolt and work it back and forth without turning the handle down. Catch the unfired rounds as they are ejected. When the last round has been ejected, depress the follower by hand and close the bolt. Pull the trigger.

150. Disassembly and Assembly

a. When disassembling the weapons, unload (para 149g) but do not pull the trigger. On an M17 or No. 3, open the bolt, set the safety to the rear, and close the bolt as far as possible. Insert a coin between the firing pin nut and bolt sleeve. On all other rifles, leave the safety in the vertical position. Open the bolt and press the bolt stop (fig 124) outward. Hold the bolt stop out and pull the bolt from the rifle.

b. On the left side of the bolt sleeve (fig 124) there is a plunger (not present on M17 or No. 3 rifles); press it in. Unscrew the bolt sleeve and pull the firing mechanism from the bolt.

c. Using the point of a cartridge, press in on the floor plate catch through the hole (fig 124) in the floor plate.

d. To reassemble the rifle, insert the follower and spring into the magazine well. After lining up the lip on the front of the floor plate with its seat in the inner front of the magazine well, press the lug at the rear of the floor plate into the recess in front of the trigger guard (against spring pressure) and slide the floor plate forward until it locks in place.

e. Screw the firing mechanism into the bolt. It may be necessary to depress the plunger in the bolt sleeve before the firing mechanism can be fully screwed in. Align the extractor over the right locking lug, and with the locking lugs horizontal, insert the bolt into the receiver.

f. If the rifle is an M17 or a No. 3, rock safety to the rear, close the bolt, and remove the coin from between the bolt sleeve and the firing pin nut. Then open the bolt and rock the safety forward. On all rifles, thrust the bolt home, turn the handle down, and set the safety to fire position. Press the trigger to release the firing pin.

151. Functioning

a. The Mauser 98 is manually operated; all actions necessary to remove the fired cartridge case from the chamber and reload with a fresh cartridge are performed by the manipulation of the rifle's mechanism by the shooter.

b. As the bolt handle is turned upward, a cam in the rear of the bolt (d, fig 125) forces the firing pin nut and firing pin rearward, compressing the firing spring. The root of the handle also cams against the receiver to provide powerful leverage for initial extraction of the fired cartridge. The firing pin unit has a lug on its underside which overrides the sear when the handle is turned fully up.

c. By drawing the bolt to the rear the empty cartridge is removed from the chamber by action of the extractor. The extractor holds cartridge against the bolt face until it strikes the ejector (housed in the left rear of the receiver). The ejector pivots the cartridge about the extractor and expels it from the rifle.

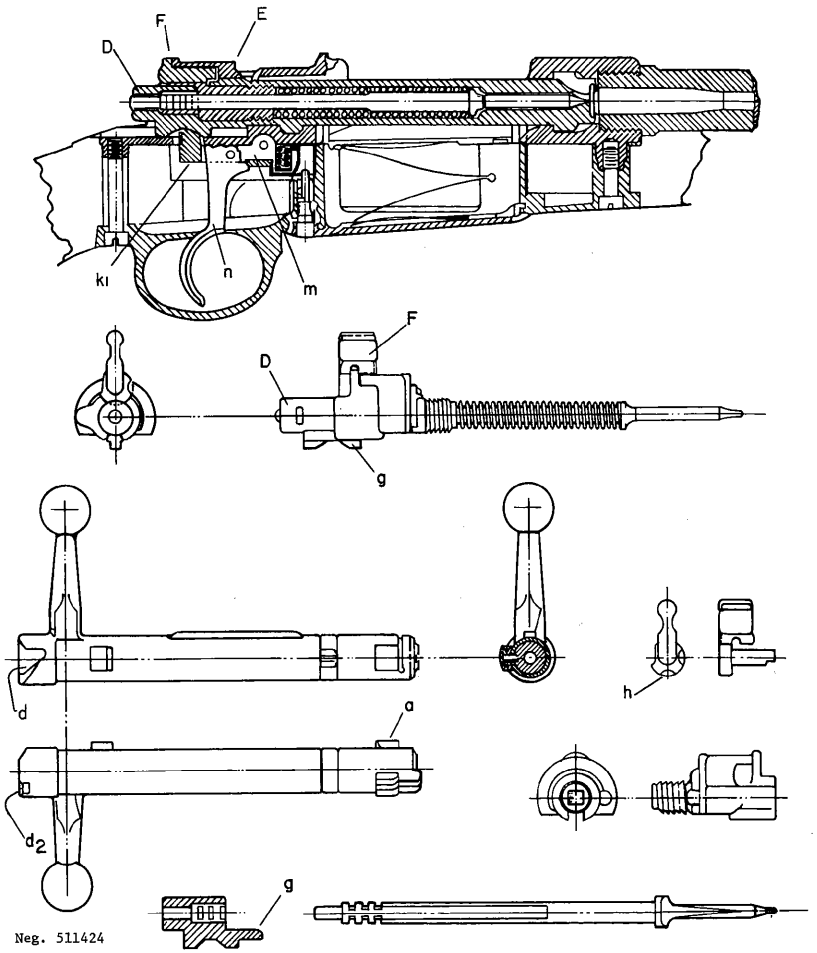

Figure 125. Mauser rifle section.

d. The zigzag magazine spring has forced a fresh cartridge up, under the receiver feed lips. As the bolt is shoved forward, it pushes the cartridge out of the magazine, and the cartridge rides up the bolt face under the extractor. The locking lugs (a, fig 125) are reseated in their abutments in the receiver by rotating the bolt handle downward.

e. The trigger (n, fig 125), is pinned to the sear (m, fig 125), and has two humps on its top where it bears against the bottom of the receiver. When the trigger is pressed, the front hump (closest to the pin) acts as a lever to move the sear down. At this stage, the trigger pull has been very light, but as the second hump, at the rear of the trigger contacts the receiver, a definite stop is felt and increased trigger pressure is necessary to completely disengage the sear from the lug on the firing pin nut. When these disengage, the firing spring drives the firing pin forward and fires the cartridge.

f. This rifle has two safety features: the manual safety and an automatic safety. The manual safety (fig 124) is operated by swinging it to the left; this interposes a solid portion of the safety (f, fig 125) in front of the firing pin nut and cams the nut slightly rearward, off the sear. At the same time a section of the safety shaft rotates into a fore-and-aft cut (d2, fig 125) in the rear of the bolt; this locks the bolt closed. The automatic safety is the cocking cam (g and d, fig 125) in the bolt; if the bolt is not completely locked, the cam on the firing pin nut will force the bolt closed by engaging the cam in the bolt. These cams prevent the firing pin from going completely home unless the bolt is rotated to a fully locked position.

152. Accessories

a. The Mauser bayonet is affixed by sliding the "T" slot in its hilt over the rail or lug under the muzzle until the catch snaps into place. The bayonet is removed by pressing its catch and sliding it forward and off the lug or rail.

b. Most Mauser-type rifles have either a sectional cleaning rod housed under the barrel or a trap in the butt that holds cleaning tools. Three sectional rods can be joined to make a rod sufficiently long to clean the rifle.

c. Muzzle covers, slings of various types, and other simple, nonessential accessories are used in a wide range of patterns. These may or may not be present.

H. MAINTENANCE OF RIFLES

153. Care and Cleaning

The procedures and materials prescribed for cleaning standard US Army rifles also apply to Eurasian Communist rifles. These weapons should be disassembled only to the extent necessary for adequate cleaning, in order to prevent breakage and subsequent loss of use. No repairs, other than replacement of parts, should be attempted on foreign rifles, and this replacement should be made only by a competent armorer.

154. Malfunctions and Stoppages

See table VIII for common malfunctions and their remedies. Malfunctions caused by broken or worn parts can be corrected by replacing the defective part with a serviceable one. This should be done only by a competent armorer, and the repaired weapon must then be function test fired.

Table VII. Rifle Malfunctions

Condition	Cause	Remedy
Fails to fire (cartridge in chamber	Defective cartridge Bolt not fully locked	Reload Clean and lubricate
Fails to fire (no cartridge in chamber)	Short recoil	Clean and lubricate
Fails to extract or eject	Fouled weapon	Clean and lubricate

Table VIII. Rifle Technical Data

Weapon	Simonov carbine	Vzor 52[1]	Type 68	M1944	M1891/30	Dragunov	Mauser M 1898
Short name	SKS	Vz52	T68	M44	M91/30	SVD	M98
Caliber (mm)	7.62	7.62	7.62	7.62	7.62	7.62	7.92
Length (in)	40.2[3]	39.5[3]	40.5[3]	40[3]	48	48.2	43.5
Weight, empty (lb)	8.49	9.4	7.7	8.6	9.9[2]	9.46	9.2
Barrel length (in)	20.5	20.6	20.5	20.47	28.6	24.5	23.5
Magazine capacity (rd)	10	10	15	5	5	10	5
Operation	Gas	Gas	Gas	Manual	Manual	Gas	Manual
Lock feature	Tilting bolt	Tilting bolt	Rotary bolt	Turn bolt	Turn bolt	Rotary bolt	Turn bolt
Muzzle velocity (m/sec)	735	745	730	810	865	830	755
Practical range (m)	400	400	400[4]	400	500 (800 w/ scope)	800	500
Rate of fire (rpm)	35-40	35-40	40[4]	10	10	30	9-10
Method of loading	10-rd charger	5-rd charger	10-rd charger	5-rd charger	5-rd charger	10-rd magazines	5-rd charger

[1]Includes Vz52/57.
[2]Without telescopic sight.
[3]Bayonet folded.
[4]Semiautomatic, practical range, full automatic: 200M; rate of fire, full automatic: 80-90 RPM. Cyclic rate: 750 RPM.

Section V. MACHINEGUNS

A. THE 7.62-MM KALASHNIKOV SQUAD LIGHT MACHINEGUN (RPK/RPKS)

155. General

a. The Soviet Kalashnikov RPK squad light machinegun (fig 126) is a gas-operated, selective fire, box- or drum-magazine fed, bipod mounted weapon developed from the AKM assault rifle

Neg. 511425

Figure 126. Soviet RPK squad light machinegun w/40-round box/magazine.

(para 97). The RPK differs from the AKM in several ways; the RPK has a longer, heavier barrel, a folding bipod, a modified receiver, and a different rear sight, forearm, and buttstock. Except for these, all other parts of the weapons appear to be interchangeable (refer to the warning in the Preface concerning parts interchange). Some RPK's are equipped with a bracket for mounting an infrared night sight. The RPKS (fig 127) is a folding stock model intended for use by parachute troops. The wood

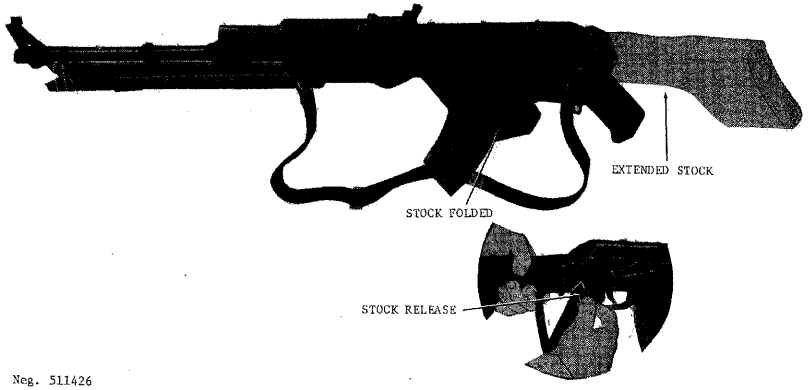

Figure 127. Soviet RPKS airborne light machinegun.

buttstock of the RPKS can be folded forward along the left side of the receiver for compactness. The RPK can be fed from any one of three different magazines: The 30-round capacity AK-47/AKM box magazine, the 40-round capacity RPK box magazine (fig 126), or the 75-round capacity RPK drum magazine (fig 128). Any of these magazines can be used with any AK-47, AKM, or RPK.

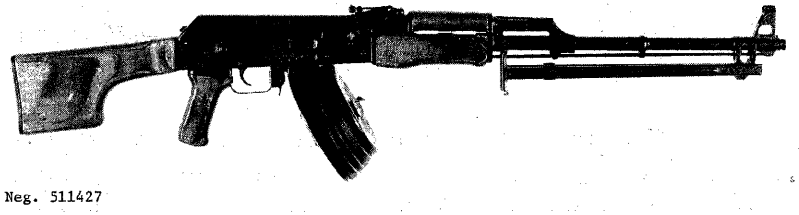

Figure 128. RPK with 75-round drum magazine.

b. The RPK is the standard squad automatic weapon for the Warsaw Pact Armies and is produced by several nations. The origin of an RPK can be ascertained by comparing its selector markings with those in figure 57. The North Vietnamese produce an RPK-like weapon, the TUL-1 (fig 129). This weapon, however,

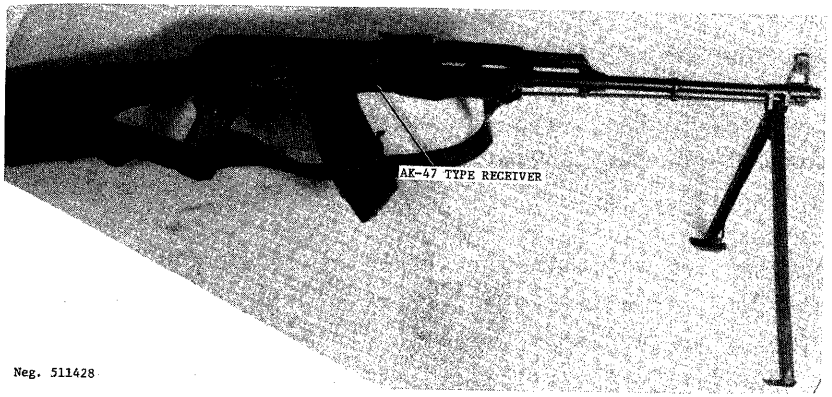

Figure 129. North Vietnamese TUL-1 light machinegun.

is built on the PRC Type 56 (AK-47) assault rifle and the instructions given in section III, subsection A apply to the TUL-1. The East Germans call their RPK the 1MG-K. In general the RPK has superseded the RPD squad light machine in Warsaw Pact Armies. The RPK fires the 7.62x39-mm M1943 cartridge; refer to section VI for information concerning this ammunition.

156. Technical Data

Technical data concerning the RPK light machinegun will be found in table X.

157. Operation

a. The RPK is operated in the same manner as the AK-47 rifle (para 92).

b. To load the 75-round drum magazine, press down the loading lever on the front of the drum (fig 130) to compress the magazine spring before each round is inserted into the feed lips of the magazine. The lever must be released after the round is

Figure 130. 75-round drum magazine.

inserted, and re-pressed before inserting the next round. The loaded drum is then inserted into the rifle in the same manner as a box magazine.

c. The bipod can be unfolded for use by unsnapping the bipod clip (fig 126) from the right leg and then swinging the bipod legs forward. The legs spring apart and lock into place. The bipod is folded by pressing its legs together, swinging them rearward, and securing them with the bipod clip.

d. The stock of the RPKS can be folded by first pressing the stock release (fig 127) at the rear of the receiver and then folding the stock to the left. The stock should be on the open position for best firing results. Open the stock by pressing the latch and swinging the stock open.

158. Disassembly and Assembly

Disassembly and assembly of the RPK is accomplished in exactly the same way as for the AK-47 assault rifle (para 93).

159. Functioning

The RPK's functioning is identical to that of the AKM assault rifle (para 101).

160. Accessories

The RPK has the same accessories as does the AK-47 or AKM (para 102), except for the bayonet, which is not used with the RPK. Some RPK's can mount an infrared night-sighting device.

B. THE 7.62-MM M65A AND M65B LIGHT MACHINESGUNS

161. General

The Yugoslav produced 7.62-mm M65A and M65B squad light machineguns (fig 131) are heavy-barrel, bipod equipped versions

of the Yugoslav M64 assault rifle, their version of the Soviet AK-47. The M65A has a fixed barrel; the M65B has a quick change barrel. The M65A and M65B have cone-shaped flash hiders attached to their muzzles rather than the cylindrical compensator or grenade launcher found on the M64 weapons. The M65A and M65B fire 7.62x39-mm ammunition (sec VI).

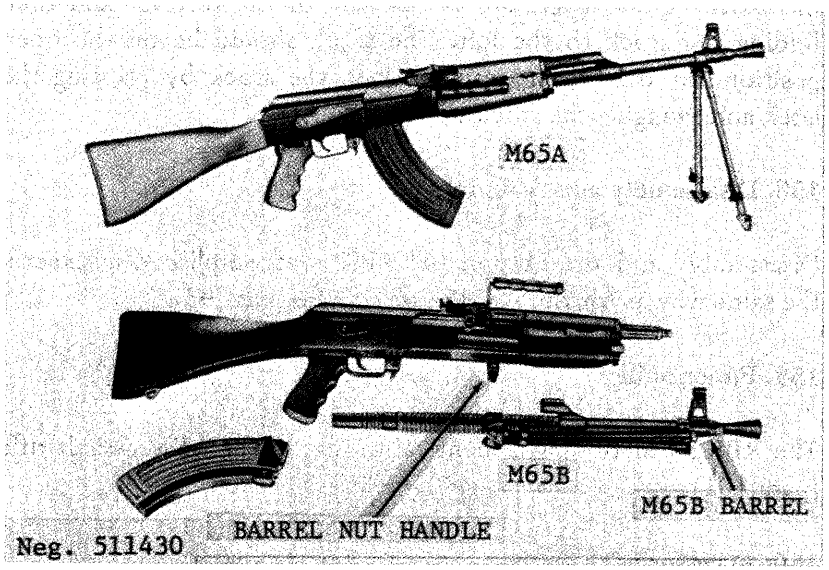

Figure 131. Yugoslav M65A and M65B light machineguns.

162. Technical Data

Technical data concerning the M65A and M65B light machineguns will be found in table X.

163. Operation

Except for changing the M65B barrel, the M65A and M65B light machineguns are operated in the same manner as the AK-47 rifle

(para 92). To change the barrel of the M65B, press the lock on the lower end of the barrel nut handle (fig 131) and rotate the handle upward until it stops. Pull the barrel forward to remove it. Insert the replacement barrel, then turn the barrel nut handle downward; insure that the lock is engaged.

164. Disassembly and Assembly

The M65A and M65B light machineguns are disassembled and assembled the same as the AK-47 (para 93). The driving spring guide lock at the left rear of the receiver must be depressed before the driving spring guide can be moved.

165. Functioning

The M65A and M65B light machineguns functioning is identical to that of the AK-47 assault rifle (para 94).

166. Accessories

The M65A and M65B are normally issued with extra 30-round capacity magazines, a leather sling, a brass oil container in a leather case, and a combination tool patterned after and used like the Soviet AK-47 tool (para 95). The M65B has a spare barrel issued with it.

C. THE 7.62-MM VZOR 52 (Vz52) AND VZOR 52/57 (Vz52/57) LIGHT MACHINEGUNS

167. General

a. The Czechoslovak-design and -produced Vzor 52 and Vzor 52/57 light machineguns (figs 132 and 133) are identical, except for the minor alterations required by the different

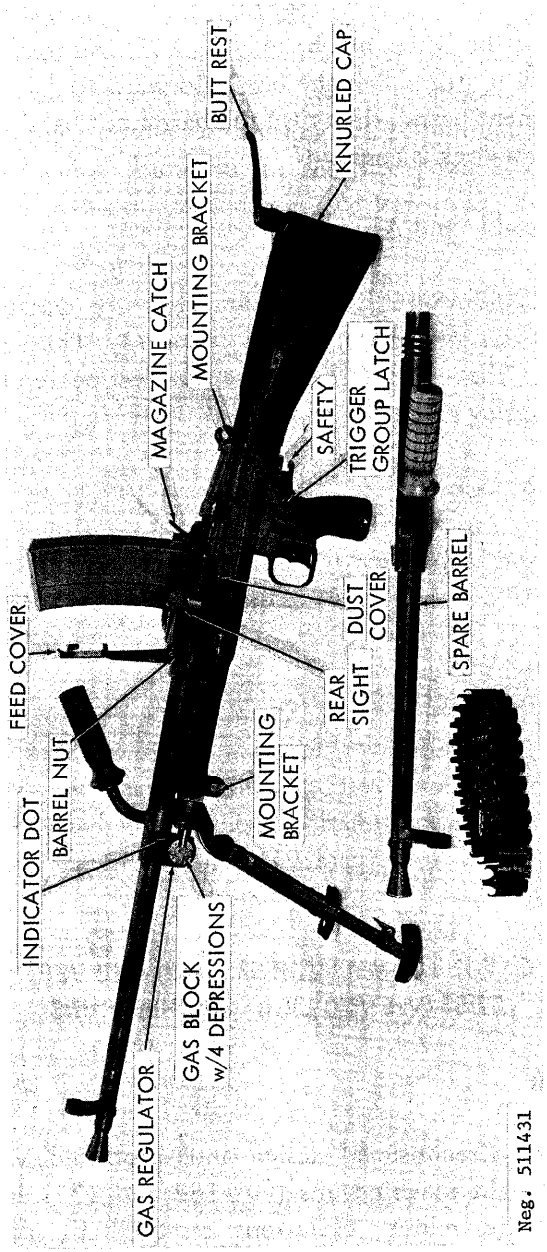

Figure 132. Czechoslovak Vz52 light machinegun w/box magazine.

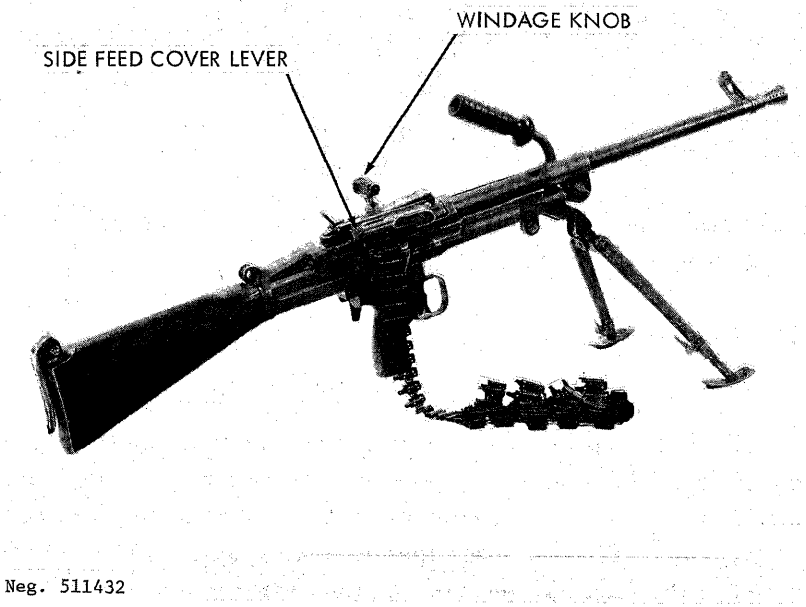

Figure 133. Vz52 light machinegun, belt-fed.

cartridges they use; the Vz52 fires the Czechoslovak 7.62x45-mm M1952 cartridges; the Vz52/57 fires the 7.62x39-mm M43 cartridge. Refer to section VI for information concerning ammunition. The two guns can be distinguished from each other by their markings; they will have either "Vz52" or "Vz52/57" stamped into the receiver. These guns are gas-operated, selective fire, belt- or box-magazine-fed, bipod- or tripod-mounted weapons equipped with quick-change barrels. While the Vz52 is obsolete in the Czechoslovak Army, the Vz52/57 is still used, and both weapons have been distributed to other countries.

b. The Vz52 and Vz52/57 machineguns have many unique features that include the use of either box magazine or a feed belt, an extremely fast and simple method of changing barrels, cocking and jam clearing by sliding the trigger group back and forth, and

having the type of fire determined by the location of the gunner's finger on the trigger.

168. Technical Data

Technical data concerning the Vz52 and Vz52/57 light machineguns will be found in table X.

169. Operation

a. These guns can be fed from box magazines or metallic-link feed belts. If box magazines are used, close the dust cover (fig 132), force the side feed cover lever (fig 133) fully down, and press the magazine catch forward until the feed cover springs open. The box magazines are loaded by placing a cartridge between the feed lips and pressing the cartridge down until it rolls under one of the lips. Repeat this action until 25 cartridges have been loaded. Engage the lip at the front of the magazine with its recess in the magazine opening of the receiver, and rock the magazine back until the magazine catch snaps into place.

b. If the metallic-link belt is to be used for feeding, load it by sliding cartridges into its loops until the tail of each link rests against the cartridge case base. The tab must be behind the base and not engaged with the cartridge case groove. Close the feed cover (fig 132), open the small left-side dust cover, and raise the knurled end of the side feed cover lever (fig 133) to open the feedway entrance. The top of the lever should be aligned with the top of the feed cover. The belt must be loaded with the open side of the links facing down. Insert the lead tab into the feedway and out of the small opening on the left side. Vigorously pull the lead tab to the left as far as possible to seat the first round in the holding pawls.

c. Prior to cocking the machinegun, the trigger group can be either forward or rearward, and may be locked in place by the safety (fig 132). Unlock the safety by pressing it down. If the trigger troup is in its forward position, draw it rearward (without touching the trigger) until it catches. If it is rearward, depress the conical trigger group latch (fig 131), slide the trigger group forward as far as possible, release the latch, and, without touching the trigger, draw the trigger group to the rear until it latches in place.

CAUTION: The machinegun is now ready to fire!

d. If the weapon is not to be fired immediately, press the safety up until the letter "Z" appears; the weapon is now safe.

e. The bipod is unfolded by disengaging its feet from the ridges formed in the sides of the receiver housing and swinging them forward; they will lock into place. The legs can be lengthened by pulling the bottom legs out of the top legs, or can be shortened by pressing the catch on the top leg and telescoping the bottom leg into the top one. The bipod is folded by squeezing the legs together and swinging them rearward, where they can lock onto the receiver housing. The butt rest can be unfolded to support the stock on the gunner's shoulder during firing.

f. Adjust the rear sight for the desired range by rotating the serrated nut under the rear sight until the figure that corresponds with the range in hundreds of meters is aligned between the pointers above the serrated nut. Windage adjustments can be made by turning the windage knob at the left of the rear sight (fig 133).

g. To fire the machinegun, press the safety (fig 132) down; then aim, using a normal sight picture, and press the trigger. If the

top of the trigger (marked "1") is pressed, only one shot will be fired; if the bottom of the trigger (marked "D") is pressed, the gun will fire automatically.

h. To unload or clear the gun when a box magazine has been used, press the magazine catch toward the magazine; then tip the magazine forward and remove it. If belts have been used, press the magazine catch and allow the feed cover to swing open; then rotate the side feed cover lever (fig 133) up and forward until the side feed cover swings open. Lift the belt up and out of the gun.

i. Inspect to insure that no cartridges remain in the gun; then close all covers. Press the trigger group latch and ease the recoiling parts and trigger group forward; then press the safety upward to lock the gun.

j. If it is necessary to change barrels, press the magazine catch forward and remove the magazine or allow the feed cover to swing open. Rotate the open feed cover to the right as far as possible; then pull the barrel forward, out of the gun. Insert a new barrel by sliding it into place, insuring that the gas block enters the gas cylinder at the front of the receiver housing. Turn the feed cover back to a vertical position to lock the barrel in place.

k. Adjust the gas regulator (fig 132) to give positive functioning at its lowest setting. The gas regulator has four different sized dots drilled into its left side, and the gas block has a single dot drilled into it. One of the dots on the regulator must be aligned with the dot on the gas block. The size of the particular dot indicates the relative size of the gas port in use. Normally, the smallest port is used with box magazines and the second smallest port is used with belts. If there is a loss of operating power, adjust the gas regulator to its next larger port. Remove the barrel and rotate the regulator in the gas block until the next larger dot aligns with the dot on the gas block. Replace the barrel.

170. Disassembly and Assembly

a. To disassemble the machinegun:

(1) Clear the weapon (paras 169 h and i) but do not close the feed cover or set the safety on safe. Pull the trigger and draw the trigger group to the rear; then remove the barrel.

(2) Lift the butt rest (fig 132) and press in and rotate (counterclockwise) the knurled cap under the butt rest (fig 132) until the cap disengages and can be eased out to the rear. Pull the driving spring and rod out of the buttstock.

(3) Reach into the channel in the front of the receiver housing (fig 134) and move the piston to the rear until it is just clear of the gas cylinder. Grasp the receiver at the barrel nut and pull it up out of the receiver housing. Make certain that the piston and bolt do not accidentially drop out of the receiver.

(4) Slide the piston and bolt rearward, out of the receiver. Lift the rear end of the bolt up and pull it toward the rear; then lift it off the slide. It may be necessary to press up the serrated catch at the right front end of the receiver to release the slide.

(5) Rotate the gas regulator until the bar on its right side (fig 132) lines up with the notches in the gas block; then press the regulator to the left, out of the block.

(6) No further disassembly is necessary or desirable.

b. Reassemble the weapon in the following manner:

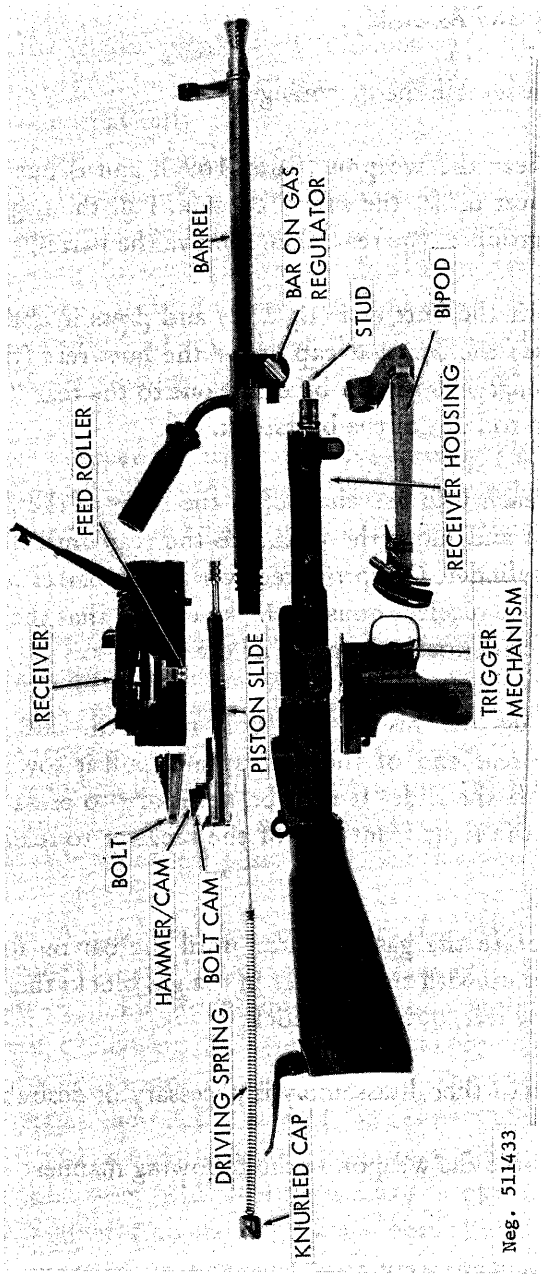

Figure 134. Vz52 field stripped.

(1) Insert the gas regulator into the gas block so that the bar passes through the notches in the clock; then turn the regulator to its proper setting (para 169k).

(2) Hold the bolt at an angle to the slide; then fit the rails at the lower front end of the bolt into the cuts in the slide just in front of the hammer and drop the bolt over the hammer onto the slide. Push the bolt forward on the slide; then align the grooves in the slide with the lowest set of rails in the receiver and push the slide forward until its rear end is flush with the rear of the receiver.

(3) Insert the receiver into the receiver housing, tilting the receiver enough to insert its rear end under the top cover of the receiver housing; then press the front end of the receiver down into place.

(4) Insert the driving spring (push rod first) into the butt and press it forward (use the spring and rod to push the piston forward). Place the knurled cap over the spring and rod to push the piston forward. Place the knurled cap over the spring, press the cap home, and rotate it clockwise to lock.

(5) Insert the barrel (para 169j) and then clear the weapon.

171. Functioning

a. The Vz52 and Vz52/57 machineguns fire from the open bolt position. When the trigger is pressed, the gas piston, slide, and bolt are released, and the driving spring impels them forward to load and fire a cartridge. Some of the propellant gases are tapped off and drive the piston, slide, and bolt to the rear, compressing the driving spring in preparation for another shot.

b. When the upper or semiautomatic portion of the trigger cover is pressed, the trigger pivots on its pin, and its upper end moves forward. The disconnector, pinned to the upper end of the trigger, moves forward, as does the sear hook (with its downward extending shaft) pinned to the bottom of the disconnector. The sear hook is engaged with a downward extending arm of the L-shaped sear, and as the sear hook moves, it makes the sear rotate about its pin and release the slide. Under the force of the driving spring, the slide starts to drive forward, striking the disconnector and forcing it to pivot down on its pin. As the disconnector goes down, the sear hook also goes down and releases the sear. The sear spring forces the sear up where it can engage the recoiling slide and hold it to the rear. When the trigger is released, the disconnector and the sear hook snap up to reengage the sear. Pressure on the upper trigger will again fire one shot.

c. When the lower or automatic portion of the trigger is pressed, the trigger cover pivots on its pin and blocks the sear hook extension from swinging forward as the disconnector pivots on its pin. This action causes the disconnector to move down and forward as the trigger is pressed; however, a lug on the trigger cover also forces the sear hook to pivot on the disconnector and stay in engagement with the sear. The sear is depressed and stays depressed until the trigger is released; the sear spring then forces the sear up where it can catch the slide.

d. When the safety is applied, it pivots and positions a small pin under the sear, which prevents the sear from depressing to release the slide. The pin also moves into a slot in the trigger housing to prevent the trigger group catch from being depressed. The top of the safety also fits into a cut in the receiver housing and locks the trigger group in place.

e. When the sear releases the slide, the compressed driving spring forces the slide, piston, and bolt forward. The feed rib on the bolt strips a cartridge from the magazine or belt and drives it into the chamber. The cartridge rim seats in the fixed extractor at the bottom of the bolt face; the movable extractor then keeps the round in position. When the cartridge is fully seated in the chamber, the bolt stops its forward motion. The slide continues to move forward, and the combined hammer and cam (fig 134) force the rear of the bolt up into its locked position. In the last forward travel of the slide, the hammer strikes the firing pin to fire the cartridge.

f. Some of the propellant gases that drives the bullet through the barrel are tapped off at the gas block and led through the gas regulator into the gas cylinder to drive the piston and slide to the rear. As soon as the piston and slide start rearward, the hammer moves away from the firing pin, and the cam on the back of the hammer pulls the bolt out of its locked position. The bolt and slide now travel as one; the extractors pull the fired cartridge case from the chamber and hold the case to the bolt until the fixed ejector expels the case from the bottom of the gun. The slide continues rearward until it strikes the buffer at the rear end of the receiver housing; the driving spring then drives the slide forward, either to fire another shot or to be caught by the sear.

g. The belt is fed into the gun by a laterally reciprocating belt-feed lever. This lever is mounted vertically on the receiver, with a pivot halfway along its length. A roller (fig 134) on the bottom of the lever rides along a cam on the piston slide, and, as the slide moves rearward, this cam forces the upper end of the lever inward. This movement feeds the belted cartridge into the gun against a pair of positioning stops on the feed cover. As the slide moves forward, a second cam forces the feed lever out, and, as the slide moves, a spring-loaded pawl on its upper end is

depressed by, and slides under the next round in the belt. A pair of stationary spring-loaded holding pawls engages the second round in the belt and prevents it from moving outward. The round positioned against the stops is driven out of the link and into the barrel by the feed rib on the bolt.

172. Accessories

A fabric sling, magazine carriers, belt boxes, a combination tool, and a cleaning rod are issued as accessories.

D. THE 7.62-MM DEGTYAREV LIGHT MACHINEGUNS (DP, DPM, DTM, and RP-46)

173. General

a. The Soviet Degtyarev light machinegun Model DP was the forerunner of a number of basically similar weapons. Because these guns are similar in operation and functioning, they are all grouped under one heading. Differences will be pointed out as necessary. These guns are:

(1) The DP infantry light machinegun (fig 135).

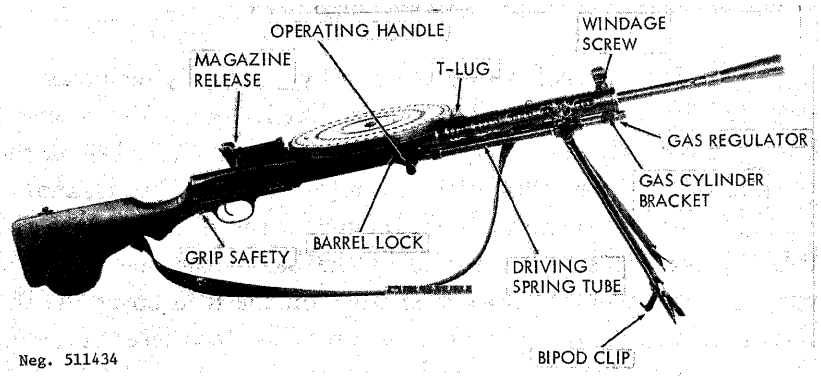

Figure 135. Degtyarev DP light machinegun.

(2) The DPM modernized infantry light machinegun (fig 136) and its Chinese copy, the Type 53 light machinegun (fig 137).

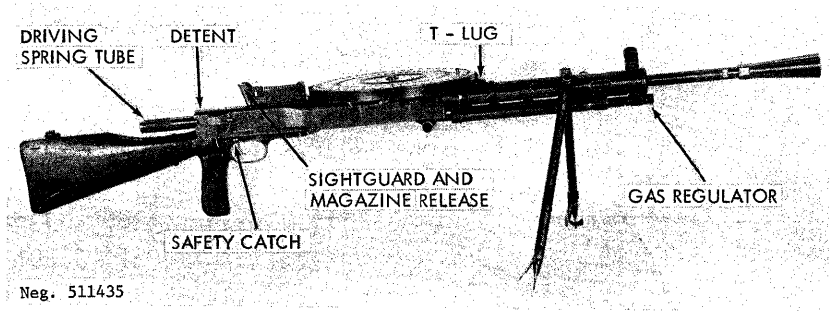

Figure 136. DPM light machinegun.

Figure 137. PRC Type 53 light machinegun.

(3) The RP-46 Company machinegun (fig 138), the Type 58 Chinese version (fig 139), and the Type 64 North Korean version.

(4) The DT and DTM (fig 140) tank machineguns.

(5) The DA and DA-2 aircraft machineguns (not further covered in this publication).

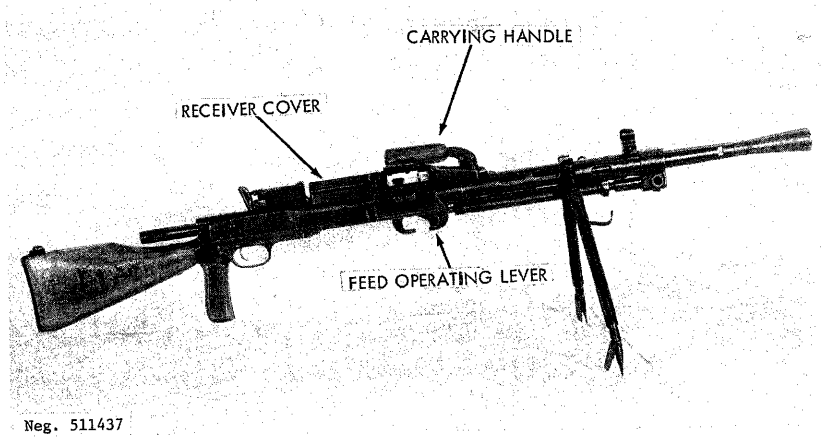

Figure 138. RP-46 company machinegun.

b. Although the Degtyarev machineguns are obsolete in the Soviet Army, they are still used by some other Eurasian Communist countries; in addition, large quantities have been given or sold to other nations. The People's Republic of China produced the DPM as their Type 53 light machinegun and the RP-46 as their Type 58 Company machinegun; the RP-46 was also made in North Korea as their Type 64. Except for the markings, these weapons are almost identical with the Soviet-produced arms. The DT tank machinegun is obsolete and is rarely encountered, and the DTM is found only on a few World War II vintage armored vehicles.

c. The Degtyarev machineguns are automatic, gas-operated, bipod-mounted, open bolt firing weapons and, except for the RP-46, are fed from horizontal, pan-type magazines. The RP-46 is normally fed by a metallic link belt; however, the DP or DPM pan magazines can be used after the belt-feed device is removed.

d. The DP and DPM are fed from 47-round capacity, pant-type magazines; the DT and DTM are fed from 60-round,

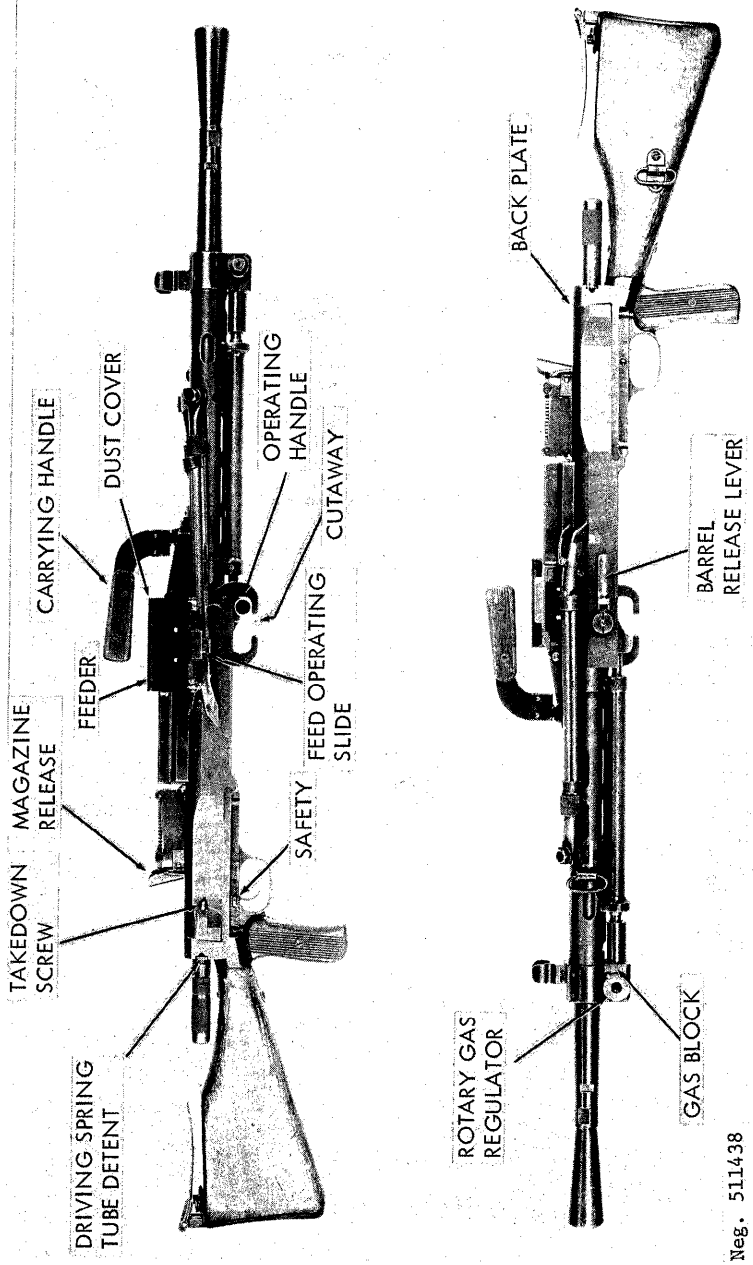

Figure 139. PRC Type 58 company machinegun.

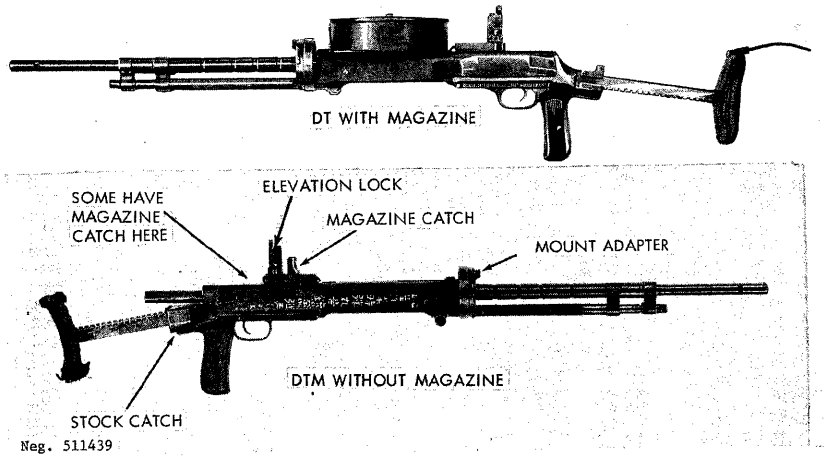

Figure 140. DT and DTM tank machinegun.

2-layer pan magazines. The RP-46 normally is fed from a 250-round, nondisintegrating, metallic-link belt; however, it can also be readily converted to use 47-round pan magazines (fig 141). All of these Degtyarev machineguns fire the 7.62x54R long rimmed cartridge (sec VI).

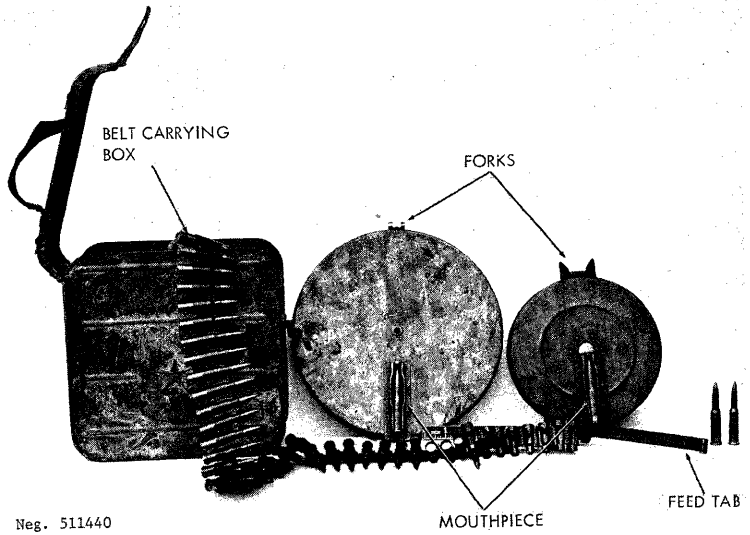

Figure 141. Degtyarev belts and drums.

174. Technical Data

Technical data concerning the DP, DPM, DTM, and RP-46 machineguns will be found in table X.

175. Operation

a. Load the 47- or 60-round capacity pan magazines by holding them with the feed mouthpiece up and facing the loader. Press down on the permanently affixed empty cartridge case that serves as a stop in the mouthpiece, and rotate the perforated cover in a clockwise direction. A small stud will protrude from the cover; use this to help turn the cover. As the cover turns, individual compartments for cartridges can be seen passing by the mouthpiece. Slip a cartridge into the mouthpiece, rim first, with the bullet pointing to the center of the pan, so that each compartment will be filled. Do not insert more than 47 rounds into the DP/DPM magazine. A magazine loader was produced for these magazines but is rarely found.

b. Load the metallic-link belts by shoving a cartridge as far as possible into each link of the belt. Insure that the cartridges are in line in the belt. The belt holds 250 rounds. Insert the loaded belt into the carrying container so that the open side of the top layer of links faces down.

c. The DP, DPM, and DTM machineguns each has a sliding dust cover over the feed opening on top of their receivers; if this is closed, slide it forward to open. Engage the fork (fig 141) at the front of the magazine with the "T" lug (fig 135) on top of the barrel jacket; then seat the rear of the magazine into place in front of the rear sight. Strike the top rear of the magazine with the side of a closed fist to insure that the magazine is fully seated. Pull the operating handle (fig 135) fully to the rear.

CAUTION: The gun is now cocked and ready to fire!

d. A dust cover closes the entrance to the RP-46 feedway; if this cover is closed, open it. Pull the rear sight base rearward to allow the upper feed cover to swing open. Place the belt on the feedway so that the base of the first cartridge is engaged in the cartridge gripper. Close the feed cover. Pull the operating handle rearward.

CAUTION: The gun is now cocked and ready to fire!

The DP has an automatic grip safety (fig 135) behind the trigger guard; the DPM, DTM, and RP-46 each has a rotary safety lever (fig 136) above the right side of the trigger. Rotate the safety forward to make these weapons safe.

e. Unfold the bipod by unsnapping the bipod clip from the right leg and swinging the bipod down into position; reverse this action to fold the bipod. The DTM stock is shortened or lengthened by pressing the stock catch (fig 140) and moving the stock to the desired position.

f. Adjust the rear sight of the DP, DPM, and RP-46 machineguns for the desired range by pressing the slide locks and moving the bar along the sight until the top of the bar is aligned with the line below the number that corresponds to the range in hundreds of meters. The DT and DTM rear sights are adjusted by pressing in the slide locks and vertically moving the sight to align the range number with its index. The front sights of all guns are adjustable for windage by means of a large screw on the right side of the base; they are adjustable for elevation zero by screwing the front sight post in or out. The DT and DTM have an accessory front sight that must be inserted into the mount adaptor (fig 140) before firing.

g. To fire, rotate the safety rearward on the DPM, DT, DTM, and RP-46, or press the grip safety on the DP; turn down the carrying handle of the RP-46; then aim—using a normal sight picture—and press the trigger. The bolt will remain open between bursts, but will remain closed on an empty chamber when the last round has been fired.

h. To unload or clear, pull the magazine release-rear sight guard (fig 135) of the DP or DPM rearward and lift the pan magazine off the receiver; press the magazine release (fig 140) of the DT or DTM to the side or rear (depending on the particular design) and lift the magazine off. Pull the rear sight guard of the RP-46 to the rear and, when the cover opens, lift the belt out of the gun. Pull the operating handle to the rear; insure that no cartridges are present in the chamber, receiver, or feedway; then press the trigger and ease the operating handle forward. Apply the safety and close all covers.

i. The DP, DPM, and RP-46 have quick-change barrels; the DT and DTM do not. To change the barrel, cock the gun and press in on the barrel lock (fig 135) of the DP and DPM, or press the barrel-release lever (fig 139) of the RP-46 fully forward to release its barrel lock. Place a wrench on the barrel notches near the muzzle and rotate the barrel clockwise one-sixth of a turn; then pull the barrel forward and out of the barrel jacket. Insert a fresh barrel, depress the barrel lock, seat the barrel fully, and counterrotate it one-sixth of a turn to lock it in place. Use caution when changing barrels; they get very hot!

j. The DP, DPM, DT, DTM, and RP-46 require adjustment of their gas regulators when they become fouled. To adjust the DP, DPM, DT, and DTM, remove the cotter pin that passes through the gas regulator and unscrew the nut. The regulator has

three settings stamped "2.5," "3," and "4." The normal setting is 2.5, which is established when this number lines up with the index line stamped into the right side of the gas cylinder bracket. Gently tap the regulator to the rear, out of engagement with its location pin, and turn it until the next larger number lines up with the index. Pull the regulator forward into position, tighten the nut, and replace the cotter pin.

k. The PRC Type 58 will have either one of two different systems for adjusting the amount of gas used to operate its mechanism. One type uses a rotary gas regulator that is adjusted like the regulator of the RPD light machinegun (para 187g); the other, used on the RP-46 and early Type 58's, uses a sliding regulator. The latter type has a catch that engages with one of three grooves in the bottom of the gas block. The center groove, marked "1," is normally used, while "2" on the right and "3" on the left admit increasing amounts of gas into the mechanism. To adjust this regulator, pry the catch out of engagement with the groove and move to the next higher numbered groove.

176. Disassembly and Assembly

a. To disassemble:

(1) Clear the gun (para 175h), but do not put it on safe.

(2) On the DP only, unlock the driving spring by pressing the handle of the lock forward against the force of the driving spring; then rotate it downward. This handle is located at the left front end of the receiver, about 2 inches ahead of the barrel lock.

(3) The driving spring of the DPM, DTM, and RP-46 is mounted at the rear of the receiver. Pry back the detent (fig 139) on the driving spring tube and rotate the tube until it can be removed. Pull out the driving spring.

(4) For the RP-46, pull back the magazine release (fig 139) to open the feeder, and turn the carrying handle to the left. Pull the operating handle to the rear until it aligns with the cutaway in the feed operating slide, and lift the feeder off the receiver; then push the operating handle fully forward.

(5) Unscrew and remove the takedown screw (fig 138) at the right rear of the receiver just behind the operating handle; then, with the other hand, strike down on the heel of the butt. The butt and the trigger guard will swing apart and can be separated from the receiver.

(6) Pull the operating handle rearward; the operating slide, bolt, locking flaps, and firing pin will come out as a unit. Lift the bolt straight up, off the slide, and pull the firing pin rearward, out of the bolt. The twin locking flaps can now be removed.

(7) No further disassembly is necessary or desirable.

b. To reassemble the weapons, the steps listed below must be taken:

(1) Place the locking flaps onto the bolt and insert the firing pin into the bolt. The lug on the firing pin should contact the rear of the bolt, and the rear of the locking flaps should project below the bottom of the bolt. Place the bolt onto the slide, mating the firing pin with the fork at the rear of the slide and the flaps with the cam cut in the slide. Push the bolt forward

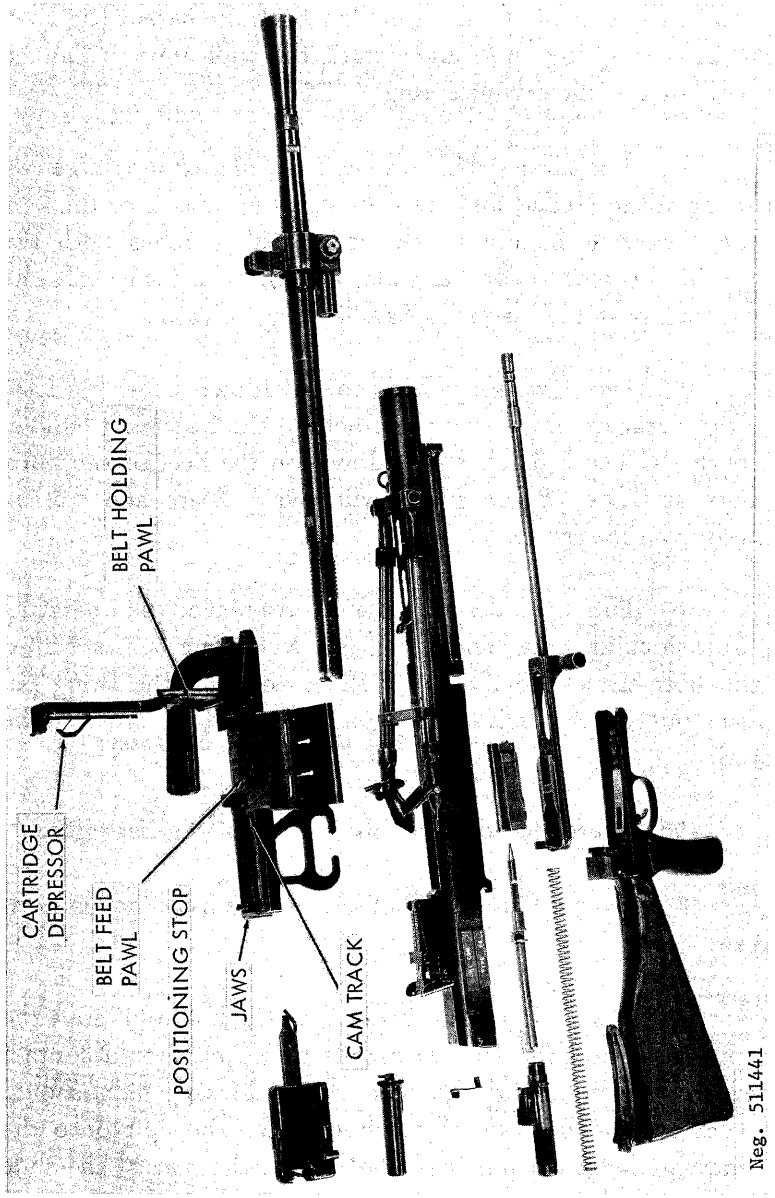

Figure 142. RP-46 field stripped.

on the slide so that the locking flaps are flush with the sides of the bolt.

(2) Insert the bolt and slide into the receiver by starting the piston into the gas cylinder tube; then align the rails on the slide, below the bolt, with their grooves in the receiver, and slide the entire unit forward into the receiver.

(3) Fit the round lugs at the front of the trigger guard into their seats in the receiver, swing the trigger guard up into place on the receiver, and screw the takedown screw back into place.

(4) Place the feeder back on the RP-46 engaging the forks at its front end with the "T" lug on the barrel jacket. Lift up the rear of the feeder and move the operating handle to the rear until it can enter the cutaway section of the feed operating slide. Drop the feeder into position and close its cover. Push the operating handle fully forward.

Note: If the feeder is not replaced, DP or DPM pan magazines can be used to feed the RP-46; refer to paragraph 175c.

(5) Insert the driving spring of the DPM, DTM, or RP-46 into the hole in the rear of the backplate, insuring that it fits over the firing pin extension. Place the driving spring tube over the spring (detent up), and press the tube forward until it can be rotated to a locked position.

(6) Lock the driving spring of the DP machinegun into place by pressing the lock forward against the driving spring until it can be turned to its locked position.

177. Functioning

a. All Degtyarev machineguns fire from the open - bolt position. When the trigger is pressed, the slide and bolt are released, and the driving spring drives them forward to load and fire a cartridge. After firing, some of the propellant gases are tapped off to the rear, compressing the driving spring in preparation for another shot. Refer to figure 143 for details.

b. When the trigger is pressed, its upper end, which hooks over the sear, revolves forward and downward to depress the sear. The sear releases the slide, which, under the force of the driving spring, goes forward. The bolt which travels with the slide, drives a cartridge out of the mouthpiece of the magazine or the RP-46 feeder and into the barrel until the rim of the cartridge seats on the end of the barrel. The extractor snaps over the rim of the cartridge, and forward motion of the bolt then ceases. The slide continues forward, carrying the firing pin with it. The firing pin moves forward in the bolt and forces the locking flaps outward into the locking recesses in the receiver. The firing pin and slide continue to move forward until the firing pin ignites the cartridge. The shoulder on the firing pin strikes the bolt and stops all forward motion of the pin and slide.

c. The propellant gases drive the bullet through the barrel, and, when the bullet passes the gas port, some of the gases are tapped off and directed against the piston, driving it to the rear. The slide is attached to the piston and also moves rearward. During the travel of the slide the firing pin is retracted and the driving spring is compressed. As the slide continues to move, cams cut into its top surface, contact the locking flaps and cam them inward, out of the receiver recesses. The bolt and slide now move rearward as one unit. The extractor removes the fired cartridge

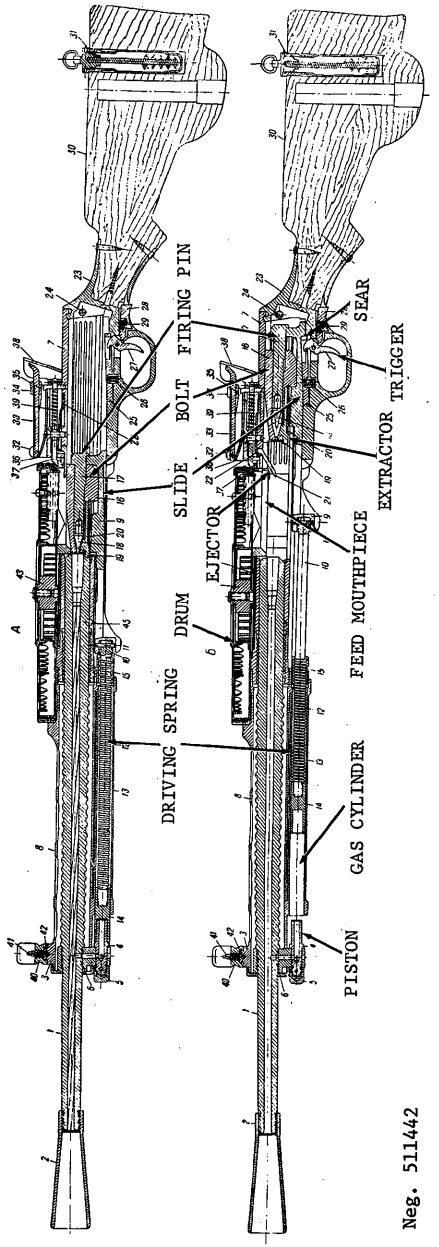

Figure 143. DP section.

case from the chamber and holds it to the bolt until the ejector, at the rear of the feed opening, expels the empty case. The slide strikes the rear wall of the trigger housing and stops. The driving spring now drives the slide and bolt forward.

d. The cartridges in the pan magazine are moved into the mouthpiece of the magazine by spring pressure. As each cartridge is driven out by the bolt, another cartridge immediately replaces it in the mouthpiece.

e. The belt feeder of the RP-46 is powered by the recoiling operating handle. The handle fits inside the feed operating slide (fig 139), and, as the handle reciprocates, the feed operating slide also moves back and forth. The handle has some free travel in the operating slide so that full operating power is available to unlock the gun. As the feed slide moves rearward, a cam track (fig 142) on its horizontal top side moves a belt feed slide inward. The feed slide moves the first cartridge in the belt against positioning stops (fig 142), and the round is held there by a stationary belt holding pawl (fig 142) in the top cover. As the feed slide goes forward, the feed pawl moves outward and engages the next round to be fed.

f. The feed slide has a pair of jaws (fig 142) on its upper left side that grasp the rim of the cartridge positioned against the stops in the cover, and, as the feed slide moves rearward, the cartridge is extracted from the belt by these jaws and is moved rearward over the mouthpiece. A spring-loaded cartridge depressor (in the top cover) forces the cartridge down into position in the mouthpiece so that the bolt feed ribs can pick up the cartridge.

178. Accessories

a. The following accessoreis (fig 144) are issued for use with the Degtyarev machinegun:

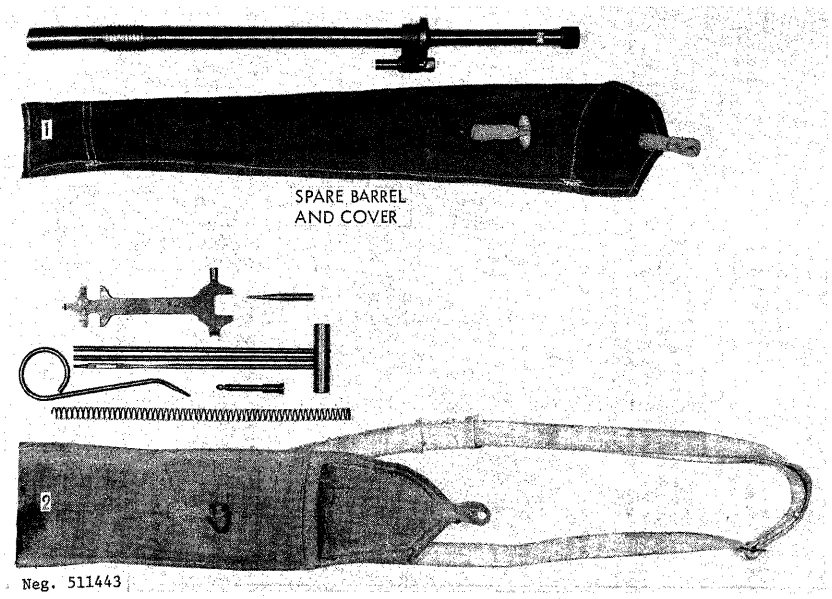

Figure 144. Typical Degtyarev accessories.

(1) Fabric sling.

(2) Belt or drum carrying case (fig 145).

(3) Combination tool and sectional cleaning rod.

(4) Protective covers for the gun and the spare barrel.

b. The combination tool is used to tighten screws and bolts, to rotate the gas regulator and its nut, and to turn the barrel for removal. It is carried separate from the DP, DPM, and DTM and is carried in the butt of the RP-46. To remove the tool kit from the latter weapon, press in on the oiler catch through the hole near the top of the butt plate and lift the oiler up, out of the gun. The trapdoor in the butt can now be opened and the tool kit removed. Lubricating oil is carried in the oilers of all guns.

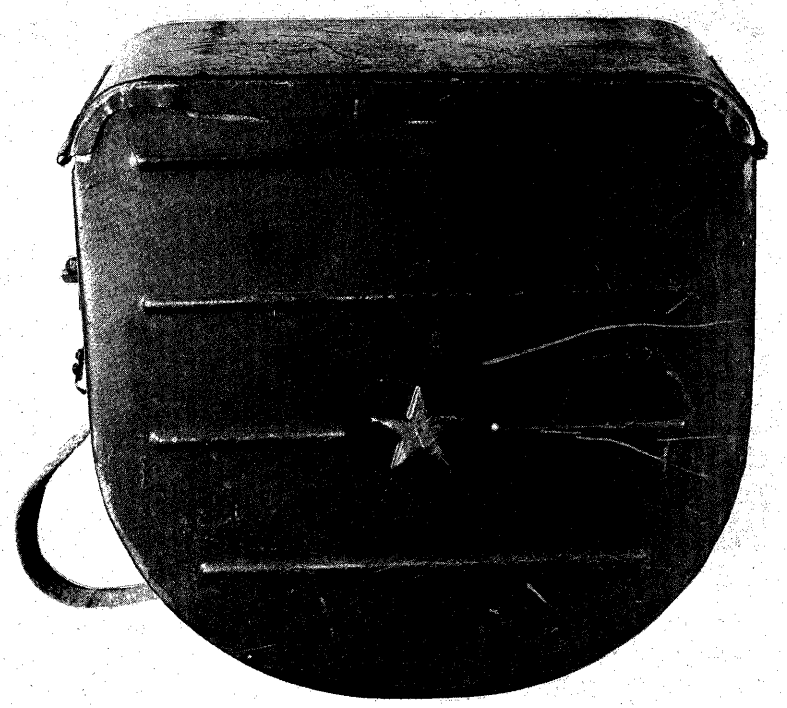

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Figure 145. Degtyarev drum carrier.

c. The RP-46 carries it sectional cleaning rod on the bipod. Press in on the small crosspin at the top of the bipod leg and slide the sleeve up. The rod sections can now be removed and screwed together.

E. THE 7.62-MM DEGTYAREV SQUAD LIGHT MACHINEGUN (RPD)

179. General

a. The Degtyarev-designed Soviet RPD squad light machinegun (fig 146) now obsolete in the Soviet Army, is still

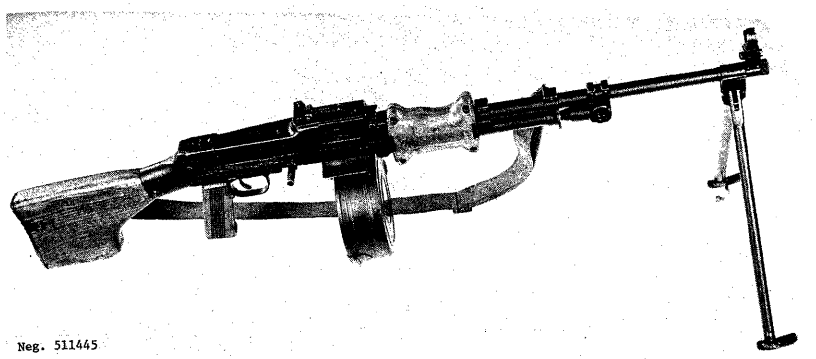

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Figure 146. Typical RPD squad light machinegun.

used by some other Eurasian Communist countries and has been distributed to many other Communist-aligned nations. Modifications made to increase the operational reliability of the RPD have resulted in the following distinct versions:

(1) First version: Cup-type gas piston; no dust cover; straight reciprocating handle; right-hand windage knob (fig 147). Most first version guns now have a cylinder sleeve fitted to the gas spigot, so that their gas mechanism resembles the later versions, and have a sliding dust cover fitted over the operating handle slot.

(2) Second version: Plunger-type gas piston; no dust covers; straight reciprocating operating handle; left-hand windage knob (fig 147 and 148). Some second version guns have had a sliding dust cover similar to the ones fitted to the first version guns; others have had a bracket riveted to the side of the

receiver to accept a nonreciprocating operating handle. This latter type may have a handle that folds upward like the later model RPD's, or one that folds forward.

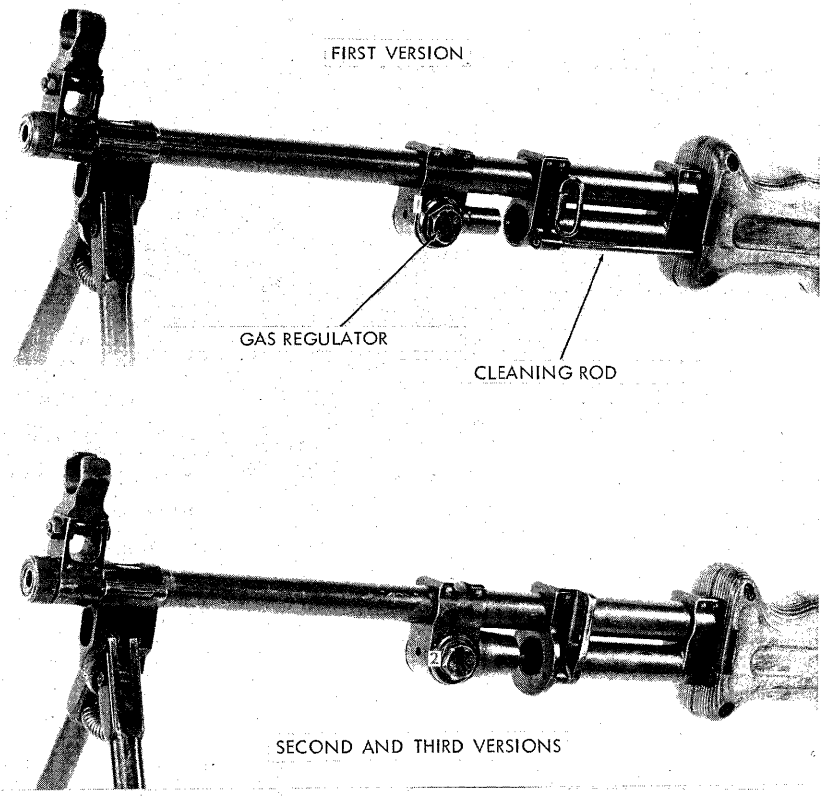

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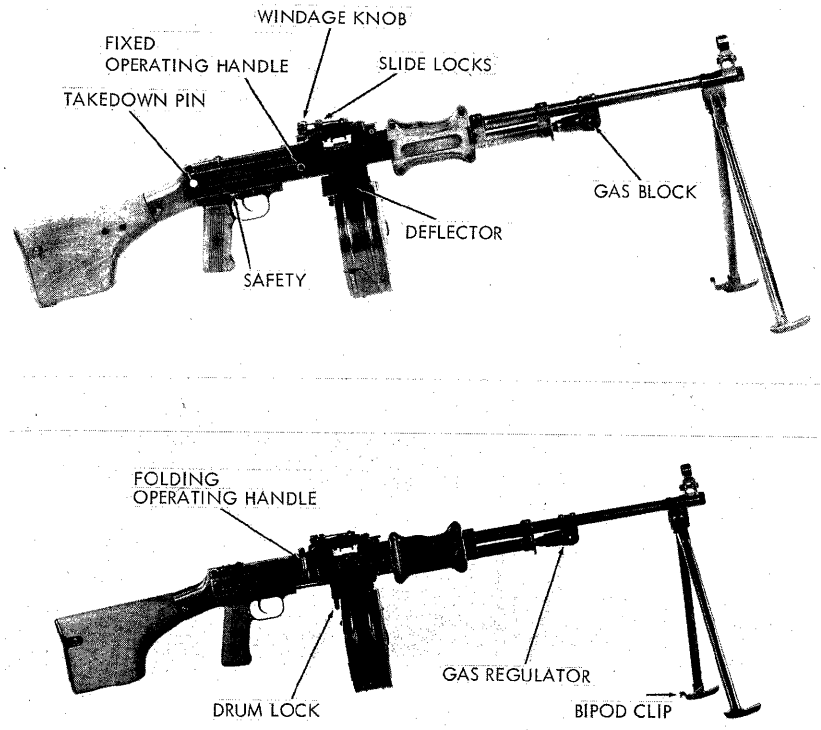
Figure 147. First and second model RPD gas cylinders.

(3) Third version: (also PRC Type 56) — As for second version, but has dust covers on feed mechanism and has folding nonreciprocating operating handle (figs 148 and 150).

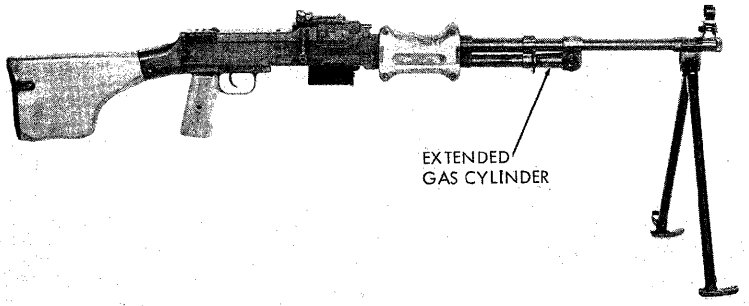


Neg. 511447

Figure 148. Second and third model RPDs.

(4) Fourth version: (RPDM) — As for third version, but with longer gas cylinder, additional roller on piston slide, and buffer in butt (fig 149).

(5) Fifth version: (PRC Type 56-1) — As for fourth version, but with folding magazine bracket/dust cover and cleaning rod (sectional) carried in butt.



Neg. 511448

Figure 149. Soviet RPDM.

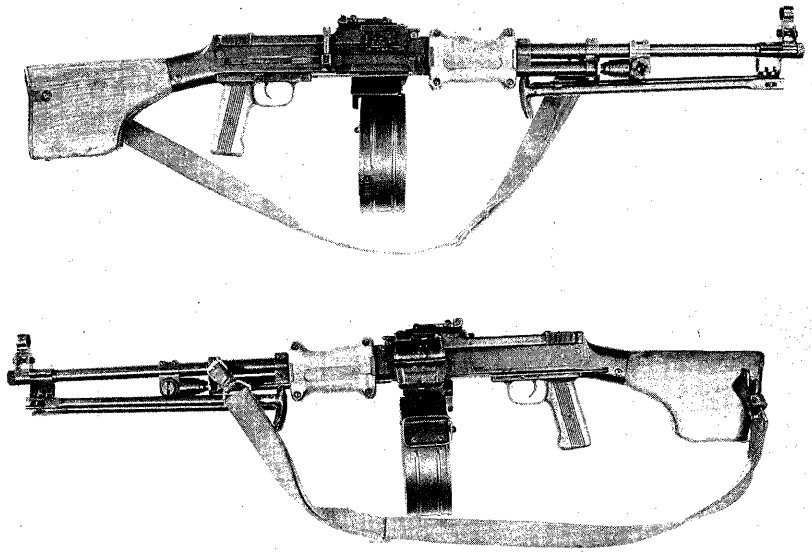


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Figure 150. PRC Type 56 light machinegun.

These changes have no effect on the gun's operation and very little effect upon its functioning. The RPD has also been manufactured in the People's Republic of China as the Type 56 and Type 56-1 light machineguns and in North Korea as the Type 62 light machinegun. These latter types can be identified by the Chinese or Korean markings on their feed covers.

b. The RPD is an automatic, gas-operated, bipod-mounted weapon that fires from the open-bolt position. It is fed from metallic-link belts (fig 151); normally two coupled 50-round sections are carried in a drum-type belt container under the gun. The Chinese guns often use four 25-round sections. The RPD fires the 7.62x39-mm M1943 cartridge (sec VI).

180. Technical Data

Technical data concerning the RPD machinegun will be found in table X.

181. Operation

a. Load the metallic-link belt by inserting a cartridge into each link and pressing it into the link until the positioning tab snaps onto the rim of the cartridge (fig 151). Some belts are similar to those used in the Czechoslovak M52 light machinegun (Czechoslovak and RPD belts are not interchangeable) and have a tab that fits behind the cartridge (refer to para 169b). Belt sections can be joined to make 100-round capacity belts by coupling the end link on one belt with the joining link on the other belt; once connected, the links are held together by inserting a cartridge. Turn the lock on the drum and open its cover; coil the belt so that the lead tab (fig 151) is on the outside, and insert the belt into the drum. Only the lead tab should protrude from the drum.

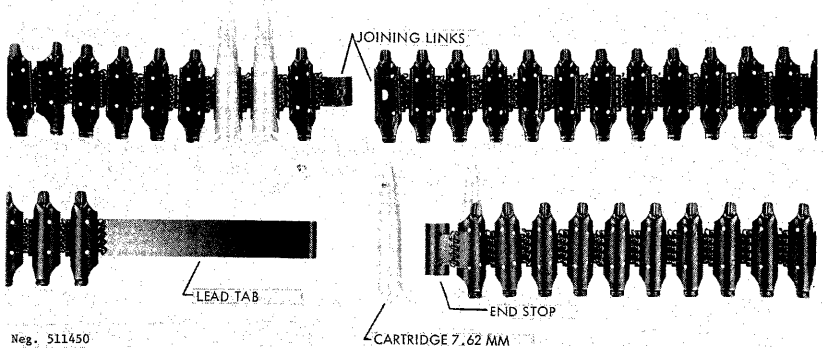

Figure 151. RPD feed belt.

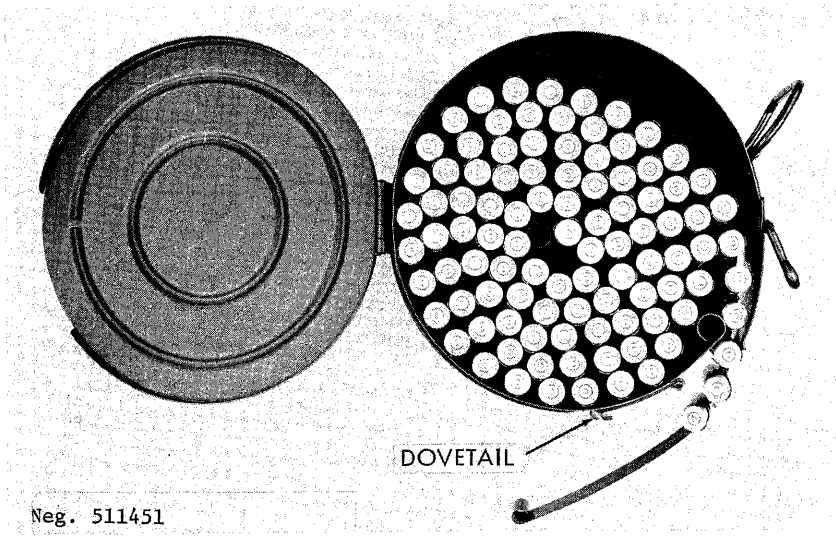

Figure 152. RPD drum.

b. If the gun is a PRC Type 56-1, press the catch on the dust cover and swing the cover down until it locks into place to serve as a magazine bracket. Once this is done, and in all other cases, slide the drum onto the bracket, from the rear, and rotate the drum lock (fig 148) down to secure the drum in position. If

necessary, open the dust covers by opening and closing the feed cover. Then insert the lead tab of the belt into the feedway from left to right, and give it a vigorous pull to the right to seat the first cartridge in the holding pawl. Pull the operating handle to the rear (unfolding it first, and returning it forward if a modified early or third or later version RPD) until the slide is caught by the sear. An alternative method of loading is to press the cover catch forward and open the cover (fig 153). Pull the operating handle rearward and lay a belt in the feedway with a cartridge in the feed lips. Close the cover.

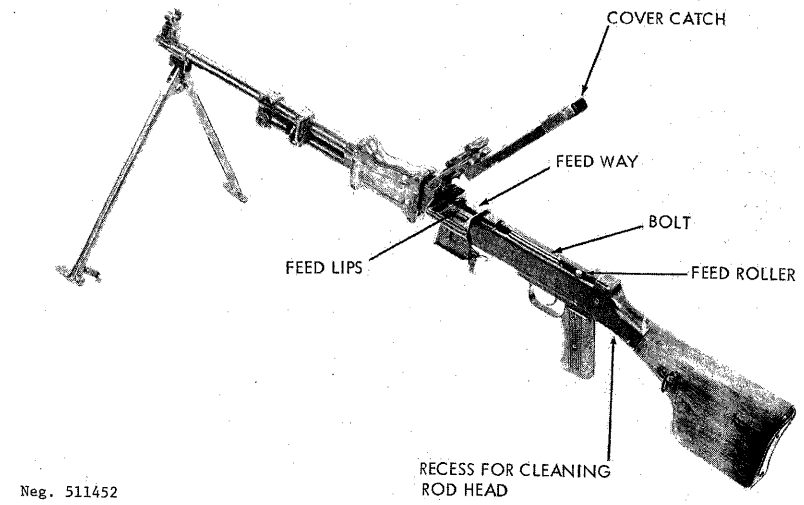

Figure 153. RPD ready for loading.

CAUTION: The machinegun is now ready to fire!

If the gun is not to be fired immediately, apply the safety (fig 148) by rotating it forward.

c. Open the bipod by unsnapping the bipod clip (fig 148); swing the bipod legs forward until they spring open and lock in place. Fold the bipod by squeezing the legs together; swing them rearward and secure them with the bipod clip.

d. Adjust the rear sight for the desired range by pressing the slide locks and moving the bar along the sight until the top of the bar is aligned with the line below the number that corresponds to the range in hundreds of meters. The rear sight can be adjusted for windage by turning the windage knob. The front sight is adjusted for elevation zero by screwing the front sight post in or out, and for windage zero by loosening the lock nut and sliding the entire front sight from side to side as necessary.

e. To fire, rotate the safety to the rear; then aim—using a normal sight picture—and press the trigger. The gun will fire until the trigger is released, and the bolt will remain open between bursts or closed after the firing of the last cartridge.

f. To unload or clear, pull the operating handle rearward, apply the safety by rotating it forward, push the cover catch forward, and open the feed cover (fig 148). Draw the belt to the left and feed it back into the drum so that only the feed tab protrudes. Inspect to be sure that no cartridges remain in the receiver, chamber, or feedway; then close the cover. Turn the drum lock (fig 148) and slide the drum off to the rear. Rotate the safety rearward, holding the operating handle to ease the bolt and the slide forward, and press the trigger. Close all covers; if a Type 56-1, press the latch to release the drum bracket and swing it up to cover the entrance to the feedway.

g. The RPD requires adjustment of its gas mechanism when it becomes fouled. Loosen the nut on the left side of the regulator (fig 148) and press the regulator to the right to disengage

it from the index pin. The regulator has three settings, stamped "1," "2," and "3;" the first is for normal use. Turn the regulator until the next higher number lines up with the index pin; then press the regulator back into place and tighten the nut.

182. Disassembly and Assembly

a. The RPD is disassembled in the following manner:

(1) Clear the gun (para 181f), but do not close the covers. Remove the cleaning rod by prying its head out of its recess (fig 153) and withdrawing it to the rear.

(2) Press out the takedown pin at the rear of the receiver (fig 148) and slide the butt and trigger group off to the rear.

(3) Pull the operating slide and bolt (fig 154) out of the receiver and separate the bolt from the operating slide by lifting the bolt straight up. The locking flaps will fall free.

(4) No further disassembly is necessary or desirable.

b. To reassembly the weapon:

(1) First assemble the locking falps to the bolt; then place the bolt onto the slide so that the flaps fit into the cam cuts in the slide.

(2) Push the bolt and locking flaps as far forward as possible on the slide and insert the slide into the receiver, matching the rails on the slide with their grooves in the receiver.

(3) Slide the butt and trigger group onto the receiver, being sure that the driving spring rod seats into its recess in the end of the slide. Press the takedown pin back into place.

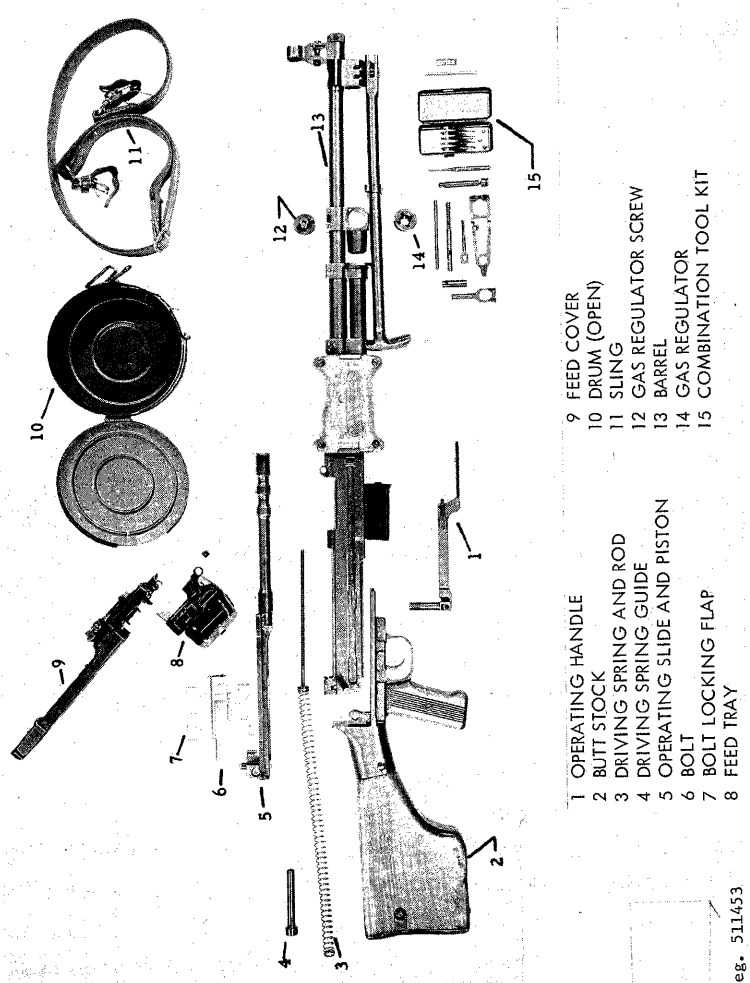

Figure 154. RPD field stripped.

183. Functioning

a. The RPD is a Degtyarev-designed weapon, and its functions, with the exception of its belt-feed device, are almost exactly like the Degtyarev DP light machinegun (para 177). The sole exception to the basic functioning lies in the locking action; the DP uses a cam on its firing pin to force the locking flaps into the locked position, whereas the RPD uses a cam machined in the slide. This cam also acts as a hammer to strike the firing pin; however, for all practical purposes, the hammer cam can be considered to function the same as the cam on the firing pin of the DP.

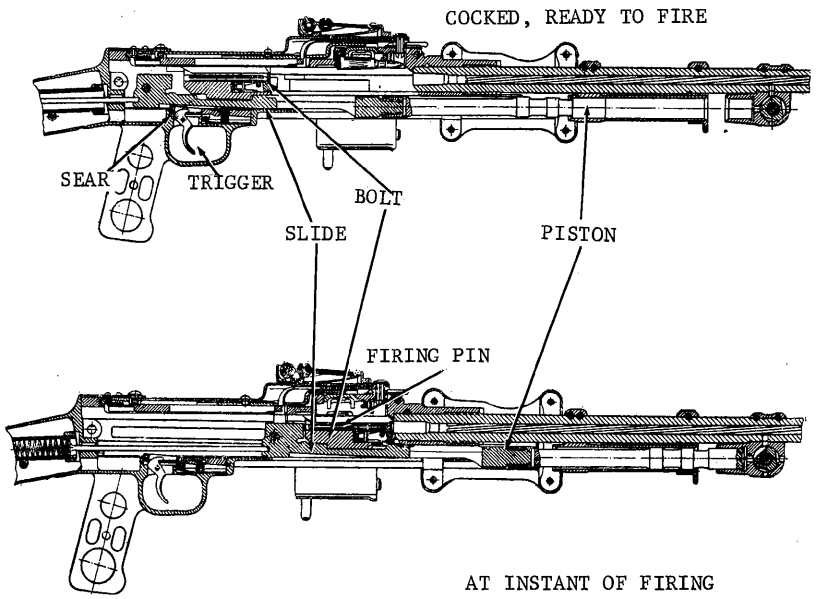

Figure 155. RPD section.

b. The belt feed is operated by the recoil and counterrecoil of the slide. A feed roller on the top of the slide fits into the feed actuator lever, and as the slide moves rearward and forward, it causes this lever to move from side to side. The belt feed lever is pivoted to the middle of the feed cover and is driven by the actuator lever. The front end of the belt feed lever engages the feed slide. The movement of the slide thus is transmitted through the feed actuator lever and belt feed lever to provide the in and out motion of the feed slide that is required to move the feed belt into the gun. A stationary spring-loaded belt holding pawl retains the belt in the gun as the feed slide moves in and out.

184. Accessories

a. The following accessories are issued for the RPD light machinegun:

(1) Combination tool kit.

(2) Belt drums.

(3) Fabric sling.

(4) Night-sighting device.

(5) Blank-firing device.

b. The combination tool kit (fig 156) contains a combination wrench and screwdriver (for use in turning the gas regulator and bipod screws), a gas cylinder cleaner, a reamer for the gas port, a front sight wrench, ruptured cartridge extractor, a pin punch, a cleaning rod tip, and a handle bar. The handle bar is inserted into the front-sight wrench or the gas cylinder cleaning tool in order to rotate them. The ruptured cartridge extractor is

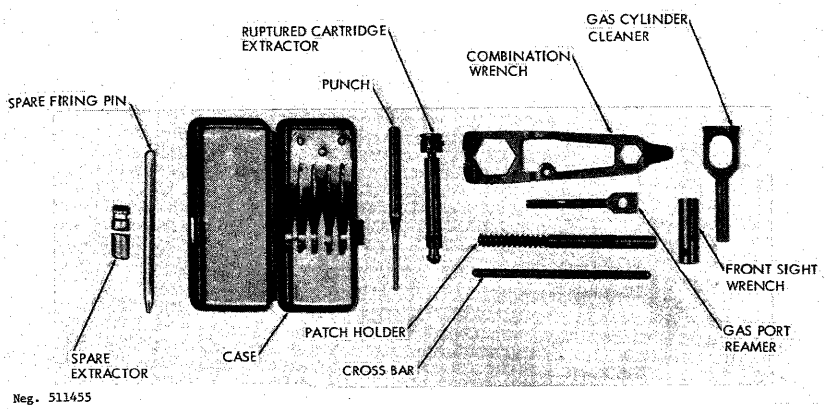

Figure 156. RPD accessories.

inserted into the chamber, the bolt is allowed to slam shut on it, and when the bolt is retracted, the extractor will remove any ruptured cartridge that might be present. All accessories are contained in a case stored in the butt under a rotary trapdoor. The PRC Type 56-1 also has a four-piece cleaning rod stored in the butt.

c. The blank firing device is also similar to that used with the AK-47 assault rifle (para 95b2).

d. The night sighting device is similar to that used with the AK-47 assault rifle (para 95g).

F. THE TYPE 67 LIGHT MACHINEGUN

185. General

a. The 7.62-mm Type 67 machinegun (fig 157) recently entered service with the People's Republic of China's Army and has also been given to the North Vietnamese. This weapon will probably replace both the Type 53 light machinegun and the Type 58 company machinegun (para 173).

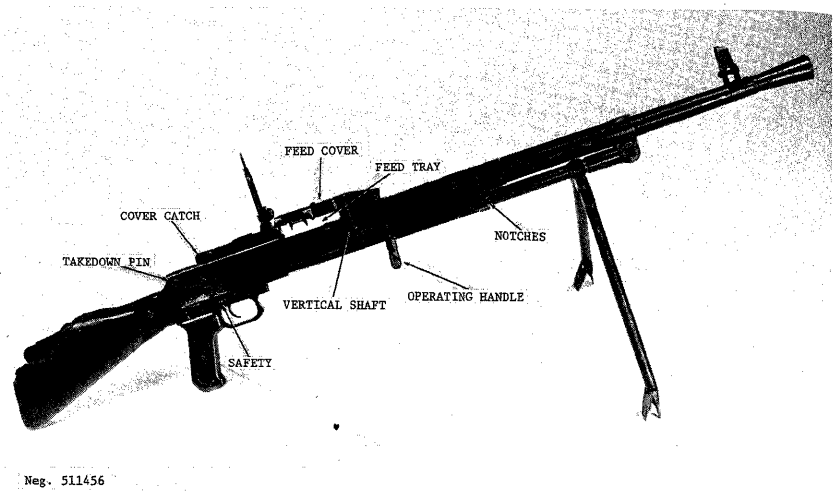

Figure 157. PRC Type 67 light machinegun.

b. The Type 67 machinegun is a gas-operated, belt-fed, bipod- or tripod-mounted (fig 158) automatic weapon equipped with a quick change barrel. This gun utilizes the design features of several other weapons: the Russian DP trigger mechanism (para 177), the Czechoslovak ZB30 bolt mechanism (para 195), and a modified Maxim-type feed mechanism. The quick change barrel system is copied from the Russian SG43 (para 215) and the gas regulator is similar to that in the Soviet RPD (para 179). The Type 67 machinegun cannot use the pull-out type feed belt used in most Communist weapons, but must rather use a push-out type belt similar to that used in the Czechoslovak Vz59 machinegun (para 209).

c. The Type 67 fires 7.62x54-mm rimmed cartridges (sec VI).

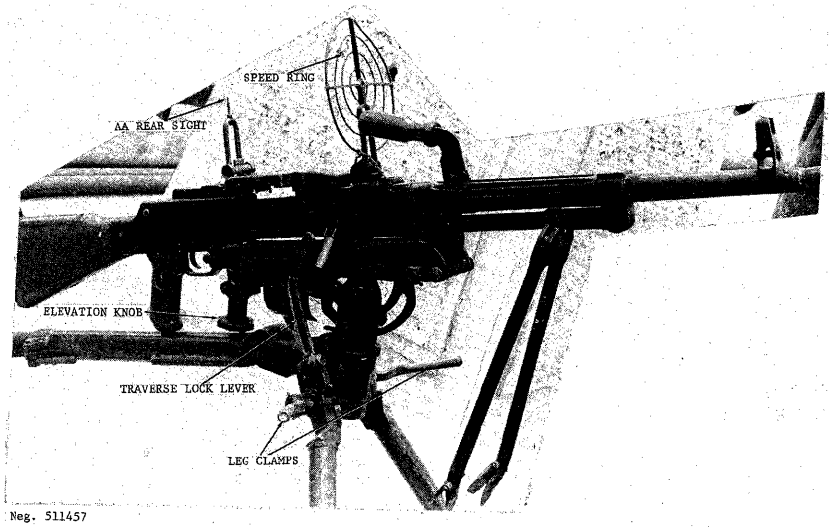

Figure 158. Type 67 on its tripod mount.

186. Technical Data

Technical data concerning the Type 67 machinegun will be found in table X.

187. Operation

a. Load the feed belt by placing a cartrige over the link opening, so that the rim of the cartridge is just ahead of the turned down tab on the link. Press the cartridge into the link; the tab must be behind the cartridge base (fig 159).

b. Press the cover catch (fig 157) to one side and allow the feed cover (fig 157) to swing open. Unfold the operating handle (fig 157) until it points downward at a 45-degree angle; pull it fully to the rear, then return it fully forward. Place the cartridge belt on the feedtray (fig 157) with the first round in the feedtray slot. Close the cover.

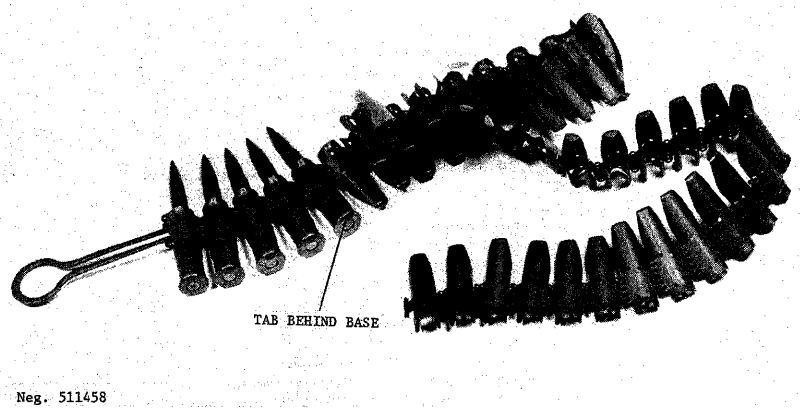

Figure 159. Type 67 feed belt.

CAUTION: The gun is now loaded and ready to fire!

c. If the gun is not to be immediately fired, render it safe by rotating the safety (fig 157) forward.

d. Prior to firing, lift the rear sight to its vertical position and rotate the elevation knob (on the left) (fig 157) until the number that corresponds to the range in hundreds of meters is aligned with the top edge of the slider (fig 157). Each click of the elevation knob, up to 1000 meters, causes a change in range of approximately 25 meters; beyond 1000 meters, each click equals about 20 meters. The right hand knob is used to apply windage corrections. Each click of this knob causes a change in bullet impact of about one inch for each hundred meters of range.

e. To fire, rotate the safety (fig 157) rearward, aim, using a normal sight picture, and press the trigger. The gun will fire as long as the trigger is pressed and cartridges are in the belt. Best results are achieved by firing in bursts of five to eight rounds, then reaiming and firing again. The bolt will remain open between bursts and close on an empty chamber when the last round has fired.

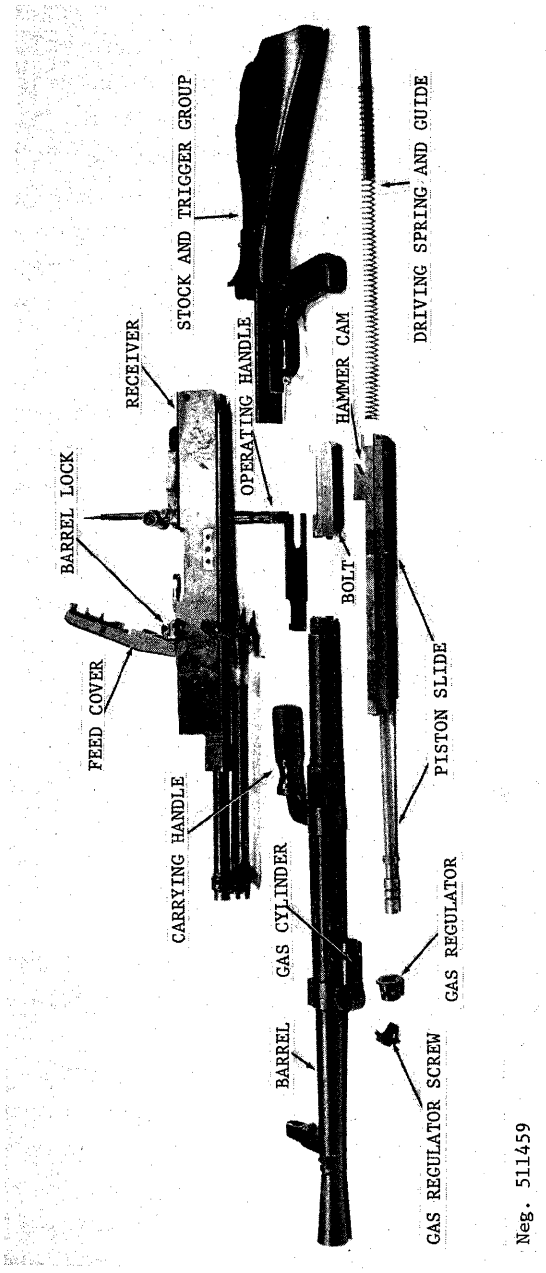

Figure 160. Type 67 field stripped.

f. To clear or unload the Type 67, first set the safety forward, to safe, press the cover catch to one side and allow the cover to spring open. Lift the feed belt off the feed tray. If necessary rotate the safety rearward, and then pull the operating handle rearward; inspect to insure that no cartridges are present. Hold the operating handle, press the trigger and ease the mechanism forward. Fold the operating handle upward and rotate the safety forward to the safe position. Close the cover.

g. The barrel may become overheated during firing. To change barrels, press the cover catch and open the feed cover (fig 157). Press the barrel lock (fig 160) to the left as far as possible. Use the carrying handle and pull the barrel forward, out of the gun. Insert the spare barrel into the receiver, insuring that the gas cylinder enters the gas cylinder tube (fig 157). Press the barrel lock in, fully to the right. (Note: There is a screw adjustment on the barrel lock to compensate for wear. This screw is adjusted only by an armorer.) Close the cover.

h. Adjust the gas regulator if the gun becomes sluggish during firing. The regulator is adjusted as described in paragraph 181g.

188. Disassembly and Assembly

a. Clear the gun (para 187f) but do not close the cover or fold the operating handle. Remove the barrel (para 187g).

b. Press the takedown pin (fig 157) out to the right as far as possible, then pull the stock and trigger group straight to the rear until it comes free. Remove the driving spring and guide. Pull the operating handle rearward; this will move the gas piston, slide and bolt to the rear where they can be removed. Lift the bolt off the slide (fig 160). Pull the operating handle rearward until it comes clear of the receiver.

c. Unscrew the gas regulator screw and push the regulator to the right until it comes out of its recess in the barrel.

d. Further disassembly is neither necessary nor desirable.

e. To reassemble the Type 67, first insert the regulator into its recess until the "1" notch lines up with the index pin. Screw the gas regulator screw into the regulator, finger tight.

f. Slide the operating handle onto the lower grooves in the receiver handle to the right, and push the unit as far forward as possible. Place the bolt over the hammer post of the slide and move the bolt forward as far as possible. Insert the bolt and slide, piston leading, into the receiver and press them fully forward. Insert the driving spring into its tunnel in the slide and then insert the guide into the driving spring.

g. Start the stock and trigger group onto the lower grooves of the receiver until the driving spring guide touches the rearwall. Be careful that the driving spring does not kink and shove the stock and trigger group fully forward. Push the takedown pin fully into the receiver. Insert the barrel (para 187g), close the cover and fold the operating handle.

189. Functioning

a. The Type 67 machinegun is gas operated, and its basic functioning is identical with the bolt functioning of the ZB26/30 (para 195 b, c, and d) and the trigger functioning of the DP (para 177b).

b. The Type 67 feed mechanism is operated by a lever system operated by a cam groove on the top front of the slide. As the slide recoils, a roller on the lower feed arm enters the cam

groove and, as the cam moves rearward, the roller and its arm are moved sideward by the cam. This movement is transmitted by a vertical shaft (fig 157) to an upper feed arm. As the upper arm moves, a slot in it engages a roller on the feed slide and the upper arm movement causes the feed slide to move outward to engage a fresh round.

c. As the bolt and slide counterrecoil, the bolt strips a round from the belt and rams it into the chamber. Continued forward movement of the slide causes the feed arms to move back to their original position; this causes the fresh cartridge held by the feed slide to move into the slot of the feed tray as the upper feed arm moves the feed slide inward. A spring-loaded holding pawl on the feed tray prevents the belt from moving out of the feed tray, and a pair of cartridge guides, in the cover, press the cartridge down into the feed tray slot so that the bolt can ram the cartridge into the barrel.

190. Accessories

a. There are several accessories for the Type 67 machinegun. These include a spare barrel, a tool kit (similar to that of the RPD (para 184), antiaircraft sights and a tripod mount.

b. The antiaircraft sights (fig 158) consist of a permanently mounted post on the top of the rear sight (fig 156) and an attachable speed ring sight. The speed ring (fig 158) is attached by aligning its base with the dovetail cuts on the front top of the receiver, and then sliding the sight rearward until its lock snaps into place. To remove the AA sight, lift the lock and slide the sight forward.

c. The tripod mount is set up by loosening the leg clamp (fig 158); swinging the legs to the desired position and tightening

the leg clamps. Install the gun on the tripod by fitting the notches on the front of the receiver (fig 157) onto the pins in the mount; then swing the gun down until the latch snaps onto the front of the trigger guard. The method of converting this mount for antiaircraft use is similar to the method described in paragraph 220d.

G. THE ZB26 AND ZB30 LIGHT MACHINEGUNS

191. General

a. The Czechoslovak-designed and -produced ZB26 and ZB30 machineguns were among the first modern light automatic guns. The two guns are almost identical externally; the ZB30 (fig 161), however, has a socket in the bottom of its butt to receive a

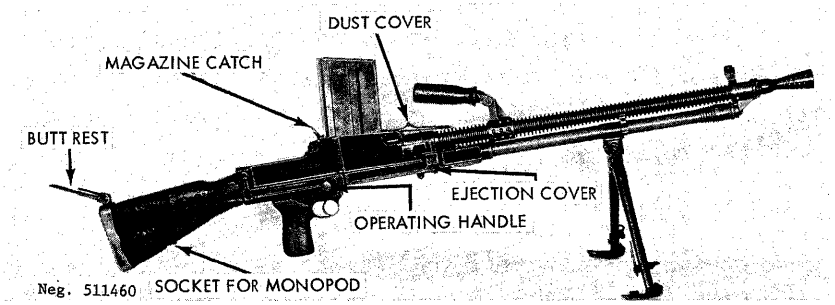

Figure 161. ZB 30 light machinegun.

monopod; the ZB26 (fig 162) does not have such a fitting. Internally the basic design is similar but there are major differences in the shape of the breech bolt and piston slide, and these parts are not interchangeable between models. These air-cooled, box magazine-fed, bipod-mounted guns have many clever design features; some are retained in the design of the later

British Bren and Czechoslovak Models 52, 52/57, and 59 machineguns.

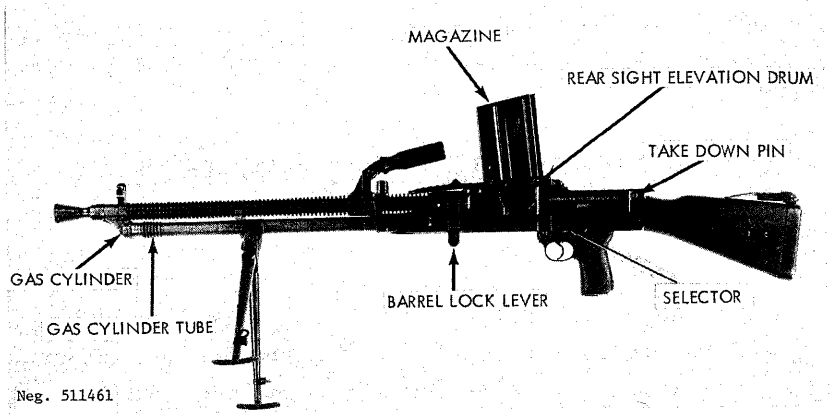

Figure 162. ZB 26 light machinegun.

b. Copies of the ZB26 were produced in China prior to and during World War II; many of these guns were taken over by the People's Republic of China (fig 163) and are now used in Southeast Asia.

c. The Czechoslovak-produced guns can be identified by their markings. The word BRNO along with other Czechoslovak identifying marks will be on the left side of the receiver. The legend Lehky Kulomet ZB VZ 30 (or 26) is on the right side. This latter marking may be different on guns made for export sales. The older Chinese-made guns have serial numbers in large figures stamped into the left receiver wall, often preceded by a swastika (fig 163).

d. Most ZB26 and ZB30 machineguns fire the 7.92x57-mm cartridge (sec VI). Some, however, were made for other calibers.

192. Technical Data

Technical data concerning the ZB26 and ZB30 light machineguns are given in table X.

193. Operation

a. Load the ZB26 or ZB30 magazines in the manner described in paragraph 92a. Most magazines hold 20 cartridges, but larger capacity magazines were also made.

b. Swing the bipod legs forward until they spring apart and lock into place. They can be folded by pressing the legs together and swinging them rearward. The butt rest (fig 161) can be folded or unfolded by pulling it away from its hinge and rotating it to the desired position. This rest can be used to support the gun on the gunner's shoulder while he is firing from the prone position.

c. Slide the dust cover forward, if necessary. Tilt the magazine forward and engage its front lug with the recess in the front of the magazine opening. Rock the magazine back until the magazine catch (fig 161) snaps into place.

d. Rotate the selector (fig 162) to its middle (safe) position. Grasp the operating handle (fig 161), pull it fully rearward, and then return it forward.

CAUTION: The gun is now ready to fire!

e. Turn the elevation drum (fig 162) until the desired range (in hundreds of meters) appears in the opening at the rear of the drum.

f. Rotate the selector (fig 162) forward for automatic fire or rearward for semiautomatic fire. Use a normal sight picture, aim, and press the trigger to fire. The bolt will be caught to the rear when the magazine is empty.

g. Remove the magazine by pressing the magazine catch (fig 161) toward the magazine; at the same time press the magazine forward and rotate it out of the gun. Reload as described in paragraph c above. The gun does not have to be recocked after reloading, because the follower of the empty magazine held the bolt open.

h. The ZB26 and ZB30 machineguns have quick-change barrels. Remove the magazine; press the latch on the inside of the barrel lock lever (fig 162) into the lever to release the lever from the receiver. Rotate the lever up as far as possible, and by means of the carrying handle, pull the barrel forward off the gun. Insert a replacement barrel; insure that the gas cylinder enters the gas cylinder tube (fig 162). Turn the barrel lock lever down until it locks in place; reload and resume fire. The barrel can be changed with the bolt rearward or forward.

i. Clear the gun; set the selector to its middle (safe) position; remove the magazine, and then pull the operating handle rearward. Look through the magazine opening to insure that no cartridges are present. Move the selector from safe, grasp the operating handle, press the trigger, and ease the operating handle forward. Slide the magazine opening dust cover (fig 161) rearward; then slide the ejection cover (fig 161) rearward. Set the selector back to its middle (safe) position.

194. Disassembly and Assembly

a. To disassemble the weapon, clear the gun (para 193i), but do not close the dust covers or move the selector from its safe position. Remove the barrel (para 193h).

b. Press out the takedown pin (fig 162) from left to right and slide the butt and trigger mechanism rearward out of the receiver.

c. Holding a hand over the rear end of the receiver, point the front end up. The slide and bolt (fig 163) will slide rearward; remove them. Pull the bolt (fig 163) rearward and up off the slide.

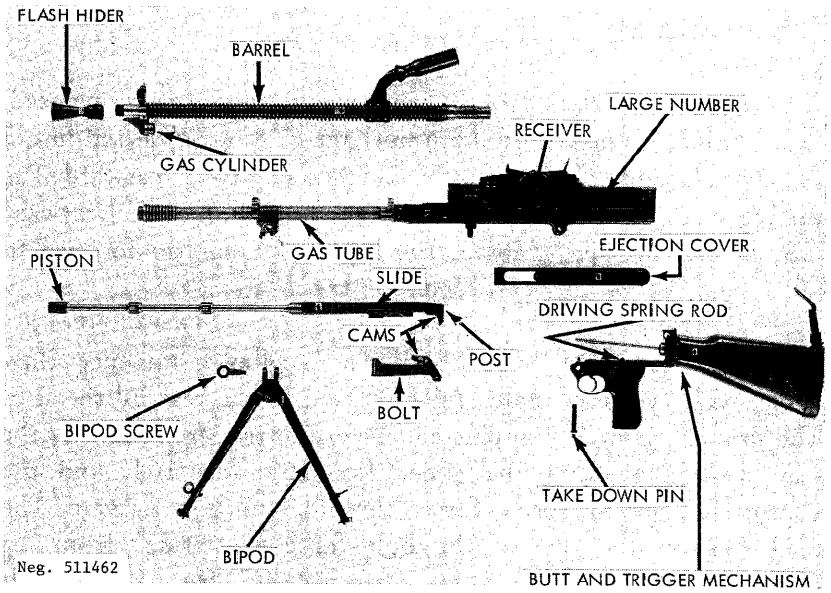

Figure 163. PRC copy of ZB 26, field stripped.

d. No further disassembly is necessary or desirable.

e. To reassemble the gun, place the bolt over the slide post (fig 163) and push the bolt forward on the slide so that the undercuts at the front of the bolt mate with their tracks on the slide. Insert the gas piston into the rear of the receiver, and when the piston is far enough in, align the ribs on the slide and receiver and push the slide into the receiver. Tilt the receiver down until the bolt and slide go forward.

f. Slide the butt and trigger mechanism into the receiver from the rear. Be sure that the driving spring rod is seated into its recess in the end of the slide. When the butt and trigger mechanism are fully seated in the receiver, insert the takedown pin.

g. Replace the barrel and clear the gun (paras 193 h and i).

195. Functioning

a. The ZB26 and ZB30 light machineguns are gas operated. Upon firing, a portion of the propellant gases are diverted into a gas cylinder and drive the piston and attached parts rearward. The driving spring is compressed, and upon completion of the rearward movement, this spring drives the breech mechanism forward to reload and fire another cartridge.

b. The ZB26 and ZB30 machineguns commence their firing cycle with the slide and bolt held to the rear by the sear. The driving spring is compressed. When the trigger is pressed, the sear disengages from the slide (figs 163 and 164) and the compressed driving spring forces the slide and bolt forward. The feed ribs on the top of the bolt force a cartridge from the magazine and drive it into the chamber. The front of the bolt strikes the end of the barrel; the extractor snaps into the groove of the cartridge case; and the bolt stops. The slide continues forward, and a cam on its top side forces the rear end of the bolt upward into its seat in the receiver. The slide then continues forward a short distance and its hammer (fig 164) strikes the firing pin to ignite the cartridge.

c. The propellant gases from the cartridge drive the bullet through the barrel, and just before the bullet reaches the muzzle,

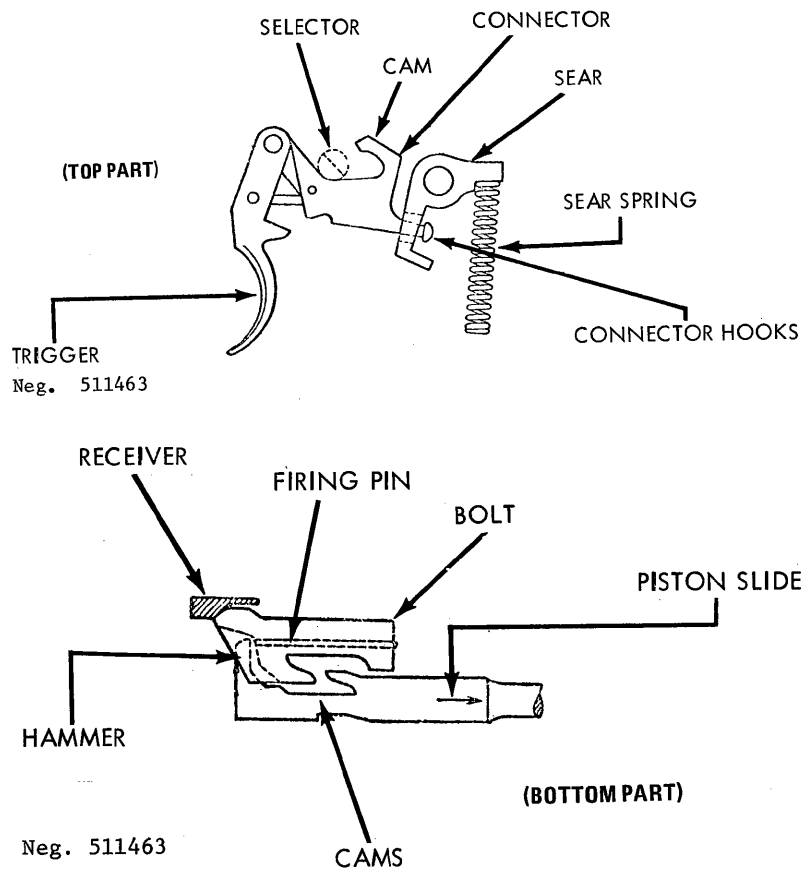

Figure 164. ZB30 bolt and trigger mechanism functioning.

some of the gases are diverted through the gas port and into the gas cylinder. The gases then drive the piston rearward. As the piston and slide move rearward, the driving spring is compressed.

d. As the slide moves, the cams on the slide (fig 164) contact the bolt and pull it down from its locked position; when unlocked, the bolt and slide travel rearward as a unit. The extractor pulls the fired cartridge case from the chamber and holds

the case to the bolt until the ejector strikes the case. The case then pivots on the extractor and is expelled through the ejection port in the bottom of the gun. The slide finally strikes the buffer and stops. The driving spring then drives the slide forward and another cycle commences.

e. By rotating the selector (fig 162), the ZB26 or ZB30 trigger mechanism can be set for either semi- or full automatic fire. When the selector is rotated forward to the full automatic setting, a solid section on its shaft depresses the connector, which fits through a hole in the lower arm of the sear. As the trigger is pressed, the connector moves forward; the lower hook (fig 164) engages the sear and causes it to rotate about the pin. The sear nose releases the slide, the firing cycle commences and continues until the trigger is released and the sear spring forces the sear up to intercept the slide.

f. When the selector is rotated rearward to the semiautomatic setting, the connector raises to its highest position; as the trigger is pressed, the upper hook of the connector raises to its highest position. As the slide drives forward, it hits the cam (fig 164) on the connector and forces the connector down. The hook releases the sear that, because of its spring, snaps up and catches the slide when it recoils. Thus only one shot is fired; the trigger must be released to allow the connector to move rearward and its hook to reengage the sear so that a second shot can be fired.

g. When the selector is rotated to its middle or safe position, the hooks are positioned centrally in the hole in the sear (fig 164). Thus, when the trigger is pressed, the connector hooks do not activate the sear to release the slide.

h. The magazine platform has a rear edge lug that can drop in front of the bolt when the last round has been fed. When the bolt recoils after firing the last round, the lug stops the bolt; this, in turn, stops the slide slightly to the rear of the place where it normally would be engaged by the sear. As the empty magazine is removed, the bolt and slide move slightly forward onto the sear, and after a loaded magazine is inserted, the gun is again ready to be fired.

196. Accessories

A wide assortment of accessories is available for the ZB26 and ZB30. Among these are spare barrels, extra magazines (with a web or leather magazine carrier), a sling, a tool roll or box with cleaning rod, combination tool, and spare parts such as firing pins, extractors, ejectors, springs, etc., and a gun cover.

H. THE 7.92-MM MG34 LIGHT MACHINEGUN

197. General

a. The MG34 (fig 165) was developed in Germany in the 1930's as a general purpose machinegun. It could be used as a light, heavy, antiaircraft, or tank machinegun. This weapon is notable for its extremely high cyclic rate of fire and its fast, simple, barrel change. The air-cooled, belt-fed, recoil-operated MG34 is a closely fitted, intricately machined weapon that requires exacting care and cleaning to keep it operating. The high rate of fire requires a nice touch on the trigger to limit bursts to 8 or 10 rounds.

b. Although it has been many years since the MG34's have been used by any regular army, they are often found in use by

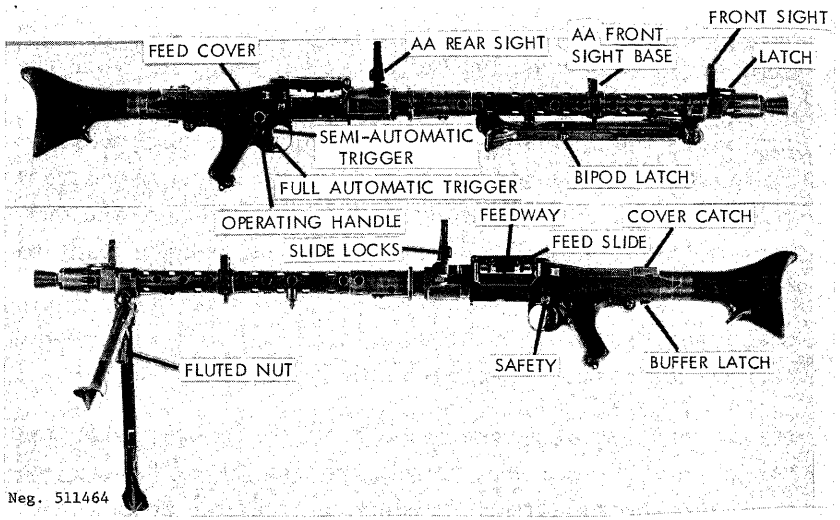

Figure 165. MG34 light machinegun.

irregular forces worldwide and are in wide use by both North Vietnamese Militia and Viet Cong units. In Vietnam they are usually employed as antiaircraft weapons, a role to which they are especially suited because of their belt feed and high cyclic rate.

c. The MG34, because of its age, complexity, and unreliability, should be used only when no other light machinegun is available.

d. A number of variations can be encountered. Some MG34's do not fire semiautomatically, some have shorter barrels, and some special models for tanks have heavier barrel jackets; these changes do not affect normal operation. The major components of each MG34 are numbered with the serial number of the gun; if misnumbered parts are assembled into a gun, malfunctions are almost certain to occur.

e. All MG34 machineguns fire the 7.92x57-mm cartridge (sec V).

198. Technical Data

Technical data concerning the MG34 are given in table VII.

199. Operation

a. The ammunition belt for the MG34 is constructed from 50 semicircular links held to each other by a spiral connector (fig 166). Only this belt can be used with the MG34. Load the belt by pressing a cartridge into each link until the tab on the link snaps into the groove of the cartridge case. Long belts can be made by seating the last or connecting link of one belt into the first link of another belt and locking them together by inserting a cartridge. If a leading tab is not available, leave the first few links empty to serve as a leading tab.

b. There are several ways to load the MG34. The preferred method is to press the cover catch (fig 165) forward and lift the

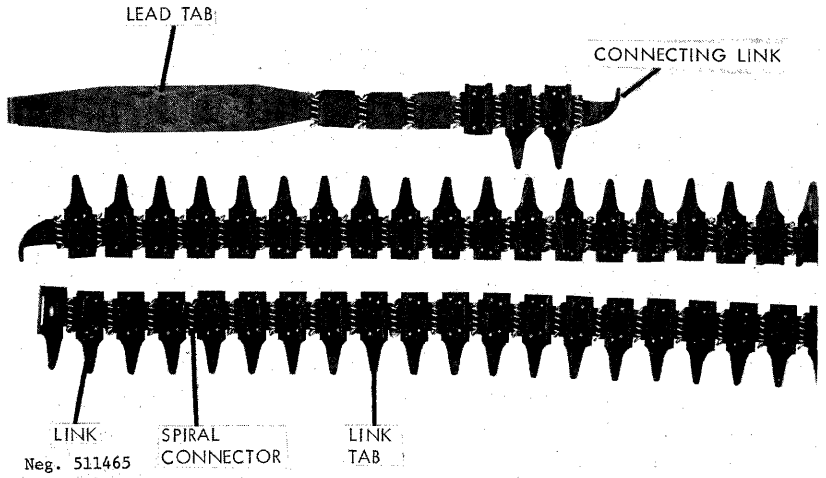

Figure 166. MG34 feed belt.

cover. Place the belt in the feedway (fig 165), feeding in from the left with open side of the links down and the first cartridge positioned in the lengthwise slot in the feed tray. Make certain that the safety (fig 165) is rotated forward, pull the operating handle (fig 165) to the rear, and thrust it fully forward. Push the feed slide (fig 165) to the left and close the cover; strike the rear of the cover with the hand to insure that the cover is latched.

CAUTION: The gun is loaded and ready to fire!

c. The alternate way of loading the MG34 without opening the cover is to pull the operating handle to the rear and then thrust it forward.

CAUTION: Be sure that the safety is rotated forward.

Insert the belt from left to right and give it a vigorous pull to the right to seat it.

CAUTION: The gun is loaded and ready to fire!

d. If the gun is not to be fired immediately, press in on the safety and swing it down and to the rear. The gun is then on safe and cannot be fired.

e. Swing the front and rear sights to an upright position, squeeze the latch (fig 165) in the bipod legs, and swing the bipod forward. The height of the bipod can be adjusted by turning the fluted nut between the bipod legs; this controls the spread of the legs. Set the rear sight for range by pressing the slide locks, and move the slide until its upper edge is aligned with the number that corresponds to the range in hundreds of meters.

f. To fire, press in on the safety and swing it forward and up. Aim, using a normal sight picture, and press the trigger. If the

lower part of the trigger is pressed, the gun will fire automatically; if the upper part is pressed, the gun will fire one shot; the trigger must be released and repressed to fire another shot. The bolt will remain forward when the last round has fired.

g. The high cyclic rate of fire causes the MG34 barrels to heat very rapidly, and provision is made for quickly changing the hot barrel for a cool one. To change barrels, pull the operating handle to the rear and, using gloves, press the barrel jacket latch (beneath the rear sight) (fig 167) and rotate the receiver counterclockwise in relation to the barrel jacket. Lower the butt, and the barrel will slide out of the jacket. CAUTION: It is hot—use gloves to handle it. Insert a cool barrel in the jacket, insuring that it is fully forward in the jacket. Swing the receiver over to the left, push the operating handle forward, and recommence firing.

h. To clear the MG34, press the cover latch forward and open the cover. Remove the ammunition belt from the feed tray. Pull the operating handle to the rear and inspect it to insure that no cartridges are present in the feed tray, the receiver, or the barrel. Push the feed slide to the left and close the cover. Hold the operating handle and press the trigger; ease the operating handle forward. Fold the sights and bipod.

200. Disassembly and Assembly

a. To disassemble the weapon, clear the gun (para 199h), but do not fold the bipod or close the cover. Press the buffer latch (fig 165) and turn the butt counterclockwise until it springs free of the receiver. CAUTION: A strong driving spring is released. Pull the driving spring out of the rear of the receiver if necessary. Hold a hand over the rear of the receiver and pull the operating handle rearward. This will move the bolt to the rear so that it can be grasped and removed.

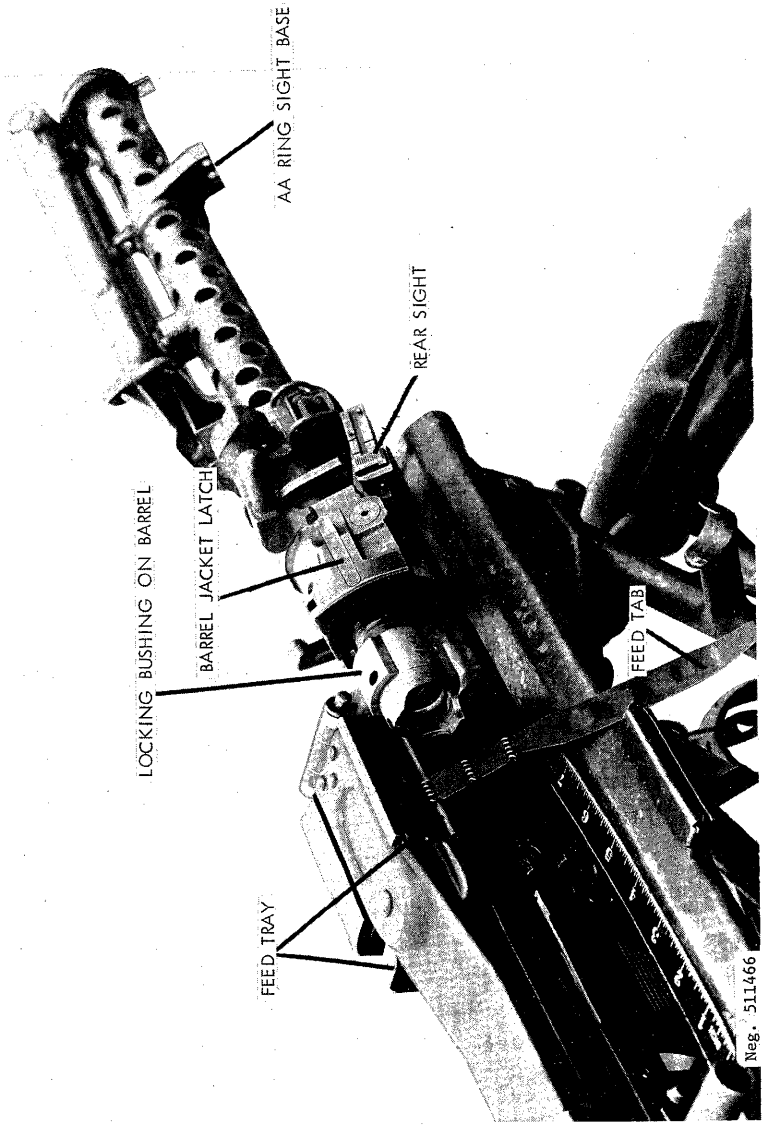

Figure 167. MG34 barrel change.

b. Turn the bolt (fig 168) in the bolt carrier until the firing pin clicks. There is either a knurled latch or a plunger at the rear end of the bolt. Press the latch in against its spring and turn it 90°, or, if the bolt is so equipped, press in the plunger; then unscrew the nut from the rear end of the firing pin and pull the bolt forward out of the bolt carrier. Insert the rear end of the bolt (the end from which the threaded firing pin protrudes) into the opening in the rear end of the bolt carrier. Turn the bolt until the shoulders of the firing pin nut mate with the opening in the bolt carrier; press the bolt inward, against spring pressure; then turn it to release the firing pin nut. Ease the bolt away from the carrier and pull the firing pin and spring out of the bolt.

c. Lift up the latch in front of the front sight and unscrew the flash hider. Remove the barrel (para 199g).

d. No further disassembly is necessary or desirable. Thoroughly clean all of the parts, paying particular attention to the interior of the flash hider and to the muzzle of the barrel. Lightly oil all parts, especially the cams in the bolt carrier.

e. To reassemble the gun, screw the flash hider onto the barrel jacket and replace the barrel (para 199g). Hold the bolt vertical and insert the firing pin into the bolt, point first. Place the bolt carrier over the bolt and slide the carrier forward and twist it until the firing pin drops. Remove the bolt carrier and place the firing spring and its nut over the firing pin. The two flats on the nut must face away from the bolt. Place the rear end of the bolt carrier over the nut, press firmly, and twist the bolt carrier until the nut locks in place. Reverse the bolt carrier and slide it over the bolt. Screw the retainer onto the firing pin and rotate the latch until it snaps into place. Pull the bolt forward out of the carrier until the rollers are in line with the ribs on the bolt carrier.

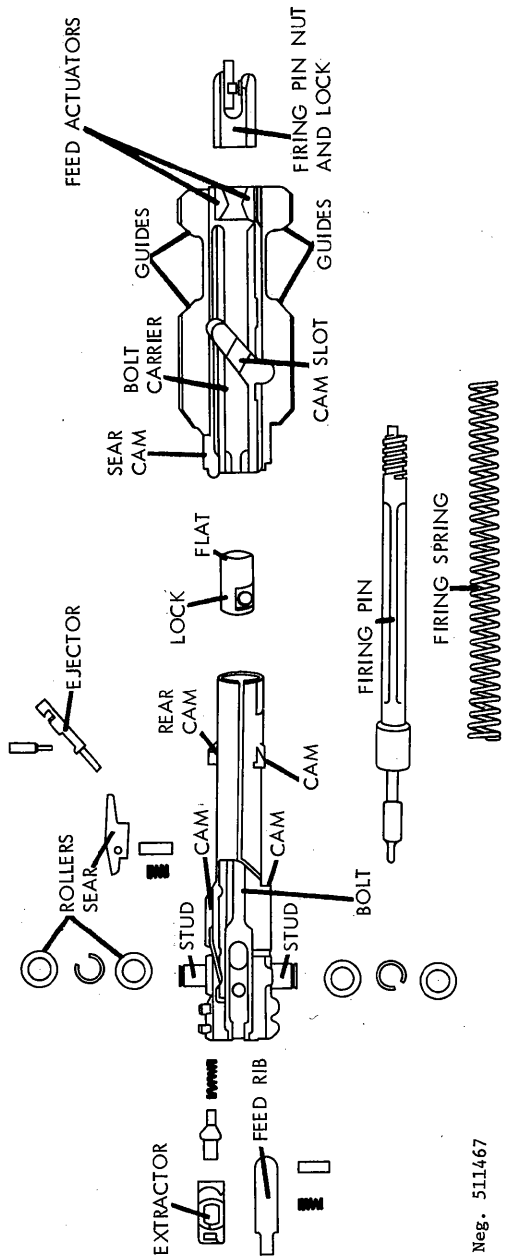

Figure 168. MG34 bolt.

f. Press the ejector (fig 168) (just above the right-hand roller) forward; then, with the extractor downward, insert the bolt, with rollers leading, into the receiver. Press the trigger; the bolt will run forward if the muzzle of the gun is depressed. Insert the driving spring into the receiver and place the butt over the driving spring. Hold the butt twisted about 45° to the left and force it into the receiver against the force of the driving spring. Rotate the butt to the right until the latch snaps into place. Press the belt feed slide fully to the right. Close the cover and fold the bipod.

201. Functioning

a. The MG34 is recoil operated; every time the gun fires, the barrel recoils inside the receiver and imparts sufficient force to the bolt to drive it fully rearward and to compress the driving spring. The rearward movement of the bolt also operates the feed mechanism.

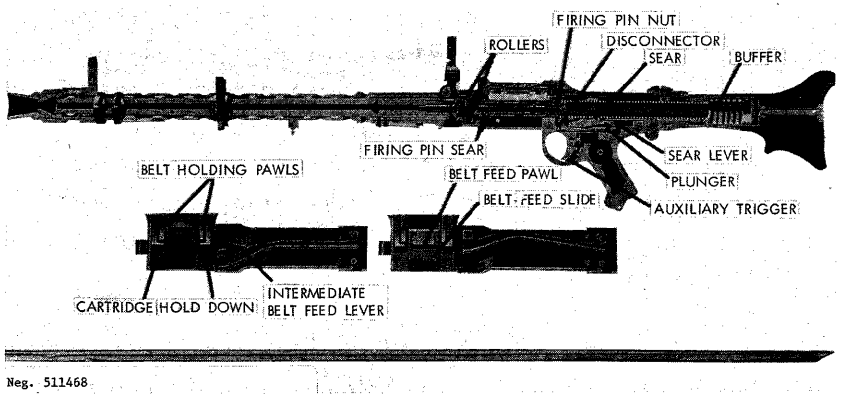

Figure 169. MG34 section.

b. The firing cycle starts when the trigger is pressed and the sear releases the bolt. The bolt, under pressure of the

compressed driving spring, goes forward, and the feed rib drives a cartridge out of the slot in the feed tray and into the chamber. Rollers on the bolt (figs 168 and 169) and the ribs on the bolt carrier ride in runways in the receiver; this prevents any rotary motion of the bolt. Near the end of its forward stroke, the rollers leave the runway and strike cam surfaces on the end of the barrel bushing. These cams rotate the bolt slightly until the cams (fig 168) can be acted on by the cam noses of the bolt carrier. This rotates the bolt to its locked position, and a latch at the bottom rear of the barrel jacket insures that the bolt stays locked until the barrel recoils after firing. The extractor snaps into the groove of the cartridge case, and as the bolt carrier completes its forward movement, a ramp on its bottom side lifts the firing pin sear to release the firing pin and fire the cartridge.

c. The barrel, with the bolt locked to it, recoils within the receiver. The rollers of the bolt contact an opposed pair of fixed cams in the front of the receiver. These cams rotate the bolt head to its unlocked position, and as the bolt head rotates, it accelerates the bolt carrier to the rear by the cams on the bolt interacting on the cams of the bolt carrier. This action elongates the bolt unit and the bolt carrier by forcing the firing pin nut rearward and recocks the firing pin. The bolt carrier is accelerated and gains enough momentum to travel fully to the rear and to compress the driving spring. When the bolt unlocks from it, the barrel is returned forward by action of a strong spring and plunger housed in a tunnel in the left side of the receiver.

d. The extractor withdraws the fired cartridge case from the chamber and holds it to the bolt face until the plunger-type ejector hits a shoulder beneath the feed tray. This shoulder forces the ejector to protrude from the bolt face; the cartridge is then ejected down and out of the gun. The bolt continues to the rear until it strikes the buffer. The compressed driving spring then drives the bolt forward to begin another cycle.

e. The MG34 normally has a selective fire trigger mechanism. A simple spring-loaded sear (fig 169) pinned to bottom of the receiver is actuated by a spring-loaded sear lever (fig 169) located directly to the rear of the sear. The sear lever, in turn, is activated by a plunger that extends from the rear of the trigger. As the trigger is pressed, the rear of the disconnector (pivoted to the top front of the trigger) contacts the plunger; this causes the sear lever to pivot to force the sear down and release the bolt.

f. If the lower, or automatic fire, section of the trigger is pressed, the small auxiliary trigger (fig 169) pivots to clear a stop shoulder on the frame. The plunger actuates the sear lever, and as the bolt runs forward, it forces the disconnector (fig 169) down and the trigger moves slightly rearward. The square shoulder of the plunger then seats against the rear of the trigger and holds the sear lever in its pivoted position, and because the sear lever holds the sear depressed, the gun continues to fire until the trigger is released. When this occurs, the trigger with the disconnector moves forward and the plunger, because it no longer rests against the disconnector, moves forward under the influence of the sear-lever spring (as the sear lever rotates) and allows the sear to rise to intercept the bolt and halt the firing cycle.

g. When the upper or semiautomatic position of the trigger is pressed, the trigger moves rearward, but the auxiliary trigger in the lower position contacts a shoulder on the trigger housing and limits the distance the trigger moves. The disconnector again moves the plunger rearward to actuate the sear level, but when the bolt depresses the disconnector, the trigger does not move any further rearward. The plunger is held in position against the sear level only by the disconnector; when the bolt runs forward, it causes the disconnector to pivot, and the sear lever forces the plunger forward under the disconnector. The sear rises (as the sear

lever moves) and intercepts the bolt. Thus the gun fires only one shot. To fire a second shot, the trigger is released and the disconnector moves forward off the front end of the plunger and swings down into position in front of the plunger. Trigger pressure will now repeat the action outlined above and fire another shot.

h. A lever lies alongside the trigger. This lever prevents the sear from rising until the trigger is fully released in automatic fire and thus prevents sear breakage. If the trigger is released just after the bolt is released by the sear, the front end of the lever swings into position to block forward movement of the depressed disconnector, and the rear end blocks the forward movement of the plunger. The sear lever, because its movement is blocked by the plunger, holds the sear down, and the gun makes one additional cycle. On the final cycle, the disconnector (which raised up when the bolt recoiled on the previous shot) and the trigger move under the lever, and when the disconnector is depressed by the forward moving bolt, it makes the rear of the lever pivot and unblock the plunger. The plunger is now free to move forward under the influence of the sear lever, and it allows the sear to rise, which stops the firing cycle.

i. The safety is simply a shaft with a cutaway position on its end. When set for firing, the cutaway is under the front end of the sear and the sear can be depressed. When on safe, the solid section of the shaft blocks the sear and the gun cannot be fired.

j. The recoil and counterrecoil movement of the bolt operates the feed mechanism. A long, curved belt feed lever, pivoted at the rear end of the cover, has a rib running along its length. This rib fits between two wedge-shaped actuators at the top rear of the bolt carrier (fig 168). As the bolt moves rearward in recoil (in a straight line), the actuators cause the front of the curved belt feed lever to move sideways. The belt feed lever, in

turn, operates an intermediate feed lever; this lever (fig 169) fits into the belt feed slide and moves the slide back and forth. A spring-loaded feed pawl mounted on the slide rides on the ammunition belt and feeds it into the gun. A pair of nonreciprocating holding pawls in the cover, on each side of the feed slide, prevents the belt from moving outward with the feed slide. A pair of spring-loaded cartridge holddowns forces the cartridge into the slot of the feed tray so the cartridge can be picked up by the forward moving bolt.

202. Accessories

a. Many accessories were once available for the MG34; but because of the age of these guns and the number of hands most of them have passed through, few accessories will now be available. Normally, only extra ammunition belts and containers and spare barrels are available.

b. The antiaircraft tripod is used, as its name implies, for antiaircraft fire. To use, spread its legs, lift the rear sight of the MG34, and invert the gun. Set the inverted gun on the tripod so that its rear mount adapter is aligned with the mount of the tripod. Twist the gun upright and pull out on the lock until the gun is fully seated. Release the lock. If the antiaircraft ring sight is available, insert its stem into the socket on the barrel jacket and twist it until the sight locks into place. Lift the rear antiaircraft sight into position from the rear sight leaf (fig 170).

I. THE 7.62-MM KALASHNIKOV GENERAL PURPOSE MACHINEGUN (PK, PKB, PKS and PKT)

203. General

a. The standard general purpose machineguns used by the Warsaw Pact and North Korean armies are the PK series weapons.

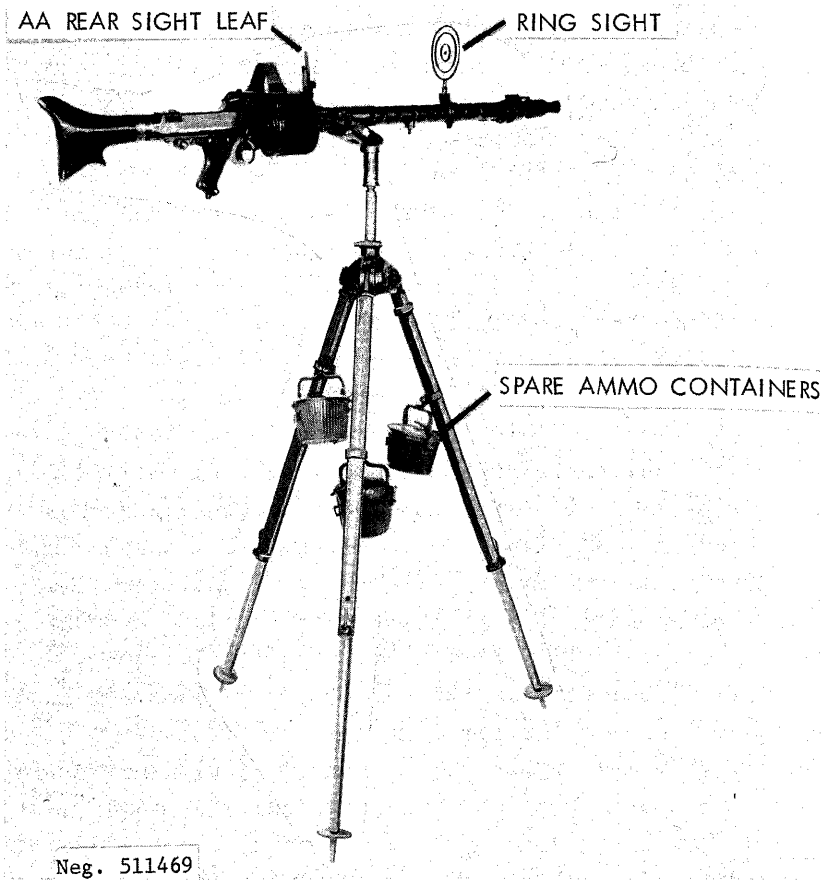

Figure 170. MG34 on AA tripod.

The term "general purpose" refers to a machinegun that, with minor changes, can be used in a variety of tactical roles. The basic PK or PKB (fig 171 and 172) on its bipod fills the light machinegun role; the main differences between the PK and later PKB are that the latter has a smooth, non-fluted barrel, a lunged butt rest and is slightly lighter in weight. The PKS (a PK or PKB mounted on a light tripod) (fig 173) fulfills the heavy machinegun role and the PKT, (fig 174) a somewhat modified PK, fitted with a solenoid trigger is used as a tank coaxial machinegun.

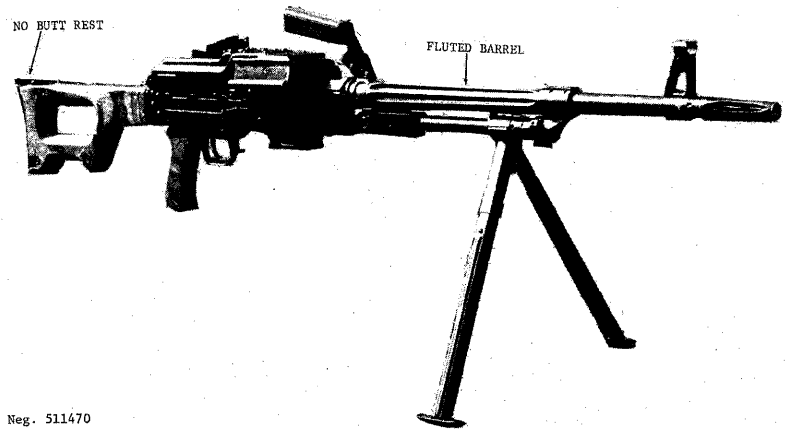

Figure 171. Soviet PK general purpose machinegun.

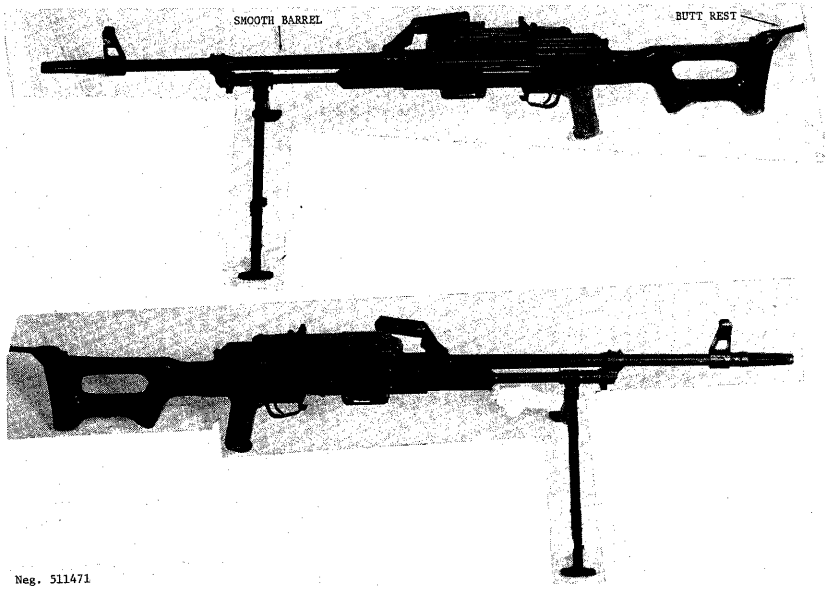

Figure 172. Soviet PKB general purpose machinegun.

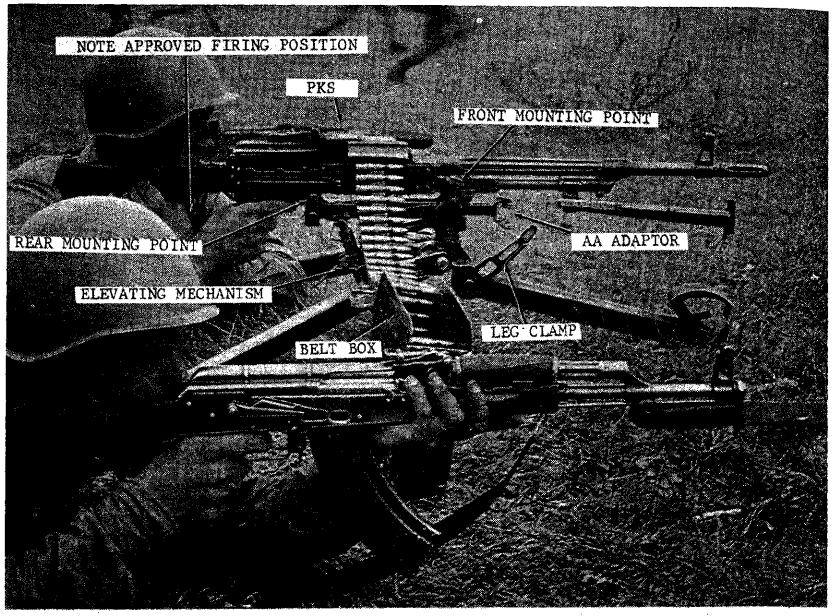

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Figure 173. Soviet PKS machinegun.

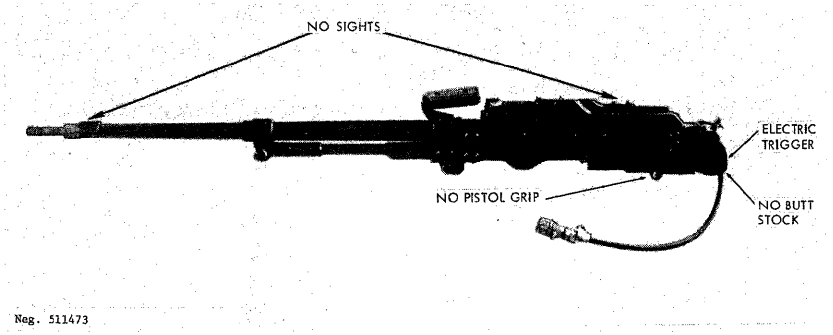

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Figure 174. Soviet PKT machinegun.

b. The PK was also designed by Kalashnikov, and because of this its bolt mechanism resembles that of the Kalashnikov design AK-47 assault rifle (para 90). The feed mechanism is a combination of Goryunov (para 215) and Czechoslovak M59 (para 209) machinegun features. The trigger mechanism is of Degtyarev design (para 173). The PK guns have generally replaced the RP-46 company machineguns and the SGM heavy machineguns for the ground role. The PKS can also be used for antiaircraft fire (fig 182).

c. The PK, a belt-fed, air-cooled, fully automatic weapon, is constructed largely from stampings. It has a quick change barrel. Some barrels have a cone-shaped flash hider, but most have a bar-type flash suppressor similar to that on the US M14 rifle and M60 machinegun (fig 172).

d. The PK, PKS, and PKT machineguns all fire the 7.62x54R cartridge; refer to section VI.

204. Technical Data

Technical data concerning the PK machinegun will be found in table X.

205. Operation

a. Disengage the bipod clip and swing the bipod legs down or install the PK on the tripod using the mounting lugs in the receiver and trigger guard to hold the gun to the mount.

b. Load the PK/PKS ammunition belt as described in paragraph 175b. Press the cover catch forward (fig 175) and lift the cover. Place the belt on the feedway, insuring that the rim of the first cartridge is in the cartridge gripper (located at the center

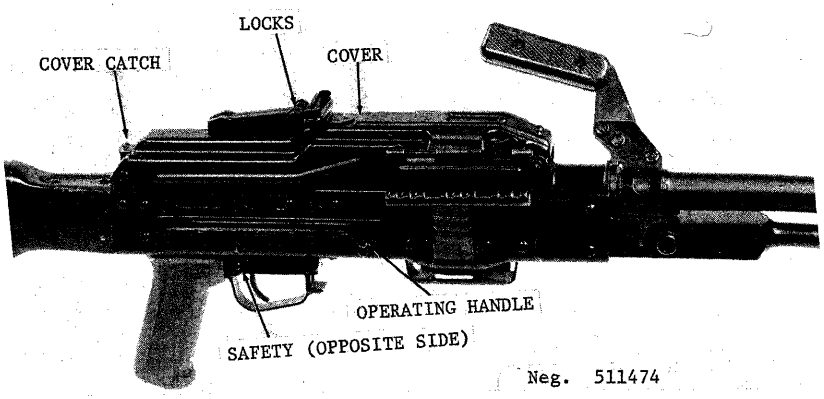


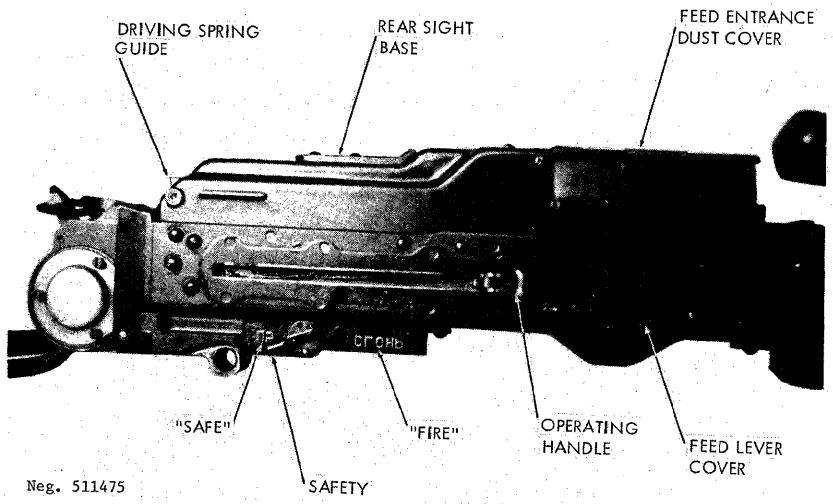
Figure 175. Soviet PKB receiver detail.

rear of the feedway). Close the feed cover. Rotate the safety forward (figs 175 and 176). Pull the operating handle fully rearward, then thrust it fully forward.

CAUTION: The gun is now ready to fire!

If firing is not to be immediately commenced, swing the safety rearward.

c. Press the locks in on the rear sight slide (fig 175) and move the slide rearward until the edge of the slide aligns with the figures that correspond to the range in hundreds of meters. To fire the weapon, swing the safety forward, aim, using a normal sight picture, and press the trigger. The PK will fire as long as the trigger is held and ammunition is fed. The PKT is normally fired by an electric push button in the tank. In emergencies, press the safety catch forward, then press the butterfly trigger (fig 176) down. The bolt will remain open between bursts and will close on an empty chamber when the last round of the belt if fired.



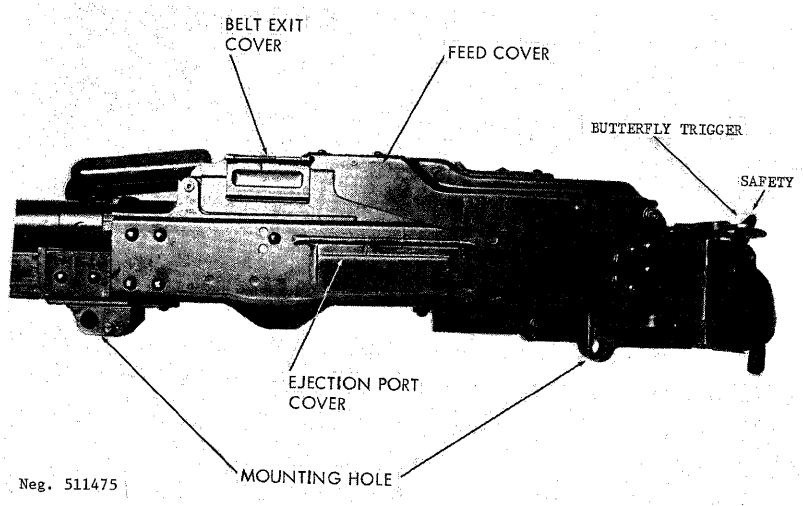


Figure 176. Soviet PKT receiver detail.

d. To unload, press the cover catch and open the cover. Lift the belt out of the feedway and remove the single cartridge from the cartridge gripper. It may be necessary to swing the feedtray up and press this cartridge out of the feed lips in the tray.

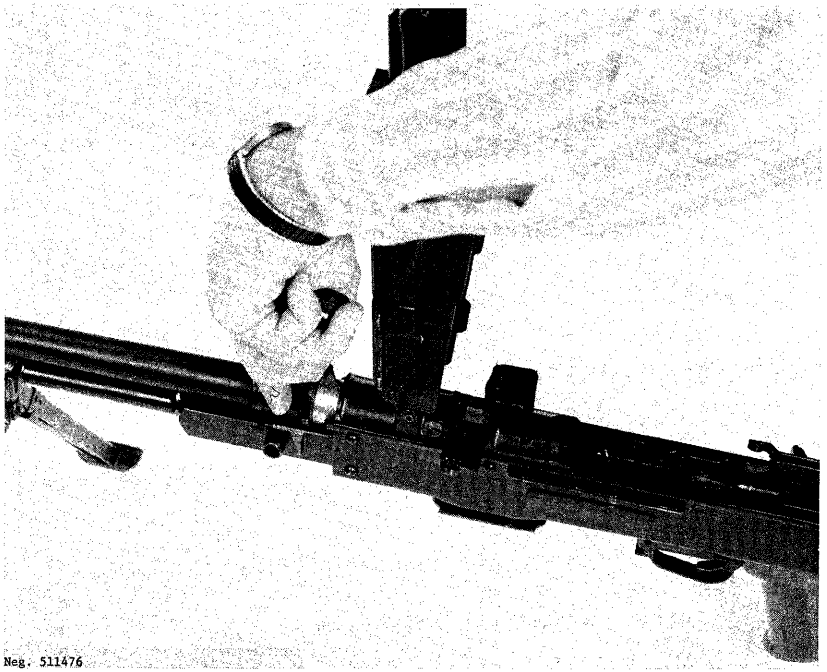


Figure 177. PK barrel change.

e. Continuous firing will cause the barrel to overheat. If this occurs, unload (d above), press the cover catch (fig 175) and open the feed cover; then swing the feedway up (it pivots on the same pin as the cover). Slide the barrel lock out to the side. Pull the barrel carrying handle away from the barrel; this will lever a hot barrel out of its seat in the receiver (fig 177), then pull the barrel forward, completely off the gun. Insert a new, cool barrel, seat it fully, press the barrel lock fully in, and close the feedtray. Reload (b above) and resume fire.

f. The PK series guns have adjustable gas regulators, of which there are two types in use, one found on the PK, PKB, and PKS, the other on the PKT. Each regulator has the numbers 1, 2, and 3 inscribed on it. The PK type has a sleeve-type regulator (fig 178) that bleeds off excessive gas. To adjust this regulator, engage the rim of a 7.62x54-mm cartridge case in the regulator jaws (fig 178), and using this as a handle, rotate the regulator as necessary.

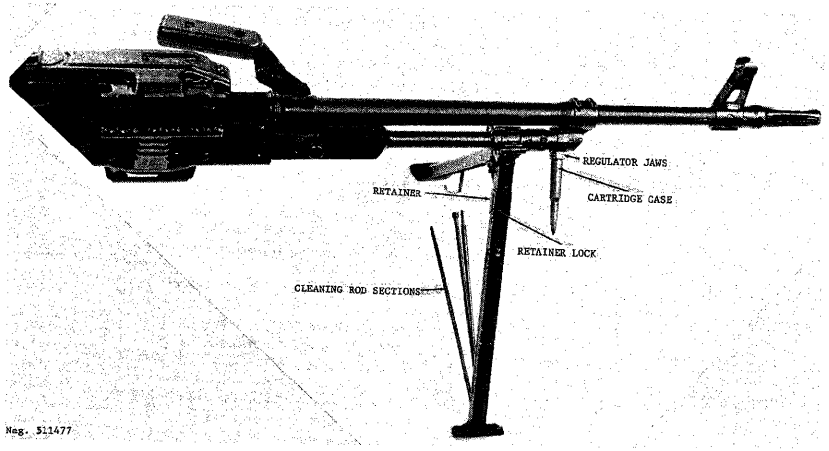


Figure 178. Adjustment of gas regulator.

The detent tab (fig 178) covers the number which indicates the setting. Clean guns normally operate on the "1" setting; use the higher numbers for dirty guns or cold weather, and (for short bursts) antiaircraft firing. The rotary regulator of the PKT (fig 174) is changed by removing the cotter pin (if present) in the nut on the left side of the regulator, loosening the nut until the regulator can be tapped to the right sufficiently to disengage it from the detent. Rotate the regulator to the desired setting as indicated by the number that aligns with the detent. Tighten the nut and replace the cotter pin.

g. To clear the PK, first open the cover (a above) and remove both the feed belt and the cartridge held in the feeder. Pull the operating handle rearward, inspect to insure that no cartridges are present, grasp the operating handle, and press the trigger; ease the operating mechanism forward. Close the cover and rotate the safety rearward.

206. Disassembly and Assembly

a. To disassemble the weapon:

(1) Clear the gun (para 205g), but do not set at safe or close the cover. Remove the barrel (para 205e).

(2) Press in the driving spring guide at the rear of the receiver; then ease the guide and spring upward and out of the gun. Grasp the bolt carrier by the cartridge grippers (fig 179) and pull the entire unit rearward, then upward until it comes free of the receiver. Lift the bolt and carrier up and out of the gun.

(3) Pull the bolt forward in the carrier, simultaneously twisting the bolt free of the cam until it comes out of the carrier. Lift the firing pin free of its recess and remove it. No further disassembly is necessary or desirable.

b. To reassemble the gun:

(1) First seat the firing pin in its recess in the bolt. Seat the bolt into its hole in the bolt carrier twisting as necessary to engage the firing pin and the bolt with their recess in the carrier.

(2) Start the piston into the gas cylinder tube until the slide can be seated in the receiver. The bolt must be pulled

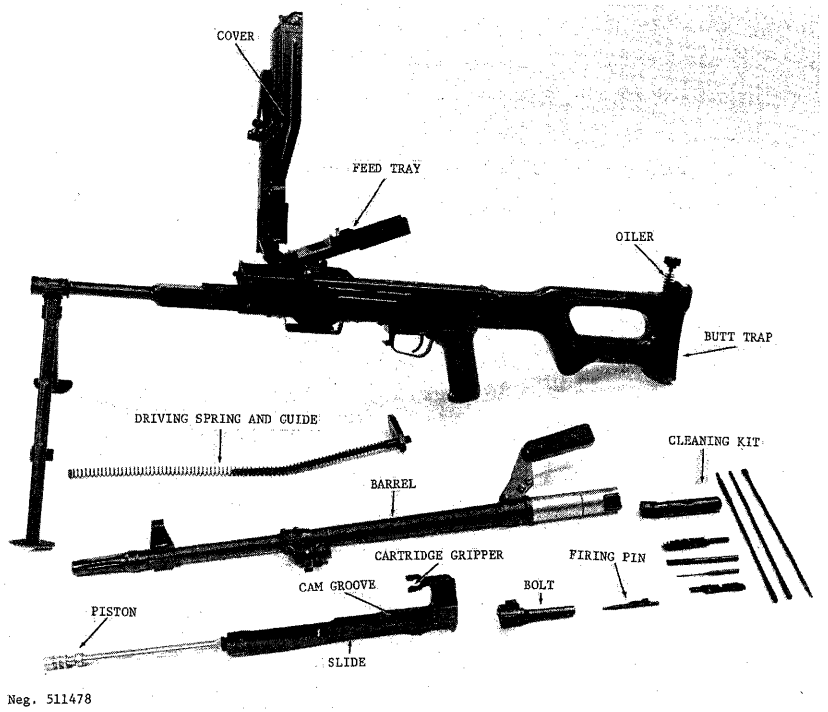


Figure 179. PK field stripped.

forward in the carrier prior to seating the slide. Pull the trigger and push the bolt carrier fully forward. Insert the driving spring into its tunnel in the slide, and press the guide forward against spring pressure until it can be seated against the rear wall of the receiver. Insert the barrel, slide the barrel lock into position (para 205e), and close the cover.

207. Functioning

a. All PK series machineguns fire from the open-bolt position. When the trigger is pressed, the slide and bolt are released, and the driving spring drives them forward to load and

fire a cartridge. After firing, some of the propellant gases are tapped off to drive the slide and bolt to the rear, compressing the driving spring in preparation for another shot.

b. When the trigger is pressed, its upper end, which hooks over the sear, revolves forward and downward to depress the sear (fig 180). The sear releases the bolt carrier, which, under the force

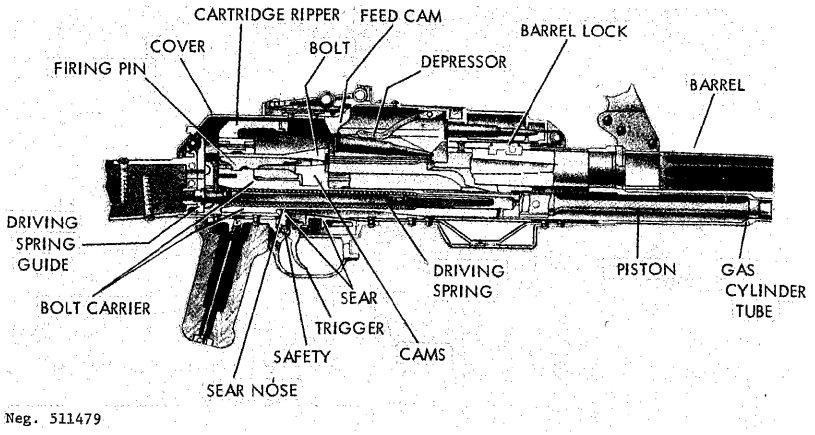


Figure 180. PK section.

of the driving spring, goes forward. The bolt, which travels with the slide, drives a cartridge out of the feeder and into the barrel until the rim of the cartridge seats on the end of the barrel. The extractor snaps over the rim of the cartridge, and forward motion of the bolt then ceases. The bolt carrier continues forward and carries the firing pin with it. As the carrier continues forward, its cam (fig 179) rotates the bolt to its locked position. The firing pin, locked to the carrier, strikes and fires the cartridge. The forward movement terminates when the front of the bolt carrier strikes the receiver.

c. The propellant gases drive the bullet through the barrel, and when the bullet passes the gas port, some of the gases are tapped off and directed against the piston, driving it to the rear. The bolt carrier, which is connected to the piston, also moves rearward. During the initial travel of the bolt carrier, the firing pin is retracted, and the driving spring is compressed.

d. After a slight free travel, a cam in the bolt carrier contacts the cam on the bolt; further travel rotates the bolt 35° and unlocks it from the receiver. The piston, carrier, cartridge gripper, and bolt all move rearward together. The extractor withdraws the empty cartridge case from the chamber and holds it against the bolt until the case strikes the fixed ejector; the case then pivots around the extractor and is expelled. The bolt carrier hits the inner rear wall of the receiver and stops.

e. As the bolt carrier recoils, a cam extending along its side forces the roller on the belt feed lever outward (fig 181). This causes the lever to pivot on its pin, and the upper end of the lever with the feed pawl moves inward. This causes the cartridge

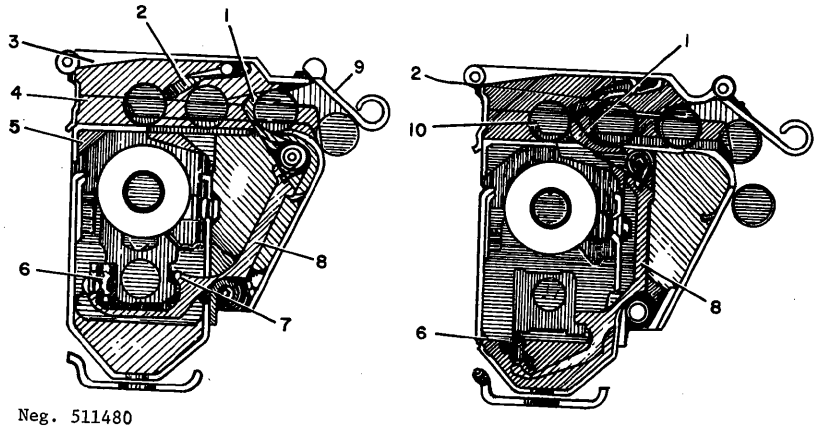


Figure 181. PK feed mechanism.

engaged by the feed pawl to move into position to be picked up by the cartridge gripper upon recoil. As the carrier counterrecoils, a second cam contacts the feed lever; this forces the feed lever to move outward to where it can pick up another cartridge. The ammunition belt is prevented from moving outward by the holding pawls in the cover.

f. The cartridge gripper (fig 180) moves with the bolt carrier, and as the bolt carrier completes its forward movement, the grippers engage the rim of the cartridge that has been fed inward by the feed mechanism (e above). When the PK fires and the bolt carrier is driven rearward, the gripper extracts the cartridge from the belt and carries it to the rear. The depressor, working in conjunction with the feed cam (fig 180), forces the cartridge down, out of the gripper, and onto the feed lips. The bolt can then ram the cartridge into the chamber when the bolt counterrecoils.

208. Accessories

There are a number of accessories used with the PK machinegun. These include:

a. Tripod mount, which can be used for antiaircraft fire (fig 182).

b. Ammunition containers for 50-, 200-, and 250-round capacity metallic belts. The 50-round container can be attached to the bottom of the PK for use as an assault fire belt holder.

c. Spare parts and cleaning accessories.

d. Some PK/PKB/PKS guns may have infrared sight brackets for night use.

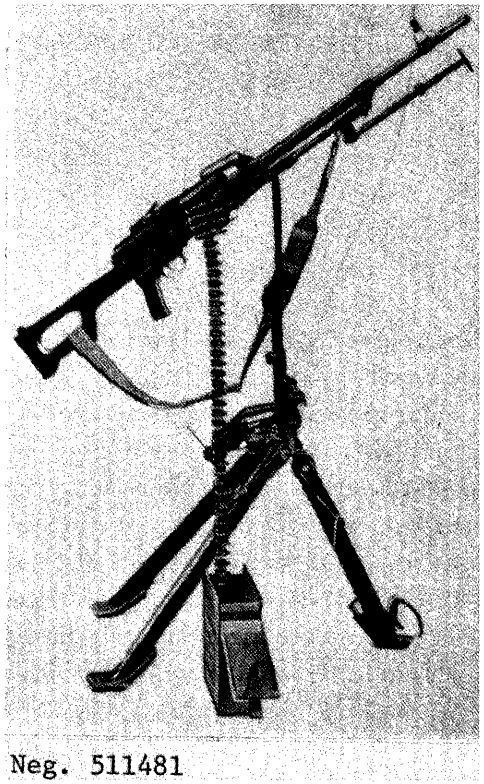


Figure 182. PKS set up for antiaircraft fire.

e. The PK and PKB carry a sectional cleaning rod in the bipod. Press the retainer lock (fig 178) and slide the retainer upward; the rod sections will fall out of the bipod leg. Screw the rod sections together for use.

f. Press in the butt trap cover (fig 172) and allow the cleaning kit to spring out. The case can be used as a handle for the assembled cleaning rod. The flat tool is a screw driver and the recessed end is used to scrape carbon from the gas cylinder.

J. THE 7.62-MM GENERAL PURPOSE MACHINEGUN VZOR 59 (Vz59L, Vz59, Vz59N, Vz59T)

209. General

a. The Czechoslovak Vz59 general purpose or universal machinegun can be used as a squad automatic weapon, as a light machinegun, as a heavy machinegun, or as an antiaircraft machinegun. These uses are possible because of the different types of quick change barrels and mounts available. When equipped with a heavy barrel and bipod mount (fig 183), the Vz59L is used as a light machinegun. When the gun is mounted on its lightweight tripod (fig 184), it is usable as the Vz59 heavy machinegun. If a short light barrel and bipod are fitted, the gun is then used as a squad level automatic rifle. In this instance the nomenclature also becomes Vz59L (fig 185). The tripod (fig 186) can be opened up to elevate the Vz59 for use in antiaircraft fire. A tank version fitted with a solenoid for firing (the Vz59T) is also made.

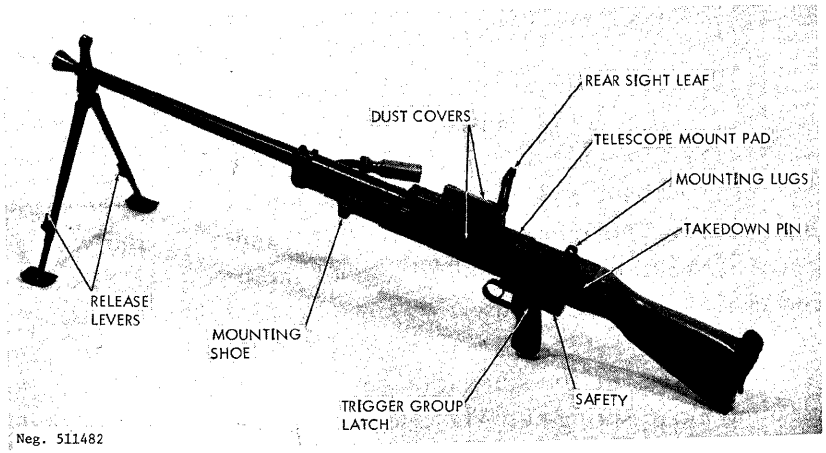


Figure 183. Vz59 light machinegun.

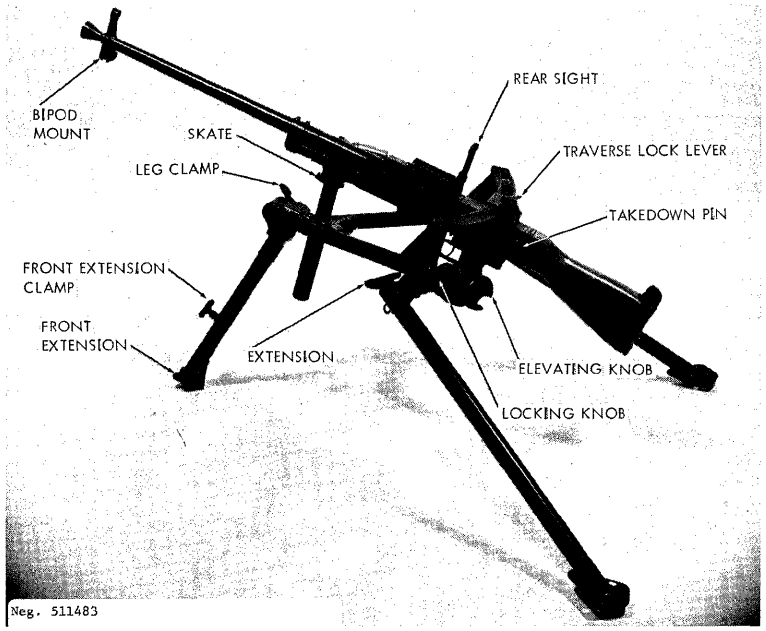


Figure 184. Vz59 general purpose machinegun on tripod.

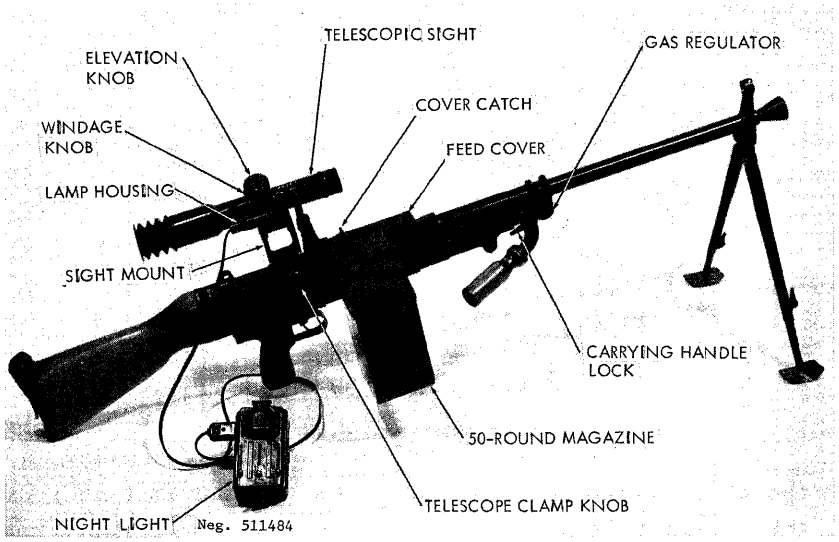


Figure 185. Vz59L squad light machinegun with telescope sight.

b. The Vz59 is gas operated and fed from nondisintegrating metallic belts. Ammunition can be fed from conventional 250-round belt boxes or from a special 50-round container that can be mounted on the gun (fig 185). In addition to the conventional metallic sights, a four-power telescopic sight (fig 185) or an infrared sight may be mounted on any version.

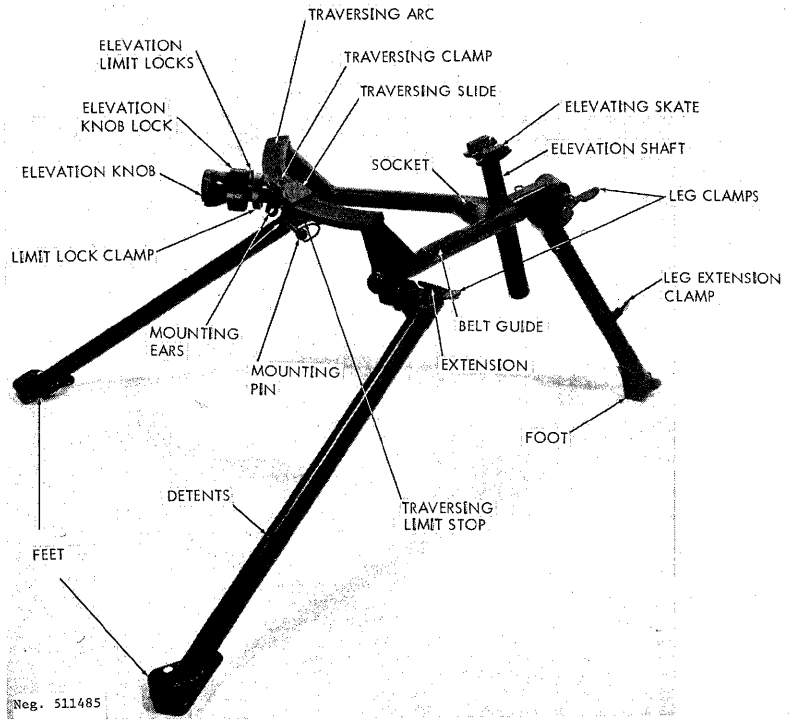


Figure 186. Vz59 tripod.

c. In all versions the Vz59 is the standard machinegun of the Czechoslovak army. While no other Warsaw Pact army uses this weapon, it is sold commercially and is used by several smaller nations. The Vz59 has many of the advanced features of the older

Vz52 machinegun (quick-change barrel and cocking by means of a sliding trigger mechanism); in addition, this weapon has the simple type of breech mechanism that is used in the Vz58 assault rifle. Unlike the Vz52, the Vz59 can be fed only by belt.

d. The Vz59 is produced in either 7.62x54R or 7.62x51-mm NATO caliber. The only difference in the guns (occasioned by the caliber) is in the bolt face and chamber. The NATO caliber gun is known as the Vz59N, M68, or M70 machinegun. Refer to section VI for ammunition information.

210. Technical Data

Technical data concerning the Vz59 machineguns will be found in table X.

211. Operation

a. The belt is loaded by placing a cartridge in the opening of each loop and pressing it into the loop until it snaps into place. The small tab at the end of each loop must be behind the base of the cartridge; if the tab is engaged with the groove of the NATO cartridge, malfunctions will occur. Slide the cartridges rearward in the belt so that the base of the cartridge contacts the tab. Each 25-round belt section has a leading tab in the form of a loop; if longer lengths of belt are needed, squeeze in the leading tab where it connects to the belt and remove the tab. Mate the "T" lug on the other end of a belt section with the empty seat for the leading tab, and insert a cartridge to lock the sections together. Place the loaded belts in the appropriate container. The belts should have the link openings down, and the leading tab should be at the top of the container.

b. Squeeze the bipod legs together, swing them down to a right angle with the barrel, and release them; the legs will spring

open. Lift the rear sight leaf to the vertical. Pull the lower legs out of the upper legs to adjust the height. The release lever (fig 183), when pressed, allows the legs to be retracted. The carrying handle can be used as a foregrip; press the carrying handle lock, (fig 185) twist the handle until it can be rotated to the left of the barrel, and release the lock. The handle will lock in position for use as a foregrip.

c. If desired, the gun can be mounted on its tripod (figs 184 and 186). Lift the rear sight and pass the gun under the traversing arc and mate the mounting shoe (fig 183) with the elevating skate (fig 186). Pull the mounting pin as far to the right as possible and swing the receiver up, until the mounting lugs (fig 183) slip between the mounting ears (fig 186). Move the gun back and forth as necessary until the mounting pin can be slid to the left, locking the gun to the mount. Instructions for operating the mount are in paragraph 214.

d. Press the dust cover (fig 183) rearward; it will spring open, then press the cover catch (fig 185) forward and swing open the feed cover. If feeding from the 50-round magazine, mate the grooves on the box with the rails (fig 187) at each end of the feed tray; the box cover will open automatically as the box seats. By means of the leading tab, pull the belt out of the container and position the first cartridge on the holding pawls (fig 187). Close the cover.

e. Depress the cone-shaped trigger group latch (fig 183), press the trigger, and slide the trigger group forward as far as possible. Release the trigger, then pull the trigger group fully rearward, against strong spring pressure, until the trigger group locks in place.

CAUTION: The gun is now ready to fire!

If desired, make the weapon safe by pressing up the safety (fig 183). Prior to firing, set the sight for the desired range by turning the elevation knob until the top of the slide is aligned with the number that corresponds to the range in hundreds of meters. When the smaller right-hand knob is rotated, it applies windage corrections to the sight.

f. After lifting the regular rear sight, the telescope sight can be attached by loosening the clamp knob and engaging the left side of the sight mount (fig 185) with the pad (fig 183) on the receiver. Swing the right side of the mount down and firmly tighten the clamp knob. Remove the telescope sight by reversing the attachment procedure. The telescope should be used when firing from the tripod mount. Elevation and windage adjustments are made by turning the appropriate knobs. The night light for illuminating the rreticle is attached by sliding the lamp housing (fig 185) into place on the dovetail on the telescope. The off/on switch on the battery box controls the lamp.

g. To fire the gun, first move the safety (fig 183) downward. If using the bipod, lift the hinged buttplate and use it to support the gun on the shoulder. Aim, using a normal sight picture (or the tip of the post in the telescope reticle), and press the trigger. The gun will fire automatically as long as the trigger is pressed and ammunition is in the belt. Short (5-10 shot) bursts produce the best results. The bolt will remain rearward between bursts and will close on an empty chamber when the last round is fired.

h. To unload, set the safety upward, press the cover catch (fig 185) forward, open the feed cover, and remove the belt from the feed tray. Replace the belt in the ammunition container and close the feed cover.

i. When the barrel becomes overheated from firing, it should be exchanged for a cool barrel. Press the cover catch forward and swing the feed cover open (fig 185). Once the cover is open, swing it to the right as far as possible to unlock the barrel nut from the barrel. Use the carrying handle to pull the barrel forward, out of the gun. Squeeze the bipod legs together, and swing the bipod forward about 30°, then remove the bipod and attach it to the cool barrel by reversing the removal procedures. Insert the cool barrel into the barrel unit as far as possible, insuring that the gas cylinder fits into the front of the receiver. Rotate the feed cover until it is vertical; then close it. Firing can now be resumed.

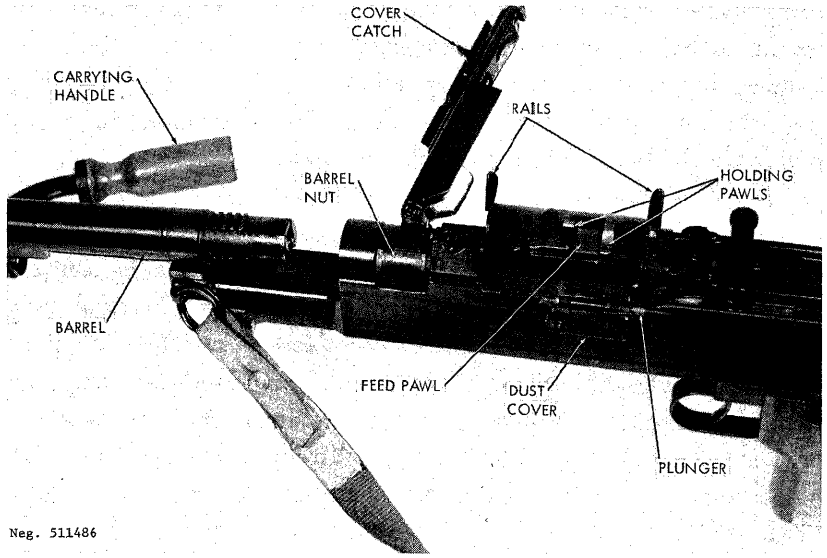


Figure 187. Vz59 barrel change.

j. If the Vz59 becomes sluggish during firing, the gas regulator may require adjustment. Two types of regulators are in use. A two-position type is used in the Vz59, 59L, and 59T; and a four-position type on the NATO caliber Vz59N. The two-position

regulator is normally set so that its indicator points to the figure "1." If the gun becomes sluggish, use a tool to rotate the regulator to the "2" position. The four-position regulator is also normally set at "1." To change position, press the carrying handle lock (fig 185), twist the carrying handle, and rotate it until the pointed lug at the front of the carrying handle can be mated with the notch at the top rear of the gas cylinder. This action unlocks the regulator. For normal use, when the gun is clean, rotate the indicator pointer on the right side of the regulator until it points to the figure "1," and press the regulator fully in to the left. If the gun is sluggish, press the regulator fully to the right and rotate it so that the pointer is forward and aligned with the figure "2." If necessary, rotate the regulator rearward, still holding it to the right, so that the indicator is at "3." The final setting, "4," is used only for antiaircraft fire since it causes an extremely fast cyclic rate (in excess of 1000 rounds per minute); if it is necessary to use this setting, press the regulator to the left and rotate it forward so that the indicator points to "4." Press the carrying handle lock, then twist and rotate the carrying handle to any desired position. The rotation of the handle will lock the regulator in position, and the handle must be positioned, as described above, to unlock the regulator prior to changing its position.

k. Clear the Vz59 by unloading it (h above) and inspecting it to insure that no cartridges are present. Move the safety down and press the trigger to allow the bolt to close. Depress the trigger group latch, press the trigger, and slide the trigger group forward and leave it there.

212. Disassembly and Assembly

a. To disassemble the weapon:

(1) Clear the gun (para 211k), press forward the cover catch (fig 185), and open the cover. Push the takedown pin (fig 188) fully to the left and remove the buttstock to the rear. Pull the driving spring (fig 188) out of the stock.

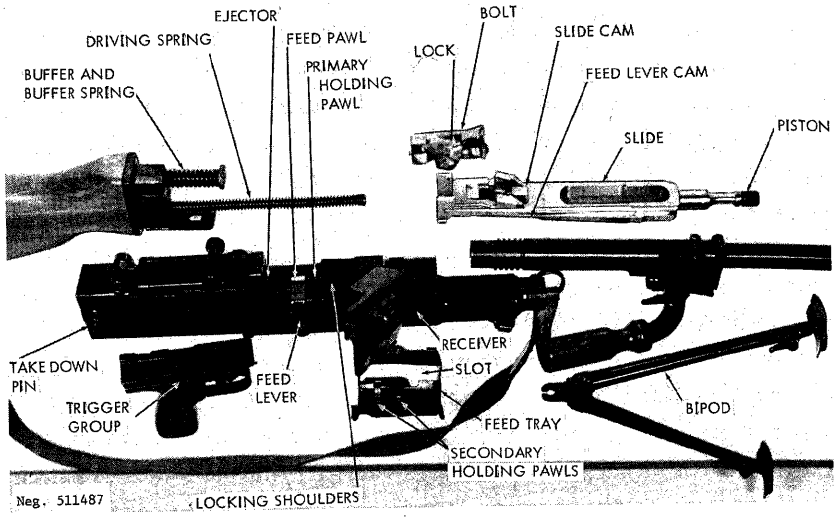


Figure 188. Vz59 full stripped.

(2) The trigger group should be forward; if it is not, depress the trigger group latch (fig 183), press the trigger, and slide the trigger group forward. Release the trigger. Pull the trigger group rearward; it and the bolt and slide will come out of the receiver. Lift the bolt off the slide. Press the plunger (fig 187) at the rear pivot of the left dust cover, and lift the feed tray off the receiver; this requires a slight twist to the right. No further disassembly is necessary or desirable.

b. To reassemble the gun:

(1) Place the feed tray in position, holding it slightly to the right of its seated position. Press the tray rearward to

compress the plunger spring; slide the tray to the left while pressing down until the plunger seats. Place the bolt onto the slide and move it back and forth, insuring that the lock moves up and down. Slip the bolt forward and insert the bolt and slide into the receiver, mating the recesses in the sides of the slide with the ribs on the receiver. Push the slide fully forward.

(2) Start the trigger group into the lower set of grooves in the receiver and slide the trigger group forward as far as possible. Replace the driving spring in the butt, then insert the butt into the rear of the receiver (this spring will go in only one way). Press the butt forward, against spring pressure, and push the takedown pin to the right. Close the feed cover.

213. Functioning

a. The Vz59 machineguns fire from the open-bolt position. When the trigger is pressed, it releases the slide, which is propelled forward by the driving spring and carries the bolt with it. The bolt loads a cartridge into the barrel that is then fired. The propellant gases drive the slide to the rear and compress the driving spring in preparation for the next shot.

b. When the trigger is pressed, the sear releases the slide. Under the pressure of the compressed driving spring (fig 188), the slide moves forward and carries the bolt with it. The feed ribs on the top of the bolt (fig 189) strike the cartridge in the slot of the feedway (fig 188) and drive the cartridge into the barrel. The extractor snaps into engagement with the rim of the cartridge, and the bolt then strikes the end of the barrel and stops. The slide continues forward, and a central slide cam in the rear of the slide (fig 189) forces the lock up and into engagement with the locking shoulder (fig 188). A transverse rib (fig 189) on the rear of the slide strikes the firing pin to fire the cartridge. The rib then strikes the bolt, and all forward motion ceases.

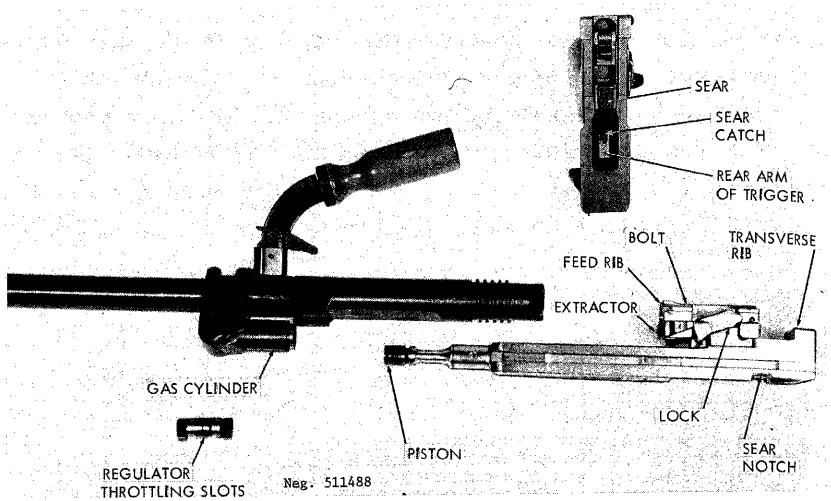


Figure 189. Vz59 mechanism.

c. The propellant gases drive the bullet through the barrel; when the bullet passes the gas port, some of the gases are diverted through the gas port. The gases flow through one of the throttling slots (fig 189) in the regulator, enter the gas cylinder, and drive the piston and slide to the rear.

d. As the slide moves rearward, the driving spring is compressed and the transverse rib moves away from the firing pin. The firing pin spring retracts the firing pin into the bolt face. As the slide continues to move rearward, it cams the lock down and out of engagement with the receiver; the slide and bolt then move rearward as a unit. The extractor pulls the fired cartridge from the chamber and holds it to the bolt face until the ejector (fig 188) expels the cartridge, through the ejection port. The bolt finally strikes the buffer (fig 188), stops all rearward movement, and then starts forward again to commence another cycle.

e. The belt is fed into the gun by a laterally reciprocating belt feed lever (fig 190). This lever is mounted vertically on the

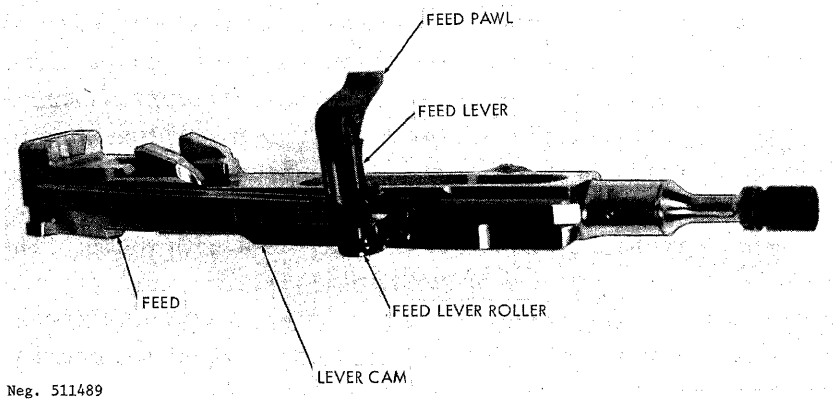


Figure 190. Vz59 feed device.

receiver, with a pivot halfway along its length. A roller on the bottom of the lever rides along a cam on the slide (fig 190), and as the slide moves rearward, this cam forces the upper end of the lever inward. This movement feeds the belted cartridge into the gun against a positioning stop on the feed tray. As the slide moves forward, a second cam forces the feed lever out, and as the lever moves, a spring-loaded pawl on its upper end is depressed by and slides under the next round in the belt. A double holding pawl arrangement (fig 187) prevents the belt from moving outward. A primary holding pawl mounted on the receiver positions and holds the round to be fed. A pair of secondary holding pawls on the feed tray holds the succeeding cartridge in position after the first cartridge has been fed. A transverse fin on the feed cover guides the belt through the feed cover.

f. Because it is capable of automatic fire only, the trigger mechanism is extremely simple. As the L-shaped trigger is pressed, its rear arm (fig 189) lifts the front end of the sear, which causes the sear to pivot on its pin, and the slide is released. A spring-loaded sear catch (beneath and extending through the rear arm of the trigger (fig 189) fits under the front end of the sear to

hold the sear nose depressed. The sear catch is powered by the same spring that returns the trigger forward, so that as the trigger is pressed, the spring pressure in the sear catch increases. When the trigger is released, it moves away from the sear, but the sear does not move until the trigger is almost completely released. At that time, spring pressure on the sear catch has decreased, and the trigger levers the sear catch out of engagement with the sear. The sear then snaps up to intercept the slide. The sear catch prevents slow return of the sear and partial sear engagement with the slide, which can result in chipping or breaking the sear or the notch in the slide.

g. When the safety is applied, it pivots and positions a small pin under the sear; this action prevents the sear from depressing to release the slide. The upper edge of the safety lever also moves into a slot in the receiver and locks the trigger group in place.

214. Accessories

a. The tripod mount holds the gun when the Vz59 is used as a heavy machinegun. Mount the gun on the tripod in the manner described in paragraph 211c. To traverse the gun, release the traversing clamp (fig 186) and traverse the gun as desired. The clamp should be tight prior to firing. The traversing limit stops are found on the under side of the traversing arc; to adjust these stops, loosen their wing nuts and slide them against the traversing slide (fig 186). Sight and traverse the gun as required; then tighten the wing nuts. The gun can then be traversed only between the limits set by the stops. To elevate the gun, twist the elevation knob lock counterclockwise to loosen it; then twist the elevation knob as necessary to elevate or depress the gun (fig 186). Tighten the lock prior to firing. Elevation limits can be established by loosening the limit lock clamp, pushing in the limit lock pin (inside the elevating

knob), and after elevating to the desired point, moving the elevating limit locks against the lock pin, and then tightening the limit lock clamp. The overall height of the mount can be adjusted by loosening the leg clamp, rotating the legs to the desired position, and then retightening the clamps. The traversing arc must be level on all planes.

b. The mount can be set up for antiaircraft firing (fig 191). Pull the extensions (fig 191) out of the rear legs after depressing the detents (fig 186). Join the extensions together, and place the joined extensions into the socket. Flip the mount over so that the feet of the extensions and rear legs rest on the ground. Loosen the front leg clamp, turn the front leg to the vertical position and tighten the clamp. Turn the foot sideways and slip the mounting shoe on the gun into the skate on the foot. The gun should normally be fed from 50-round-belt containers. Figure 191 depicts the Vz59 setup for antiaircraft firing. Reverse the above described procedure to adjust the mount for ground firing.

c. A number of other accessories are issued with the Vz59 machineguns. These include the items listed below.

(1) 50- or 250-round ammunition boxes.

(2) Spare barrels.

(3) A web sling, attached to eyes at the left front of the receiver and at the hinge of the buttplate.

(4) A combination tool. This tool has a number of sizes of screwdriver blades, a lug usable for a hammer, and a wrench for unscrewing the nut at the bottom of the pistol grip. One blade is usable as a ruptured cartridge extractor; it is screwed into the barrel (removed from the gun) until the teeth bite into

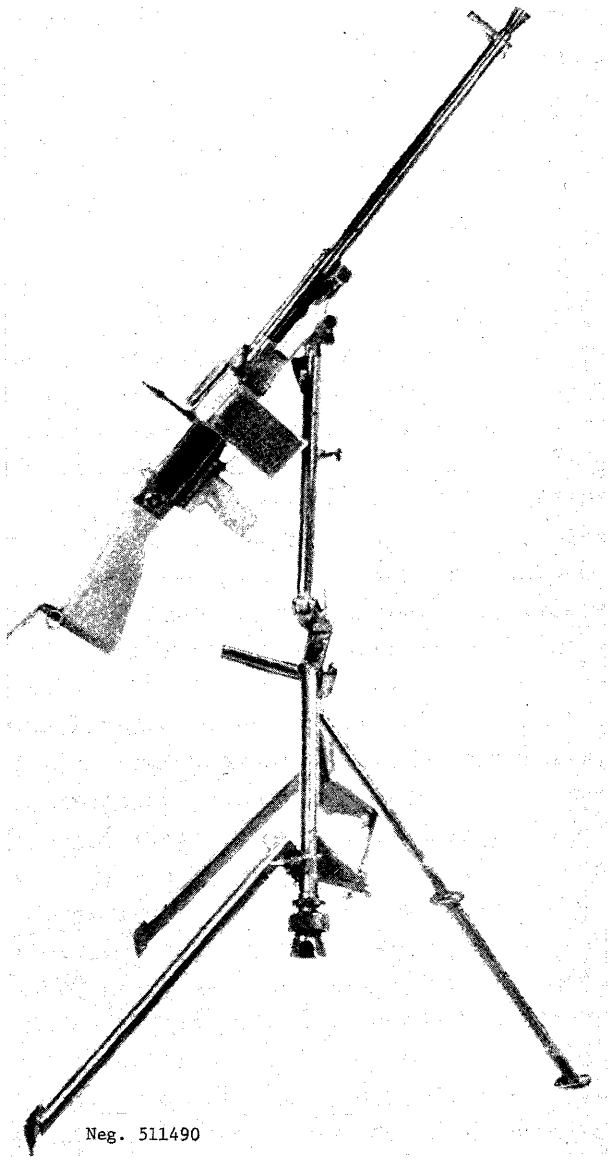


Figure 191. Vz59 setup for antiaircraft fire.

the inner mouth of the ruptured cartridge. The handle is then used to lever the cartridge out of the chamber.

(5) Chamber, barrel, and receiver fiber brushes.

(6) A three-piece cleaning rod.

(7) Miscellaneous small punches and spare parts. The latter usually include a complete, properly fitted spare bolt assembly that is numbered to the weapon.

(8) A canvas tool and spare parts roll to carry all the above listed items.

(9) A telescopic sight with a night light and a canvas carrying case (fig 185).

(10) A tripod mount (figs 184 and 186).

K. THE 7.62-MM GORYUNOV HEAVY MACHINEGUNS (SG-43, SGM, SGMT, SGMB and SG-43M)

215. General

a. In one form or another, the Soviet-designed Goryunov heavy machinegun is used by almost all of the Eurasian Communist countries and has been widely distributed to many Communist-aligned nations. There are six versions of this gun:

SG-43: Smooth barrel, sear attached to driving-spring guide, plain barrel lock, no dust covers, operating handle between spade grips (fig 192).

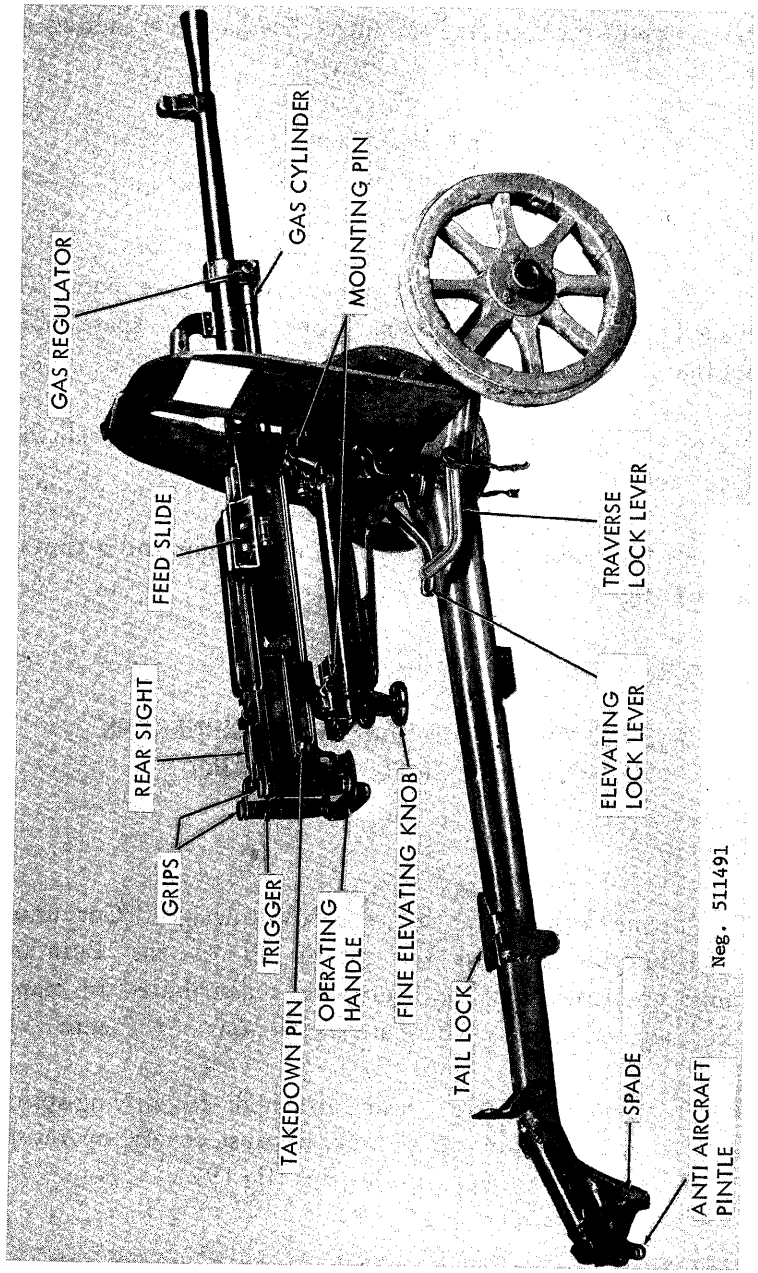


Figure 192. Goryunov SG-43 heavy machinegun.

SG-43M: The SG-43 with SGMB type barrel lock and dust covers (fig 193).

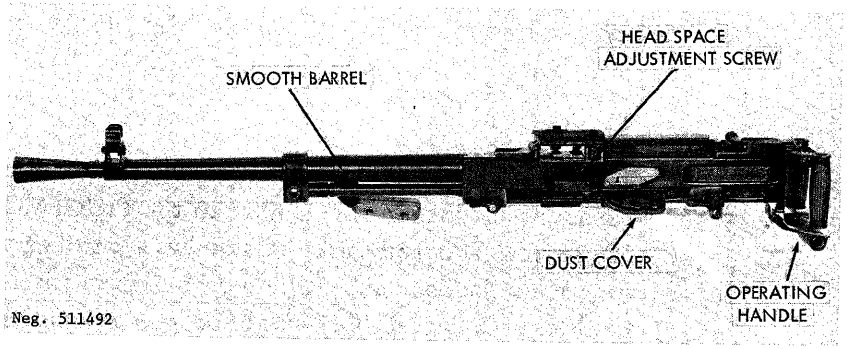


Figure 193. SG-43M heavy machinegun.

SGM: Splined barrel, separate sear housing, micrometer barrel lock, no dust covers (on early production), operating handle on right side (fig 194).

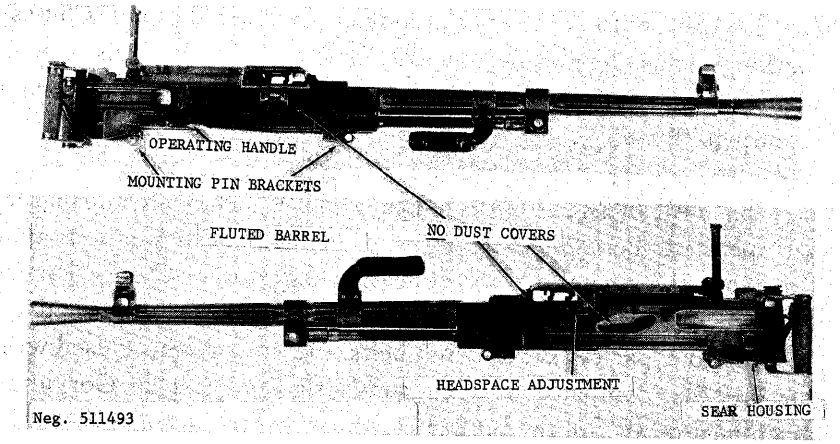


Figure 194. SGM heavy machinegun (early version).

SGMT: Tank version of SGM; differs in that it has a solenoid mounted on the backplate.

SGMB: Similar to SGM, but has dust cover over feedway ports, feed slide, and ejection port. The SGMB also has semicircular flanges on the lower front of its receiver for mounting on the cradle (fig 195).

Hungarian
GP version: The SGM extensively modified to fill the general purpose machinegun role similar to the PK/GPMG (subsec E). This Hungarian version has a pistol grip trigger mechanism and RPD-type buttstock; it is fired from a bipod. This modified gun resembles the PK; however, the diamond-shape ejection port is a prime identifier.

These guns have been produced in the People's Republic of China, where the SG-43 is known as the Type 53 heavy machinegun and the SGMB is known as the Type 57 heavy machinegun. These guns can be distinguished from the Soviet weapons by the Chinese markings on their feed covers. The SG-43 has also been manufactured in Czechoslovakia (stamped "Vz 43") and in Poland (stamped "Wz 43").

b. All of the Goryunov heavy machineguns are automatic, gas-operated, belt-fed, tripod- or vehicle-mounted weapons that fire from the open-bolt position. They have quick-change barrels and are extremely simple weapons. Feeding is accomplished by 250-round capacity metallic-link belts, the same as those used with the RP-46 company machineguns (fig 141). The Goryunov machineguns all fire the 7.62x54R long-rimmed cartridge (sec VI).

216. Technical Data

Technical data concerning the Goryunov machineguns will be found in table X.

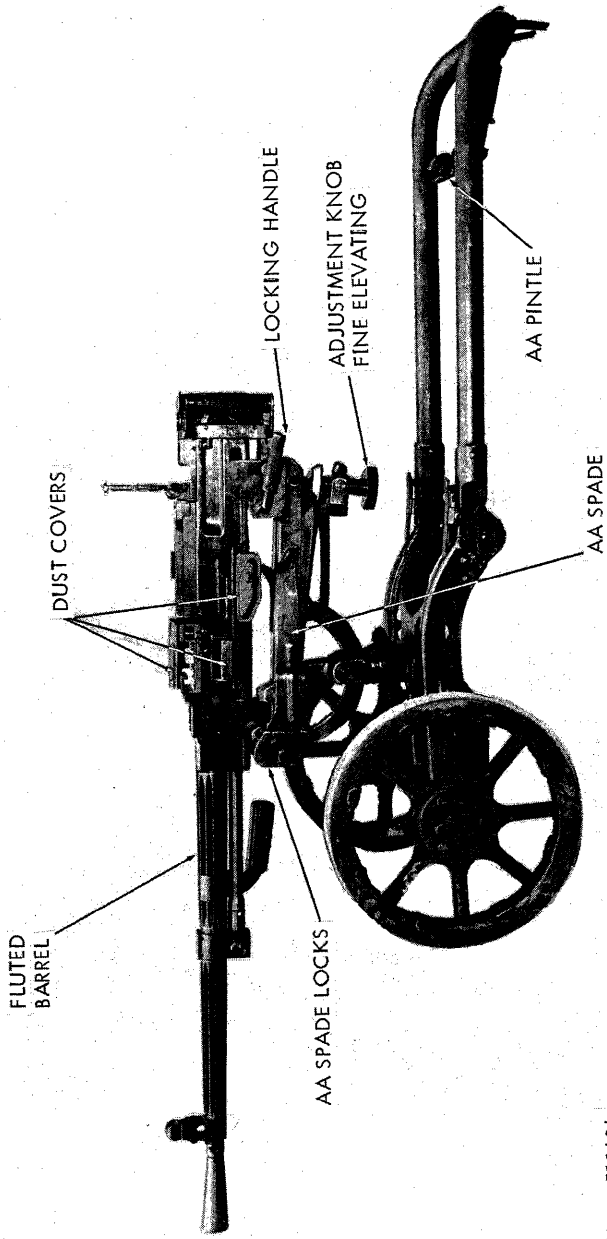


Figure 195. SGMB/PRC Type 57 heavy machinegun.

217. Operation

a. Mount the Goryunov machinegun on its mount as explained in paragraph 220.

b. Load the metallic-link ammunition belt (para 175b).

c. Open the feed cover by pressing the cover catch (fig 196) forward and swinging the cover up. Place the belt in the feedway with the rim of the first cartridge between the cartridge feed slide grippers (fig 196); then close the cover. Pull the operating handle fully to the rear and push it fully forward; this handle is located between the grips on the SG43 and SG43M or on the right side of the SGM series guns.

CAUTION: The machinegun is now ready to fire!

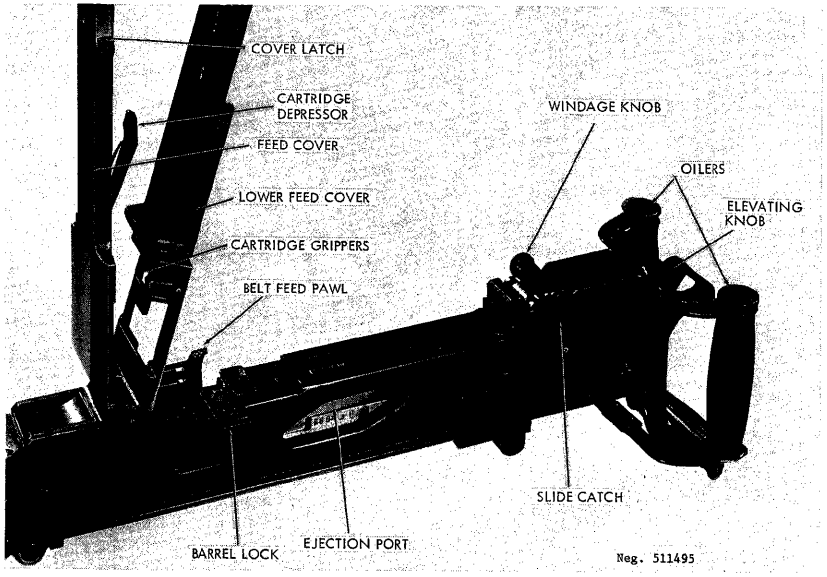


Figure 196. SG-43 receiver detail.

d. Lift the rear sight leaf to a vertical position and adjust it for the desired range by pressing the slide catch (fig 196) and moving the slide along the leaf until the upper edge of the slide is aligned with the line below the number that corresponds to the range in hundreds of meters. Final fine elevation adjustment is made by the elevating knob, and lateral or windage adjustment can be made by the windage knob (fig 196). Use the range figures on the right side of the leaf when firing light bullets (Type L or LPS); use the left side of the leaf when firing silver-, white-, or yellow-tipped bullets. The front sight is adjustable for windage and elevation zero; loosen the nut on the front sight base, and move the sight from side to side, as necessary, to zero; then screw the post in or out, as necessary, for elevation zero.

e. To fire, aim (using a normal sight picture), lift up the safety with the thumb of one hand, and press forward on the trigger (fig 192) with the other thumb. The bolt will remain open between bursts, but will remain closed on an empty chamber when the last round has been fired.

f. To unload or clear the weapon, open the cover by pressing the cover catch forward. Lift the belt from the feed pawls (fig 196) and remove it. Lift the lower feed cover and remove the cartridge from the cartridge grippers. Inspect to insure that no cartridges remain in the gun. Pull the operating handle to the rear, and while holding it, raise the safety, press the trigger, and ease the operating handle forward. Close the covers and lower the rear sight.

g. To change the barrel of the Goryunov machinegun, unload the weapon, retract the bolt until it is caught by the sear, and raise the feed covers. Pull the barrel lock to the left (for an SGM, SGMT, SGMB, or SG-43M, first depress the knurled catch on the barrel lock) and pull the barrel forward out of the receiver.

Insert a fresh barrel into the receiver, guiding the gas cylinder into the gas cylinder tube if necessary, and push the barrel lock fully to the right. Close the lower feed cover and reload.

h. It might be necessary to adjust the gas regulator to compensate for a loss in operating power. The figure "1" on the regulator is normally aligned with the index pin. Use a wooden mallet and drive the regulator to the right to disengage it from the index pin; then rotate the regulator until the next higher number on it lines up with the index. Drive the regulator to the left, back into position. Insure that the snap ring is reseated in its groove.

218. Disassembly and Assembly

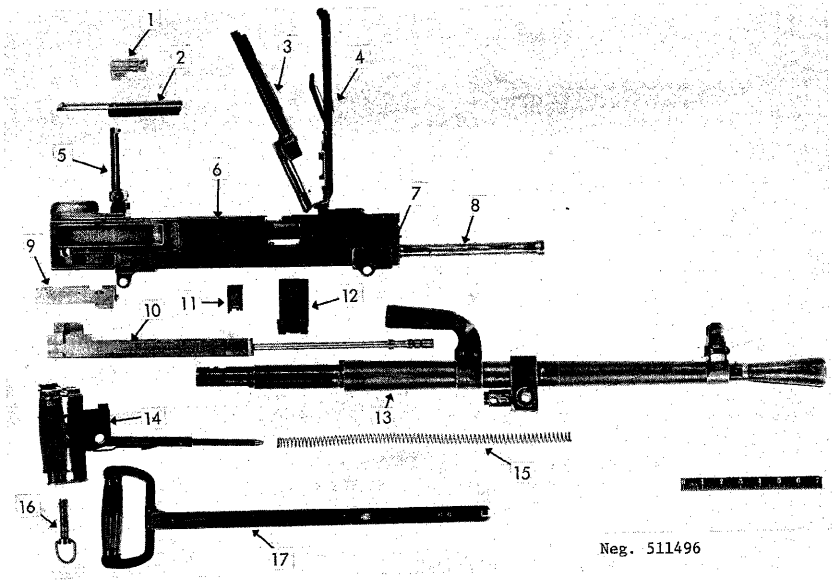
a. To disassemble the weapon:

(1) Clear the gun (para 217f), but do not close the feed covers.

(2) If the weapon is an SG-43 or SG-43M, pull the takedown pin (fig 192) to the right and remove the backplate. If the gun is an SGM, SGMT, or SGMB, depress the detent in the latch on the top center of the backplate and slide the latch to the rear. Rotate the backplate to the right until it can be removed. Pull out the driving spring.

(3) Slide the sear housing (fig 198) out of the lower rear of the SGM, SGMB, and SGMT receiver.

(4) Pull the operating handle rearward; this moves the bolt and slide to the rear of the receiver, where they can then be pulled out of the receiver. Lift the bolt off the slide. Pull the belt feed slide to the right, out of the receiver.



1. Cartridge feed slide
2. Cartridge feed slide guide
3. Lower feed cover
4. Feed cover
5. Rear sight
6. Receiver
7. Rivets
8. Gas cylinder tube
9. Bolt
10. Slide and piston
11. Barrel lock
12. Belt feed slide
13. Barrel
14. Back plate w/guide
15. Driving spring
16. Takedown pin
17. Operating handle

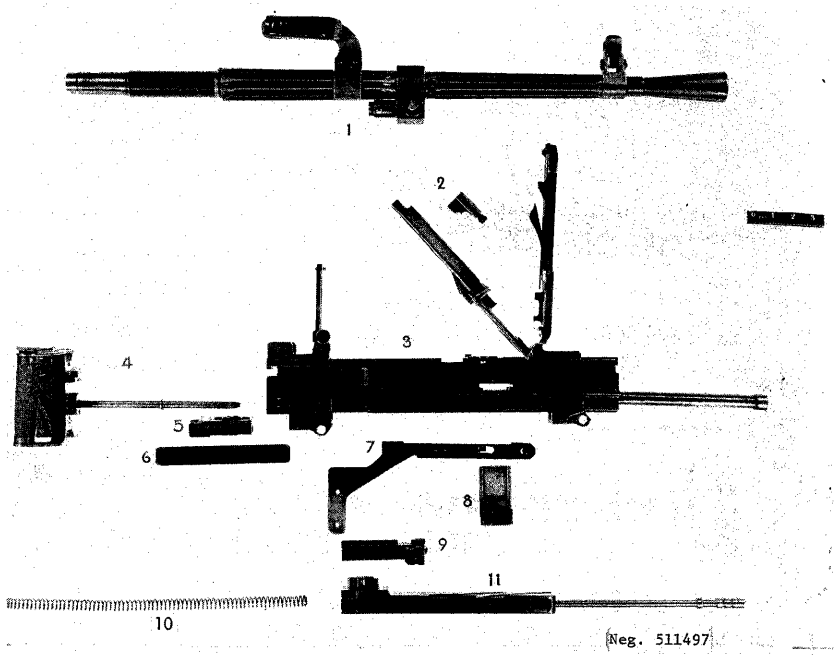
Figure 197. SG-43 field stripped.

(5) The cartridge gripper can be removed by sliding it to the rear until it aligns with the dismounting cuts in the lower feed cover.

(6) No further disassembly is necessary or desirable.

b. To reassemble the weapon:

(1) Replace the cartridge gripper in the lower feed cover with the lug of the gripper down and to the rear.



1. Barrel
2. Cartridge gripper
3. Receiver
4. Back plate
5. Sear unit
6. Dust cover
7. Operating handle
8. Feed slide
9. Bolt
10. Driving spring
11. Slide and piston

Figure 198. SGM field stripped.

(2) Place the belt feed slide into the receiver and push it in as far to the left as possible. The ejector must also be pushed forward in the bolt.

(3) Lay the bolt over the hammer cam on the slide, and move the bolt as far forward as possible. Shove the operating handle forward and insert the piston and slide into the receiver.

(4) Slide the sear housing of the SGM, SGMB, and SGMT (sear to the front) into the receiver.

(5) Insert the driving spring into the slide, and then insert the driving spring guide into the spring. If the gun is an SGM, SGMB, or SGMT, turn the backplate at a right angle to the receiver, insert the backplate lugs into the receiver, and rotate the backplate counterclockwise until it stops. Slide the lock on the top center of the backplate forward. If the gun is an SG-43 or SG-43M, push the backplate straight in and insert the takedown pin. Close all covers.

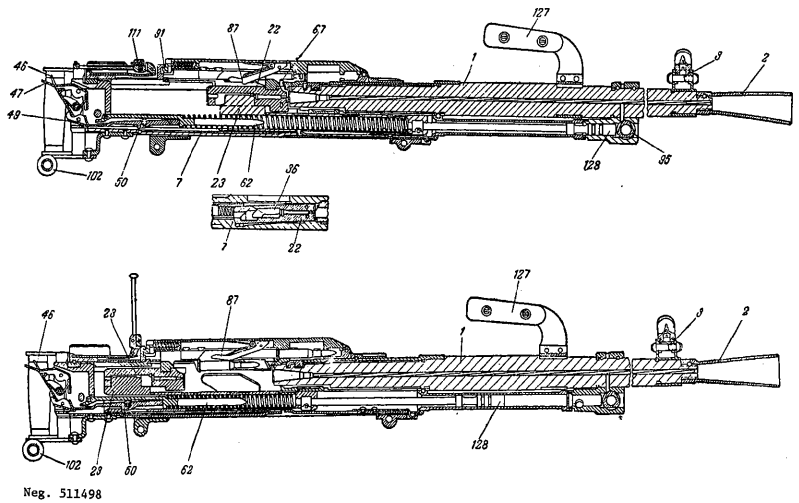
219. Functioning

a. The Goryunov machineguns fire from the open bolt position. When the trigger is pressed, the slide is released and propelled forward, carrying the bolt with it. The bolt loads a cartridge, which is then fired. The propellant gases drive the slide to the rear and compress the driving spring in preparation for the next shot. (Refer to figs 199, 200, and 201 for location of parts.)

b. When the trigger (46) is pressed on the SG-43 or SG-43M, it lifts the rear of the sear (50), and the sear releases the slide. The trigger of the SGM, SGMB, and SGMT bears against a sear release (fig 201) and moves it forward. This movement removes a block from under the sear, and, because the rear of the sear and its mating notch in the slide are at an angle, the slide kicks the sear out of engagement (fig 200). On all guns, when the trigger is released, the sear catches the slide to the rear.

c. As the slide travels forward, cams cut in its top move the belt feed slide outward so the belt feed slide pawl can engage the next cartridge (fig 201).

d. The bolt drives a cartridge from the feed cover into the chamber, and when the bolt seats the cartridge fully into the



46	Trigger	9	Front sight	7	Receiver
111	Rear sight	2	Flash hider	23	Slide
91	Cover latch	95	Gas regulator	50	Sear
87	Cartridge depressor	128	Gas piston	102	Operating handle
67	Cartridge feed slide	36	Hammer (from top)		
1	Barrel	22	Bolt	49	Sear pivot
127	Carrying handle			47	Safety

Figure 199. SG-43 section.

chamber, the extractor snaps over the cartridge rim. The cam (23) forces the rear of the bolt to the right, into a locking recess in the right wall of the receiver (fig 201). The bolt ceases moving. The slide continues forward, and the hammer (36) strikes the firing pin, firing the cartridge.

e. The propellant gases drive the bullet through the barrel, and, when the bullet passes the gas port, some of the propellant gases are tapped off and drive the piston and slide to the rear. The hammer moves away from the firing pin, and compression of the driving spring starts. As the slide continues rearward, its cam draws

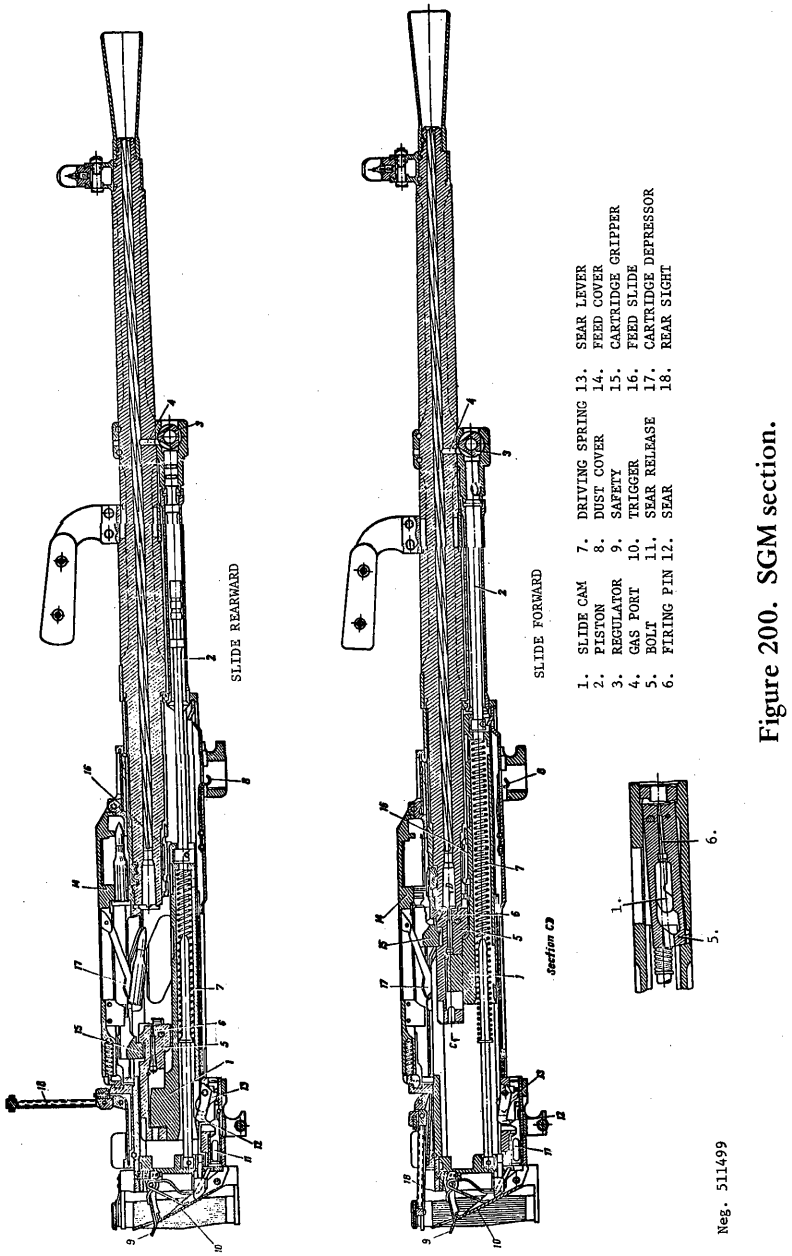


Figure 200. SGM section.

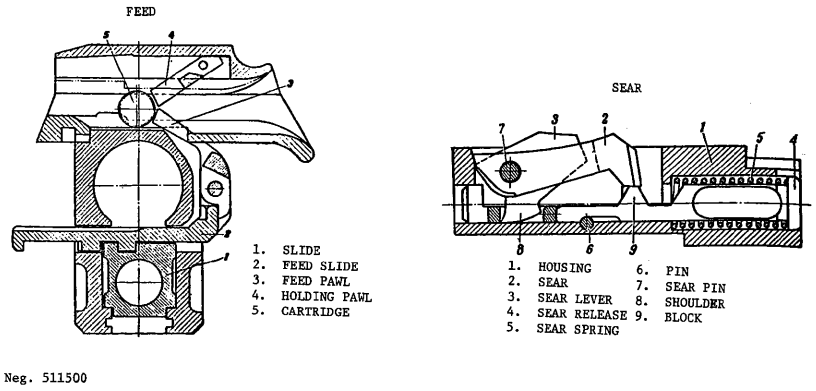


Figure 201. SGM feed and sear mechanism.

the rear of the bolt to the left, out of the locking recess. When the bolt is fully unlocked, it moves to the rear with the slide. The extractor pulls the fired cartridge from the chamber and holds it to the bolt face until the ejector strikes a shoulder in the receiver and moves against the case to expel it.

f. Cams on the top of the slide (fig 201) force the feed slide inward, feeding the next cartridge into position, where it can be seized by the cartridge grippers. A stationary spring-loaded belt-holding pawl in the feed cover prevents withdrawal of the belt. The cartridge feed slide (67), which holds the gripper, is mated to the bolt and moves back and forth with it. The grippers draw the round out of the belt and move it to the rear, where the depressor (17 or 87) forces the round down into the lower feed cover, where it can be fed by the bolt.

g. The rearward movement of the bolt and slide ends when they strike the backplate. The driving spring then forces the bolt and slide forward.

220. Mounts

a. There are a number of mounts available for the Goryunov machineguns. These include the wheeled Model 1943 (fig 193) and Degtyarev (fig 195) mounts, the Sidorenko-Malinovski tripod mount (fig 202), various vehicular mounts (fig 203), and the PRC Type 70 (fig 204) dual purpose tripod. There are two methods of joining the guns to the mounts. The SG-43, SG-43M, early SGM, and SGMT and PRC Type 53 guns use traverse pins; late SGM, the SGMB and PRC Type 57 models use spring-loaded clamps to hold the gun to the mount.

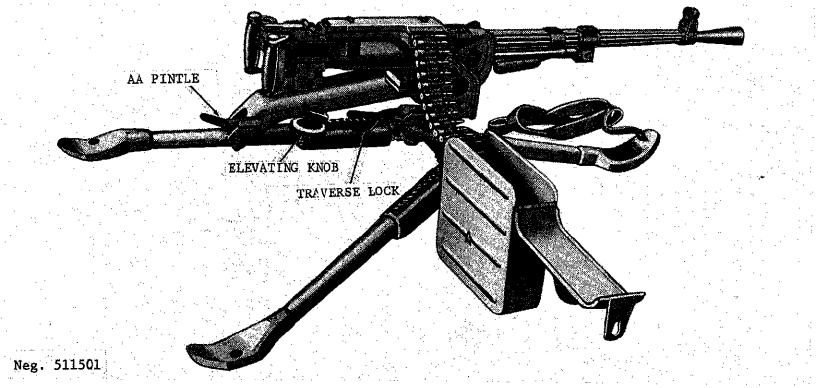


Figure 202. SGM Sidorenko-Malinovski tripod.

b. The guns with pin-type mount adapters are installed by positioning them on their mounts and inserting the two mounting pins (fig 192). The guns with clamp-type mount adapters (fig 195) are installed by starting curved flanges on the front mount adapter into their seats on the mount; the rear of the gun is then pressed down into its bracket and insure that the locking handle is as far rearward as possible.

c. These mounts have coarse elevating and traversing movements with lock levers, to hold the gun in position. Fine

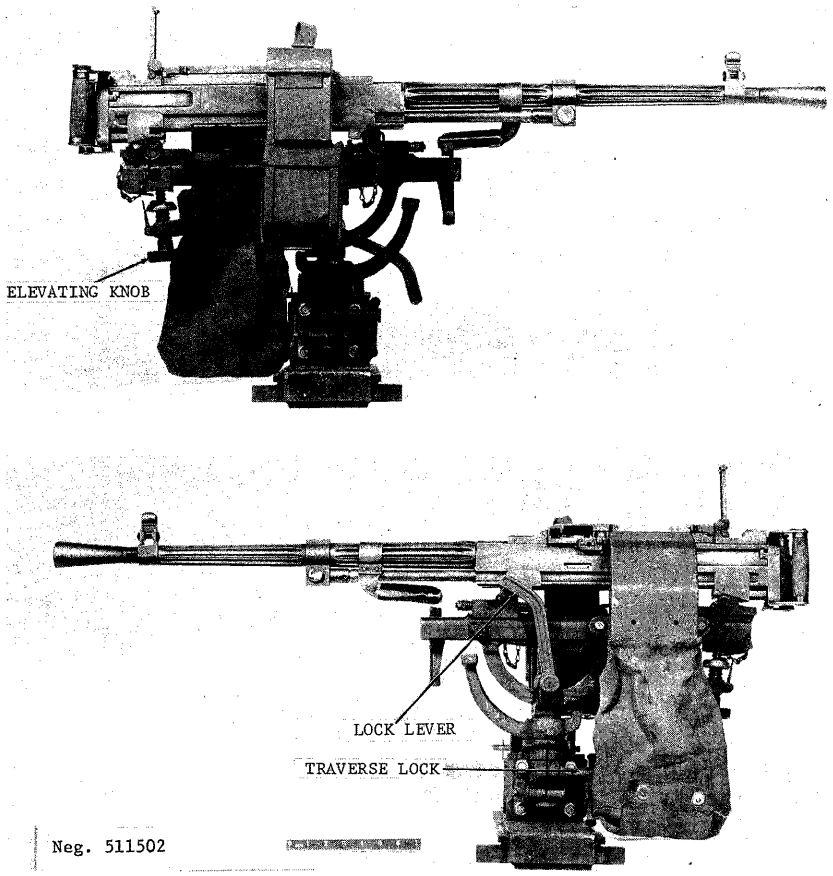


Figure 203. Early SGM on vehicular mount.

elevation is obtained by means of the fine elevating knob. The gun should never be fired unless the elevating lock lever is tightened. Normally the traverse lock lever should also be tightened when the weapon is being fired; however, the gun can be fired in free traverse.

d. The ground mounts are readily converted to antiaircraft use by dismounting the gun, upending the mount (figs 204, 205, and 206) and installing the gun (by its front mount only) on the

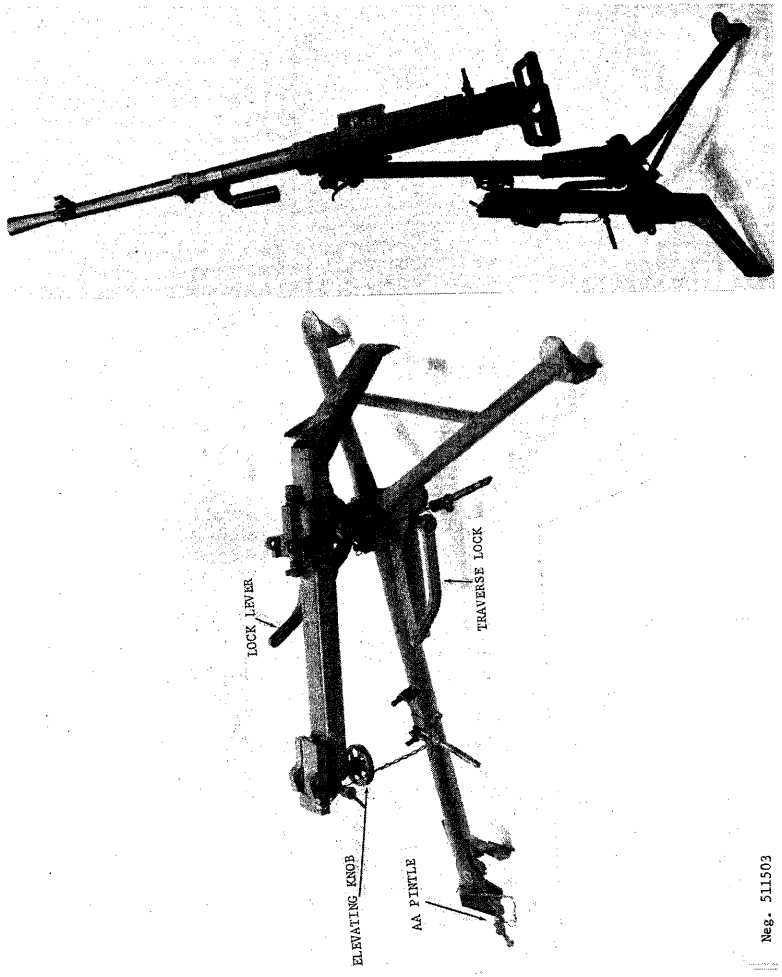


Figure 204. PRC Type 70 tripod.

antiaircraft pintle. The SG-43 shield is used to brace the mount for AA firing. On the SGM Degtyarev, M-S and PRC Type 70 mount, press the AA spade locks and swing the AA spade into position prior to upending. Pull the AA pintle outward and swing it into position (fig 204).

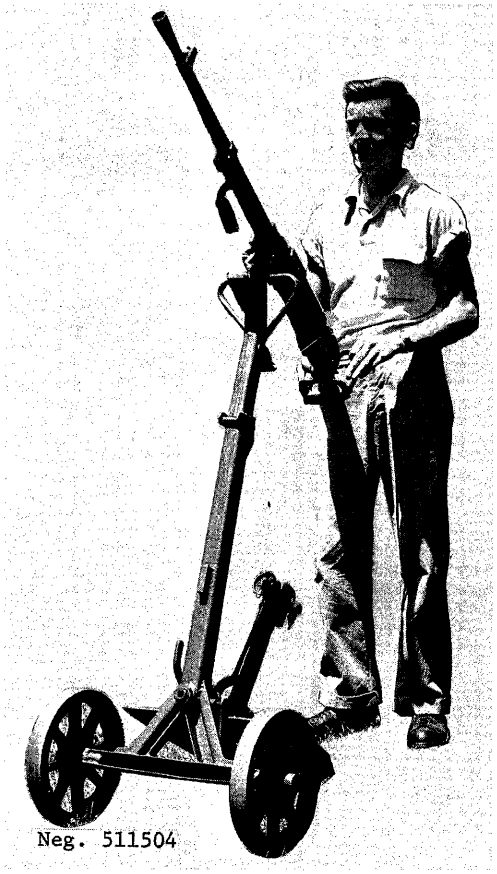


Figure 205. SG-43, antiaircraft position.

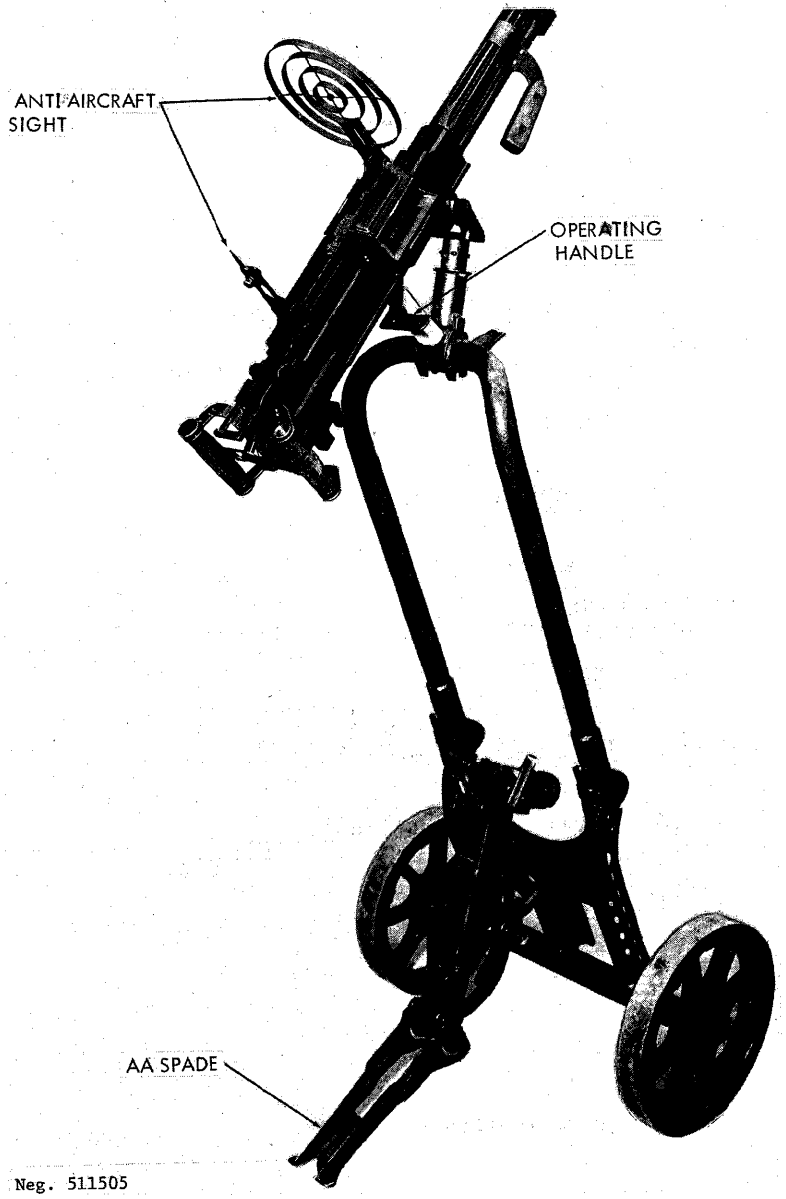


Figure 206. SGMB, antiaircraft position.

e. In order to obtain the best accuracy, the spades (figs 204 and 205) should be either embedded in the ground or braced.

f. The mounts should be kept clean, and all movements should be lightly oiled.

221. Accessories

a. The following accessories are issued with the Goryunov machineguns:

(1) Cleaning rod.

(2) Combination wrench.

(3) Standard Soviet pattern two-compartment, oil and cleaning solvent container.

(4) Punches.

(5) Ruptured cartridge extractor.

(6) Chamber cleaning brush.

(7) Barrel lock tool.

(8) Wooden mallet.

(9) Covers.

(10) Antiaircraft sight.

b. The combination wrench is used for tightening or loosening various nuts, bolts, and other parts that are threaded and for removing a hot barrel.

c. Refer to paragraph 184b for instructions on using the ruptured-cartridge extractor.

d. The barrel lock tool is used to turn the square socket screw on the micrometer headspace adjustment. This tool is to be used by ordnance personnel only to adjust the seating of the bolt into its locking recess. This adjustment must be made to allow the rear of the bolt to just enter its locking recess; this is governed by the distance the butt end of the barrel enters into the receiver.

L. THE CZECHOSLOVAK ZB37 HEAVY MACHINEGUN

222. General

a. The Czechoslovak ZB37 (fig 207) machinegun, a belt-fed, gas-operated, air-cooled, selective-fire weapon with a selective fast or slow rate of automatic fire, is fired from a heavy tripod mount. This gun was standard in the Czechoslovak army prior to World War II and was used by the German army throughout the war. In the post-war years, this weapon has been produced for export sales and can be found in use in a number of smaller nations; occasionally, it is found in use by guerrilla units. ZB37 is the Czechoslovak military designation for this gun, but some are marked MG37 (t) which is the German World War II designation; both are the same weapon, but minor changes such as finned barrels will be found.

b. The ZB37 was offered in various calibers; however, only the 7.92x57-mm cartridge version seems to have been produced in quantity. Refer to section VI for ammunition data.

223. Technical Data

Technical data concerning the ZB37 are given in table X.

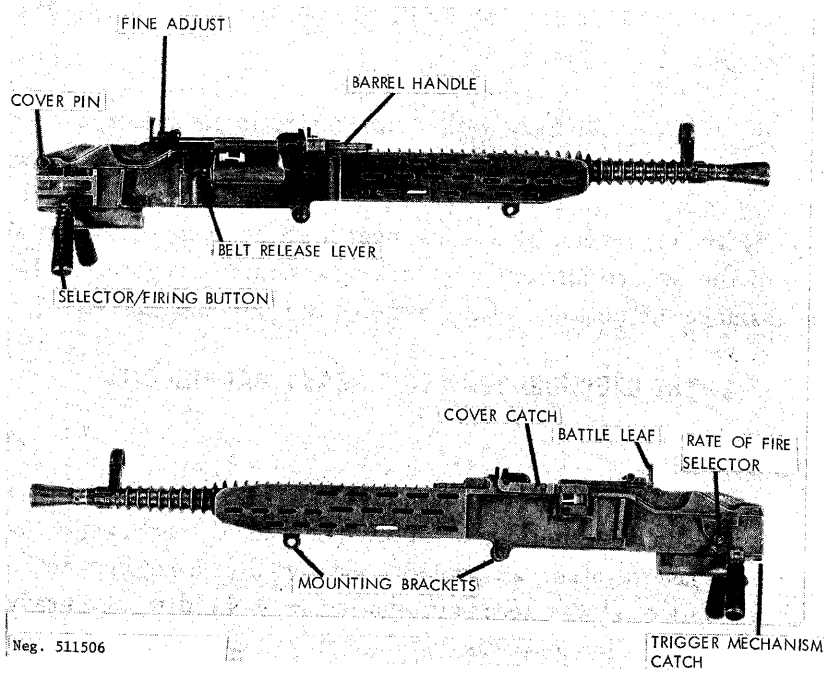


Figure 207. ZB-37 heavy machinegun.

224. Operation

a. The ZB37 uses either metallic or fabric-metallic nondisintegrating feed belts; either type of belt can be used. Load the belt by pressing a cartridge into the link until the nib at the top rear of the link snaps into the groove of the cartridge case (fig 209).

b. Mount the gun on its tripod by seating the mounting brackets onto their seats in the mount and installing the mounting pins (fig 208).

c. If necessary, unfold the grips of the trigger mechanism by pulling them outward and then swinging them down until they

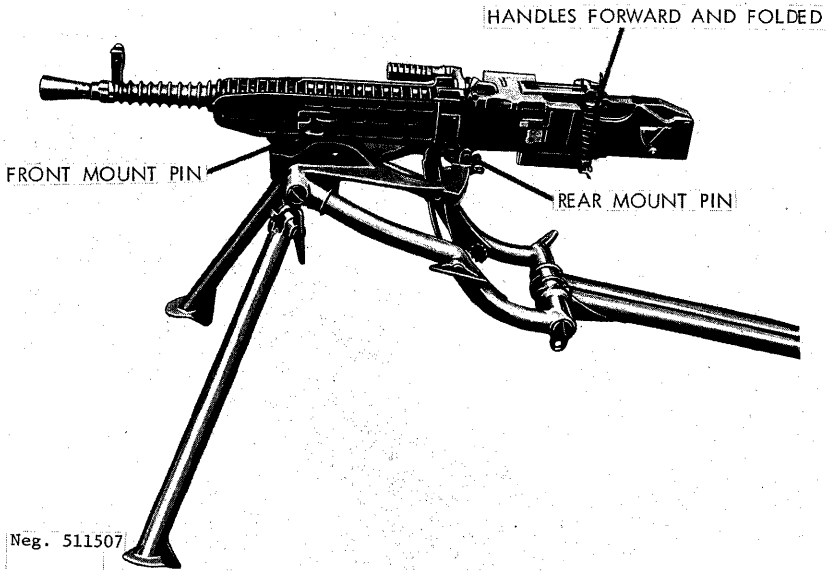


Figure 208. ZB-37 on its tripod.

are in position. If necessary, rotate the selector (fig 207) from its center position. Press up the trigger mechanism catch (fig 207) and, by means of the grips, slide the entire trigger mechanism forward as far as possible. Release the trigger mechanism catch and vigorously pull the grips rearward until the trigger mechanism latches into place.

CAUTION: Do not touch the firing button!

Set the selector to its middle or safe position.

d. Insert the tab of the loaded belt (fig 209) into the feed opening on the right side and vigorously yank it to the left until it stops.

CAUTION: The gun is now loaded and ready to fire!

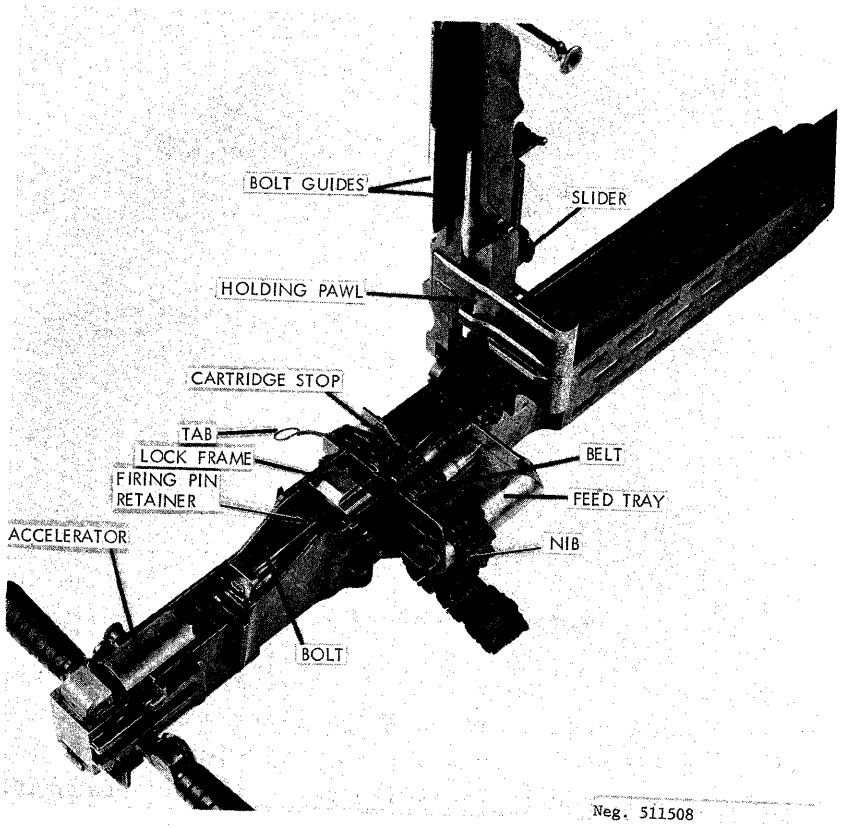


Figure 209. Loading the ZB-37.

e. For long range firing, lift the rear sight leaf and, after pressing the catch on the left side of the slider (fig 209) up and in, move the slide along the leaf until the upper edge of the slide is aligned with the figure that corresponds to the range in hundreds of meters. The left side of the leaf is graduated for 154-grain (light) bullets and the right side is graduated for 198-grain (heavy) bullets; be sure to use the appropriate scale. For firing at ranges to 300 meters, fold the leaf down and use the battle leaf (fig 207).

f. Set the selector for the desired type of fire—to the left for semiautomatic or to the right for fully automatic fire. If fully

automatic is chosen, set the rate of fire selector (fig 207) to its upper position for the slow rate or to its lower position for the fast rate of fire.

g. Using a normal sight picture, aim, and press the firing button. Use the grips to control the pointing of the gun. Normally, the elevating and traversing coarse adjustments should be clamped and only the fine adjustments should be used. The gun will fire according to the type of fire selected, and, when the last round is fired, the bolt will close on an empty chamber.

h. To unload the weapon when a partial belt has been fired, set the selector to its mid position, swing the belt release lever at the rear of the feed opening (fig 207) to its vertical position, and pull the belt out of the gun. If the belt does not readily come out, pull the cover pin (fig 207) to the right and lift the cover; then pull the belt out. To close the cover, lift it slightly, press the cover catch (fig 207) to the rear, and ease the cover down. Slide the cover pin to the left. It may be necessary to strike the rear of the cover with a balled fist to seat the cover.

i. To clear the gun, set the selector to its midposition, pull out the cover pin, and press and hold the cover catch to the rear. Swing the cover all the way up and forward. If necessary, cock the bolt (para 224c). Inspect to insure that no cartridges are present in the barrel, feedway, or receiver. Close the cover by pressing and holding the cover catch to the rear and then swinging the cover closed. Press the cover pin to the left. Grasp the grips, and without touching the firing button, press up on the trigger mechanism catch (fig 207), and ease the bolt and trigger mechanism forward. Pull outward on the grips and then swing them upward along the side of the receiver. Set the selector to its midposition, fold the sight leaf, and remove the gun from the mount by pulling out the mounting pins.

j. The ZB37 has an extremely heavy barrel to absorb firing heat, but when the barrel has fired about 500 rounds continuously, it should be changed. Cock the gun (para 224c), lift the barrel handle (fig 207) until it just clears its seat, press the cover latch rearward, and slide the barrel handle fully forward. Lift the handle to the vertical position; the barrel will start up, out of the barrel extension. Lift the barrel up and slide it forward until it is free. Mate the ribs (fig 210) of a cool barrel with the tracks in the front of the receiver, and lower the barrel until it rests on the barrel extension. Pull the barrel to the rear until it starts to drop into place; turn the barrel handle down and pull it rearward until it snaps into its seat. The gun is now ready to fire again.

k. The ZB37 has an adjustable gas regulator to compensate for varying quality ammunition or a fouled gun mechanism. To adjust the gas regulator, remove the barrel (j above). Press in the retainer lock and rotate the retainer (fig 210) until it is disengaged from the barrel. Pull the rear end of the gas cylinder (fig 210 away from the barrel until the entire gas cylinder comes free. An index dot is on the side of the gas cylinder, behind the elongated slot for the regulator. The regulator has two varied-size dots on each side; these dots indicate the relative size of the gas port in use. Normally, the smallest dot is aligned with the index dot. Slide the regulator sideways out of the gas cylinder and turn it so that the appropriate dot is aligned with the index dot; then slide the regulator into place. Place the gas cylinder into its seat in the barrel and swing it down until the retainer seats against the barrel. Rotate the retainer until its lock snaps into place, and replace the barrel in the gun.

225. Disassembly and Assembly

a. To disassemble the weapon, clear the gun (para 224i), but do not fold the grips or set the selector to its midposition. Pull

out the cover pin (fig 207), press back on the cover catch (fig 207), and open the cover.

b. Rotate the rate-of-fire selector (fig 207) upward and remove the accelerator (fig 210). Press in the knurled button on the cartridge stop (fig 209) and lift it off the gun. Pull back on the grips to cock the gun and lift the feed tray off the receiver. Remove the barrel (para 224j); then swing the feed cover fully forward and remove it.

c. Hold the grips, and after pressing the trigger mechanism catch, ease the bolt forward. Lift up the front of the lock frame (CAUTION: It is under spring pressure) until it is free; then pull it out of the receiver. Push the driving spring guide forward, and lift it and the spring out of the receiver.

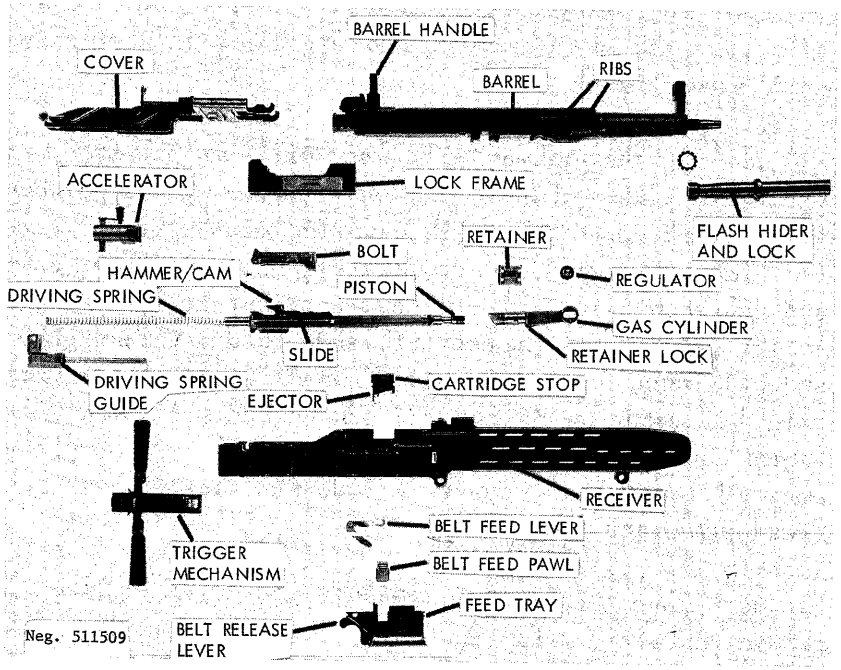


Figure 210. ZB-37 disassembled.

d. Pull the slide rearward in the lock frame until it is completely out; then move the bolt rearward on the slide until it can be lifted off. Press downward on the firing pin retainer until the firing pin and its spring come out of the bolt. Lift the belt feed lever (fig 210) out of the receiver.

e. Turn the right grip up to a 45° angle; set the selector to the right; while pressing the firing button, pull the trigger mechanism rearward until it stops. Release the button, lift the firing mechanism catch, and pull the mechanism further rearward, off the gun.

f. No further disassembly is necessary or desirable.

g. To reassemble the gun after cleaning it, insert the belt feed lever back into the receiver. Place the firing pin back into the bolt; press the pin forward against its spring; then press the retainer back into place.

h. Slip the hooks at the bottom front of the bolt over their rails on the slide and shove the bolt as far forward as possible. Insert the assembled bolt and slide into the barrel extension. Place the driving spring guide and driving spring in place in the receiver and slide them to the rear until they seat against the rear wall. Slip the driving spring into the hole in the slide. Holding the bolt, slide, and lock frame at an angle, force them rearward and downward until they seat in the receiver. The belt feed lever may have to be turned until it seats in its cam groove in the slide; push the piston rearward against the spring to ascertain that the belt feed lever does function and move.

i. Align the trigger mechanism with its grooves in the receiver and shove it forward until it stops. Mate the feed cover with the trunnions on the top of the receiver; then close the cover,

cock the gun, and open the cover. Place the feed tray on the receiver, insuring that the stud of the feed slide fits into the opening in the belt feed lever. Slide the cartridge stop into place, replace the accelerator, and close the cover. Replace the barrel (para 224j).

226. Functioning

a. The ZB37 is gas operated; when the gun is cocked, i.e., when the sear holds the slide to the rear against the pressure of the driving spring and a loaded belt is in position in the feedway, pressure on the firing button will cause the sear to release the slide. The compressed driving spring forces the slide and bolt forward. The bolt is nestled down on the slide and held in position by a pair of guides (fig 209) on the cover. As the bolt goes forward, a rib on top of it drives a cartridge out of the belt and into the chamber. Just before the bolt strikes the end of the barrel, the extractor snaps into the rim of the cartridge and a stud inside the barrel extension starts the rear end of the bolt upward. The locking cam on the slide (fig 211) continues to force the rear of the bolt upward until it is fully locked in the barrel-extension locking shoulder. The slide continues forward until the front of the hammer cam (fig 211) strikes the firing pin and fires the cartridge.

b. The bullet, under pressure of the propellant gas, travels down the barrel, and after the bullet passes the gas port, some of the gas flows through the gas port and regulator into the gas cylinder. Here the gas forces the piston and slide rearward and compresses the driving spring. After a short, free, rearward travel, the rear of the hammer cam contacts the bolt and pulls it down out of engagement with the barrel extension. The bolt and slide now travel to the rear as ony unit. The extractor pulls the fired cartridge out of the chamber and holds it to the bolt face until the

ejector fixed to the cartridge stop (fig 209) strikes the cartridge and expels it from the gun. The slide strikes either the buffer on the driving spring guide or the accelerator, and then stops. The driving spring drives the slide forward to repeat the cycle.

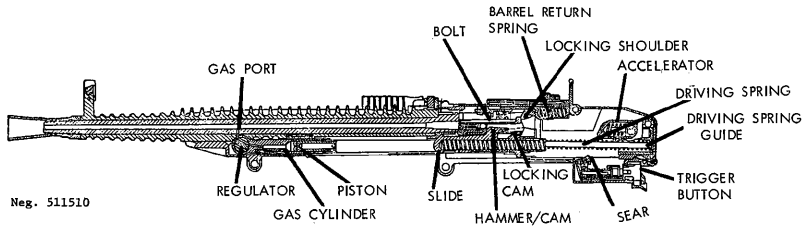


Figure 211. ZB-37 section.

c. In the bottom of the slide there is a slow S groove (fig 212). A lug on the lower arm of the belt feed lever rides in this groove, and as the slide reciprocates, the groove moves the lower arm (fig 212) from one side of the receiver to the other. This movement is transmitted to the upper arm of the lever via the shaft of the belt feed lever. This arm is mated to the belt feed slide, and as the lever moves, the slide is given the in-and-out motion necessary to in-feed the belt. A spring-loaded pawl on the belt feed slide allows the pawl to depress and pass under the incoming cartridge as the pawl moves outward. A spring-loaded holding pawl in the cover (fig 209) prevents the outward movement of the belt as the feed pawl moves.

d. The accelerator (fig 211) can be moved into or out of position to be hit by the recoiling slide; when the accelerator is swung down to its lower position, the slide strikes the front of the accelerator and compresses the strong spring within the accelerator. When this spring expands, extra speed is added to the slide, thus accelerating the firing cycle.

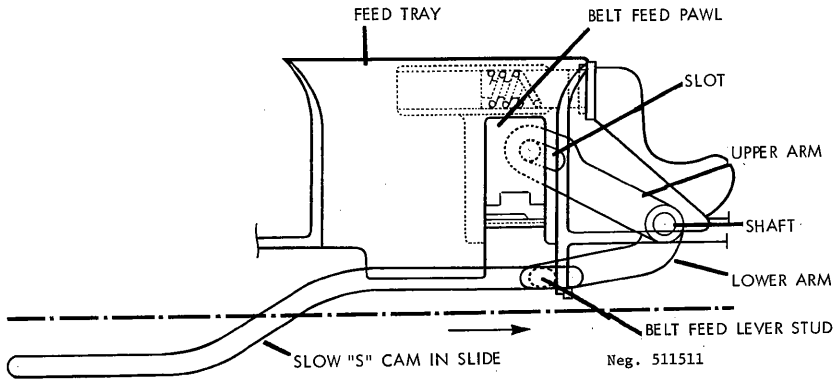


Figure 212. ZB-37 feed mechanism.

e. The barrel and barrel extension, which can recoil within the receiver, are held forward by a strong spring. The recoil and counterrecoil of the barrel and extension are balanced and tuned to reduce firing shock and stresses to a minimum.

f. By rotating a selector on the rear of the trigger button, the trigger mechanism can be set both for fully automatic or semiautomatic firing, and for safe. When the mechanism is set for semiautomatic fire (fig 213), rotation of the selector allows the disconnector to tilt upward. The disconnector moves forward when the trigger button is pressed forward, and when this happens, the forward end of the disconnector bears against the lower arm of the sear and causes the sear to rotate and release the slide. As the slide goes forward, it strikes the upper projection of the disconnector and forces the whole disconnector to swing downward. When the disconnector contacts the sear, it does so just above a large hole in the lower arm of the sear. When the disconnector is depressed, it enters that hole, and the sear immediately snaps back into position to intercept the slide; thus only one shot is fired. To fire a second shot, the trigger button is released, and the disconnector moves rearward and raises up to where it can contact a solid section of the sear. When the selector

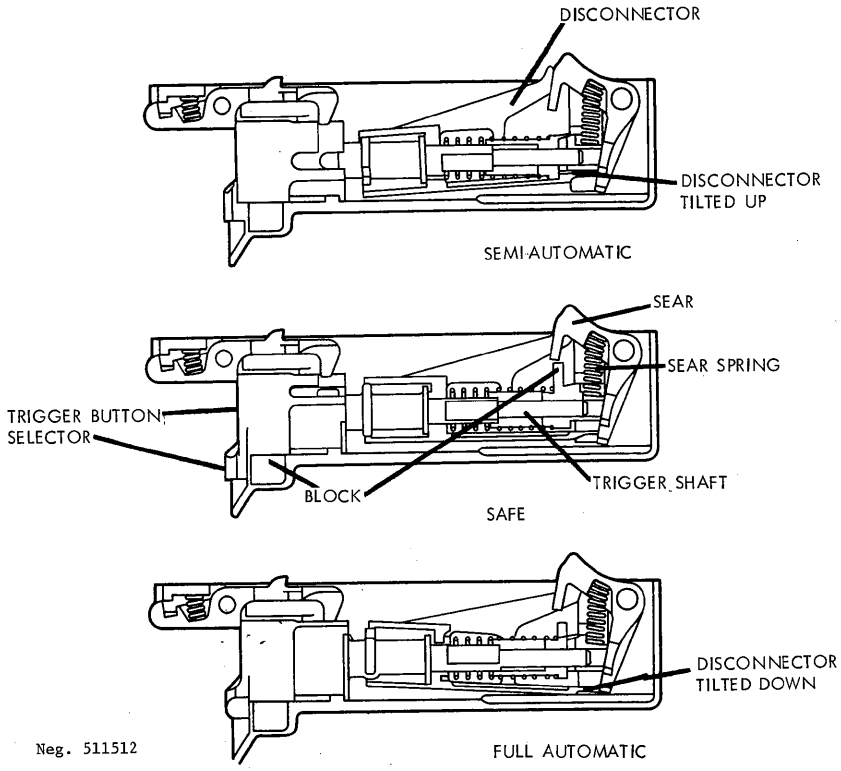


Figure 213. ZB-37 trigger mechanism.

is turned for automatic fire (fig 213), the disconnector is depressed so that the sear under the hole is contacted and the slide cannot strike it. Pressure on the trigger button will again cause the sear to rotate, but because the disconnector is located below the hole where nothing touches it, the sear remains depressed, and the gun continues to fire until the trigger button is released. This allows the disconnector to move rearward away from the sear. The sear then rises to intercept the slide. When turned on safe, the selector causes a block on the trigger shaft to rotate under the sear; this prevents the sear from being depressed and (depending on the slide's position) locks it either to the rear or to the front. A block on the trigger housing under the selector prevents the firing button from being pressed.

Figure 214. ZB-37 antiaircraft position.

227. Accessories

a. A number of accessories are used with the ZB37; the most important one is the tripod, which is made from tubular steel and has front legs that, when unclamped, can be adjusted to vary the height of the mount. A lower cradle, with two elevating arcs at its rear end, is attached to the tripod. This cradle elevates and depresses and is locked by clamps on each side of the elevating arcs. The upper cradle, which has the lugs for attaching the gun, swings from side to side on the lower cradle. This movement is also controlled by clamps. The rear legs are paired together; however, one of the legs can be raised. This leg has a bracket to allow the front mounting lug on the gun to be attached. When the gun is so mounted, it can be used for antiaircraft firing (fig 214). A shoulder brace and special sights are available, but are not absolutely essential.

b. Spare barrels, barrel carriers, ammunition belts, and belt boxes are used as accessories. Although a combination tool to turn the gas cylinder retainer is usually found with the gun, an adjustable wrench may be used. The combination tool is also used to remove pins and to turn or tighten various parts.

M. THE 12.7-MM DEGTYAREV HEAVY MACHINEGUNS (DShK-38 AND THE MODEL 38/46 OR DShKM)

228. General

a. Eurasian Communist countries use the Soviet-designed Degtyarev 12.7-mm heavy machineguns as an antiaircraft and antivehicular weapon. Warsaw Pact countries use this weapon almost exclusively on vehicular mounts, whereas the Asian Communist countries use it mostly on its ground mount. The

original DShK-38 machinegun (fig 215) has a complicated rotary feeder that was superseded by a conventional shuttle-type feeder in the Model 38/46 (fig 216). A number of other changes in the Model 38/46 made most of the parts noninterchangeable between the two guns. The Model 38/46 is also known as the DShKM. The People's Republic of China produces the Model 38/46 as the Type 54 heavy machinegun. These guns can be identified by the Chinese characters stamped into the receiver behind the feeder. Late PRC guns have smooth barrel exteriors. A quadruple mount version of the M38/46 is produced in Czechoslovakia (fig 217).

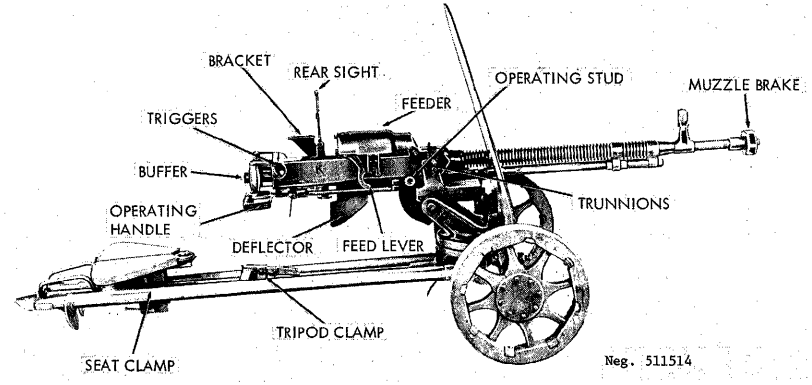


Figure 215. 12.7-mm DShK-38 heavy machinegun.

b. The 12.7-mm Degtyarev heavy machinegun is an automatic, gas-operated, belt-fed, tripod- or vehicle-mounted weapon firing from the open-bolt position. The Model 38/46 can be adapted to right- or left-hand feed, and it has a changeable barrel. Ammunition is fed from 50-round capacity metallic-link belts. The Degtyarev 12.7-mm machineguns fire the 12.7 x 108-mm cartridge (sec VI).

c. The mount can be used for ground fire and is easily converted to antiaircraft use (fig 216).

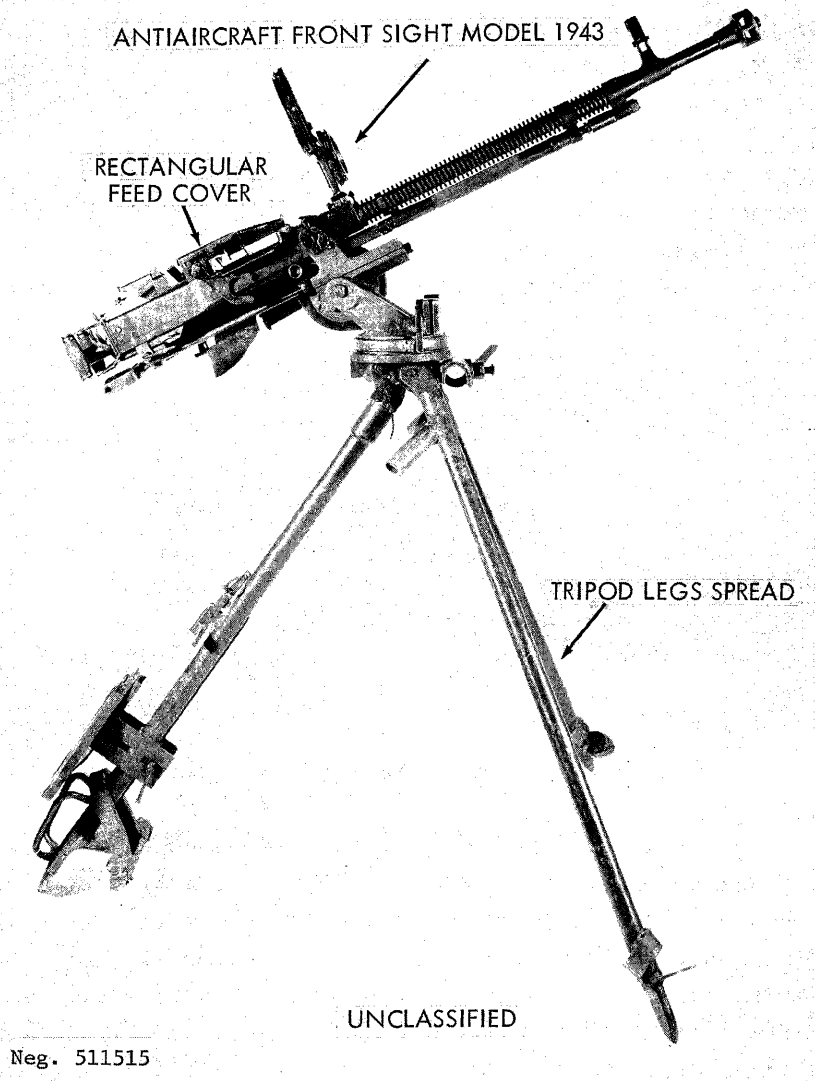
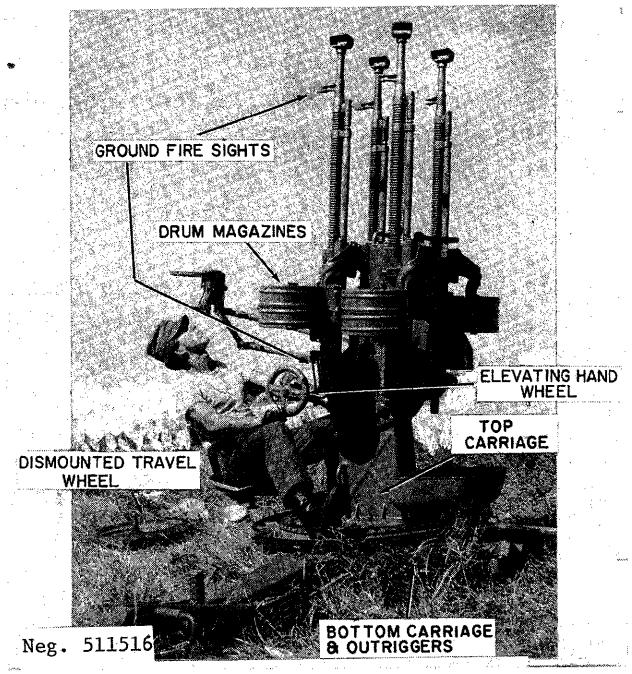


Figure 216. Model 38/46 (DShKM) heavy machinegun in AA position.



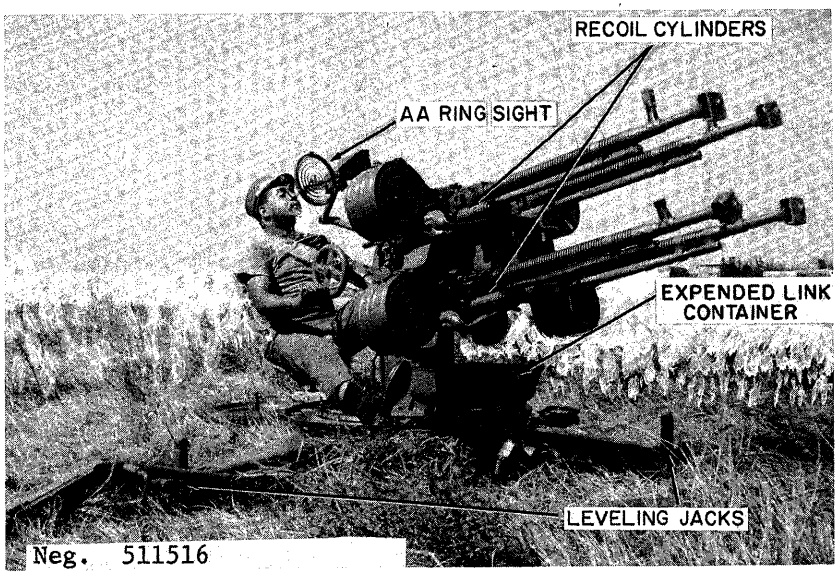


Figure 217. Quad mounted M38/46 heavy machinegun.

229. Technical Data

Technical data concerning the 12.7-mm Degtyarev heavy machineguns will be found in table X.

230. Operation

a. Load the metallic link belt by pressing a cartridge into each link until the tab on the link snaps into the rim of the cartridge. Place the loaded belt into an ammunition box so that the open side of the top layer faces down. The M38 and M38/46 belts are not interchangeable.

b. Mount the gun on the tripod, using the technique described in paragraph 233b.

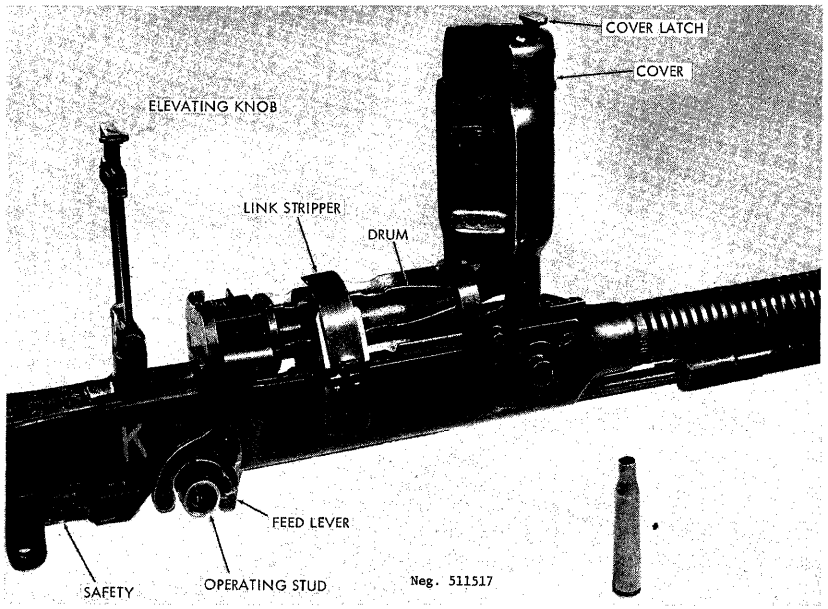


Figure 218. DShK-38 receiver details.

c. To load the DShK-38 rotary feeder, press the cover latch and open the cover (fig 218). Slip the link stripper into the first link, and place the first cartridge in the belt into the topmost compartment of the drum. Grasp the end of the belt with the right hand; with the left hand, press the belt against the drum; then sharply jerk the belt to the right and down so that the drum and cartridges will rotate as far as possible. Close the cover.

d. To load the Model 38/46 feeder, insert the belt into the feeder, and with a vigorous jerk on the lead tab, seat the first cartridge in position to be fed.

e. Pull the operating handle (fig 215) fully rearward; then thrust it forward.

CAUTION: The gun is now ready to fire!

If the gun is not to be fired immediately, rotate the safety (fig 218) forward.

f. The sights are similar to those of the Goryunov machinegun. Refer to paragraph 217d for the method of operating the sight. The 12.7-mm sight has only one scale on it.

g. To fire the machinegun, rotate the safety rearward; then, using a normal sight picture, aim, and squeeze the trigger (fig 215). The bolt will remain closed on an empty chamber when the last round has been fired.

h. To unload or clear, set the safety to the safe position (forward), open the cover, and remove the belt. On the DShK-38, also lift the drum and remove all cartridges from the drum by rotating it until it is empty. Inspect to insure that no cartridges are

present in the feeder, chamber, or receiver. Close all covers, rotate the safety to the rear, pull the operating handle to the rear, and while holding the handle, press the trigger and ease the bolt forward. Lower the rear sight.

i. If necessary, adjust the gas regulator in the same manner as for the Degtyarev light machinegun (para 175j). The 12.7-mm regulator is marked "3," "4," and "5."

231. Disassembly and Assembly

a. To disassemble the weapon:

(1) Clear the gun, but leave the feed cover or drum open.

(2) Press out the cross pin at the rear of the receiver; drive the backplate upward until it separates from the receiver.

(3) Drive the sear mechanism to the rear and remove it.

(4) Grasp the knurled gas piston tube under the barrel and force it as far forward as possible; then turn it clockwise to disengage it from the barrel.

(5) Pull the operating stud (fig 218) to the rear and remove the gas piston, bolt, slide, gas piston tube, etc. Lift the bolt off the slide and remove the firing pin and the locking flaps.

(6) On the Model 38/46 only, unscrew the nut at the top front of the receiver and remove the barrel lock to the side. Pull the barrel forward, out of the receiver.

(7) No further disassembly is necessary or desirable.

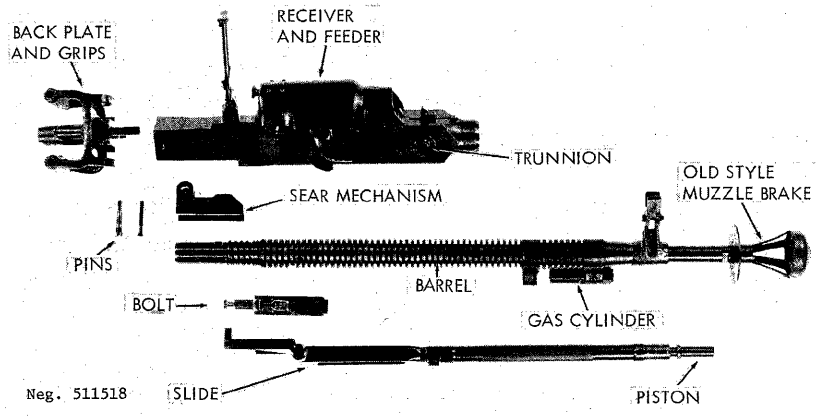


Figure 219. DShK-38 field stripped.

b. To reassemble:

(1) Place the firing pin into the bolt and the locking flaps onto the bolt. Place the assembled bolt on the slide, shove it as far forward as possible, and when the flaps lie flush against the bolt, insert the entire unit into the receiver.

(2) Pull the gas piston tube forward and turn it to reengage it with the barrel.

(3) Slide the sear mechanism back into the receiver; slide the backplate down on the receiver. Install the takedown pin, close all covers, and lower the rear sight. Be sure that the feed operating lever is pushed forward before closing the feeder.

(4) Replace the Model 38/46 barrel, barrel lock and nut.

232. Functioning

a. The basic operation of the breech mechanism is identical to that of the DP machinegun (paras 177b and c).

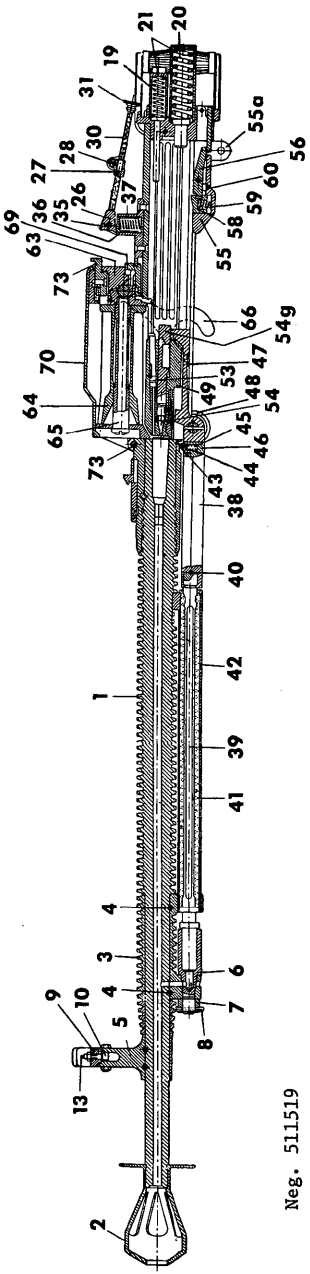
b. The trigger mechanism, however, differs from that of the DP. When the trigger is pressed, it pivots and raises the trigger release lever (56, fig 220). This lever pivots and depresses the sear (58, fig 220) to release the slide.

c. When rotated to the safe position, the safety (60, fig 220) blocks the trigger release lever.

d. The recoiling slide actuates a belt feed lever (66, fig 220). On the DShK-38, this lever causes the drum to rotate; on the 38/46, it causes the feed slide to move back and forth. This action is brought about by suitable levers and linkages.

233. Mounts

a. The DShK-38 and the Model 38/46 heavy machineguns are mounted on the Model 1938 mount (figs 215 and 216). This wheeled mount is used for ground fire and can be readily converted for antiaircraft fire (fig 216). A large flat armored shield is occasionally used to protect the crew when the gun is used in its ground role. Like all Soviet heavy machinegun mounts, it has a coarse free traverse and elevation movement, with a fine adjustment on the elevation movement only. Some late PRC mounts are tripods only and have no wheels.



1. Barrel
2. Muzzle brake
3. Cooling flange
4. Rctaining pins
5. Front sight base
6. Gas regulator
7. Gas regulator nut
8. Cotter pin
9. Front sight guard
10. Front sight guard base bolt
11. Front sight
19. Bolt buffer spring
20. Barrel extension/locking frame buffer spring
21. Spring housings
26. Rear sight housing
27. Rear sight slide
28. Rear sight
30. Rear sight leaf
31. Rear sight clevation knob
35. Rear sight leaf retaining pin
36. Rear sight spring
37. Rear sight spring cap
38. Slide
39. Gas piston rod
40. Dowel pin
41. Gas piston rod spring
42. Gas cylinder tubc
43. Roller
44. Roller press
45. Roller press spring
46. Container base
47. Sear notch
48. Opcrating handle
49. Bolt
53. Jector
54. Firing pin
54g. Firing pin housing
55. Trigger housing
55a. Ear
56. Trigger release lever
58. Sear
59. Sear spring
60. Safety
63. Receiver base
64. Knob
65. Knob shaft
66. Feed lever
69. Feed basc catch
70. Feed cover
71. Feed cover catch
73. Feed cover bolt

Figure 220. DShK-38 section.

b. To mount the gun, open the trunnion caps by loosening the cap wingnuts and swing the caps open. Place the gun trunnions (fig 219) into their seats, close the trunnion caps, and tighten the wingnuts. Place the rear end of the receiver into the mount and secure it with the mounting pin.

c. The elevating lock lever clamps the gun at any desired elevation, and fine adjustments are made with the fine elevating knob. Except for antiaircraft use, never fire the 12.7-mm guns unless the elevating lock lever is tightened down.

d. The traversing lock lever is located at the junction of the upper and lower mounts. Normally it should be tightened for ground fire.

e. To convert the mount for antiaircraft fire, dismount the gun (reverse instruction in b above), loosen the shield clamps, and remove the shield. Loosen the axle bracket clamp and remove the wheels and axle. Loosen the clamp halfway along the legs, and lift the mount so that the legs are perpendicular to the ground. Swing the middle leg to the rear and open the outer legs. Lock the middle leg so that the upper mount will rotate on a horizontal plane, and reinstall the gun. A shoulder brace can be installed on the dovetail above the fine elevating knob, and the antiaircraft sight (fig 221) can be slid into the dovetail cut in the receiver.

CAUTION: The use of this weapon for antiaircraft defense is not recommended because of the training required to develop a competent gun crew for this type of firing.

f. The ammunition box fits into a holder on the left side of the gun.

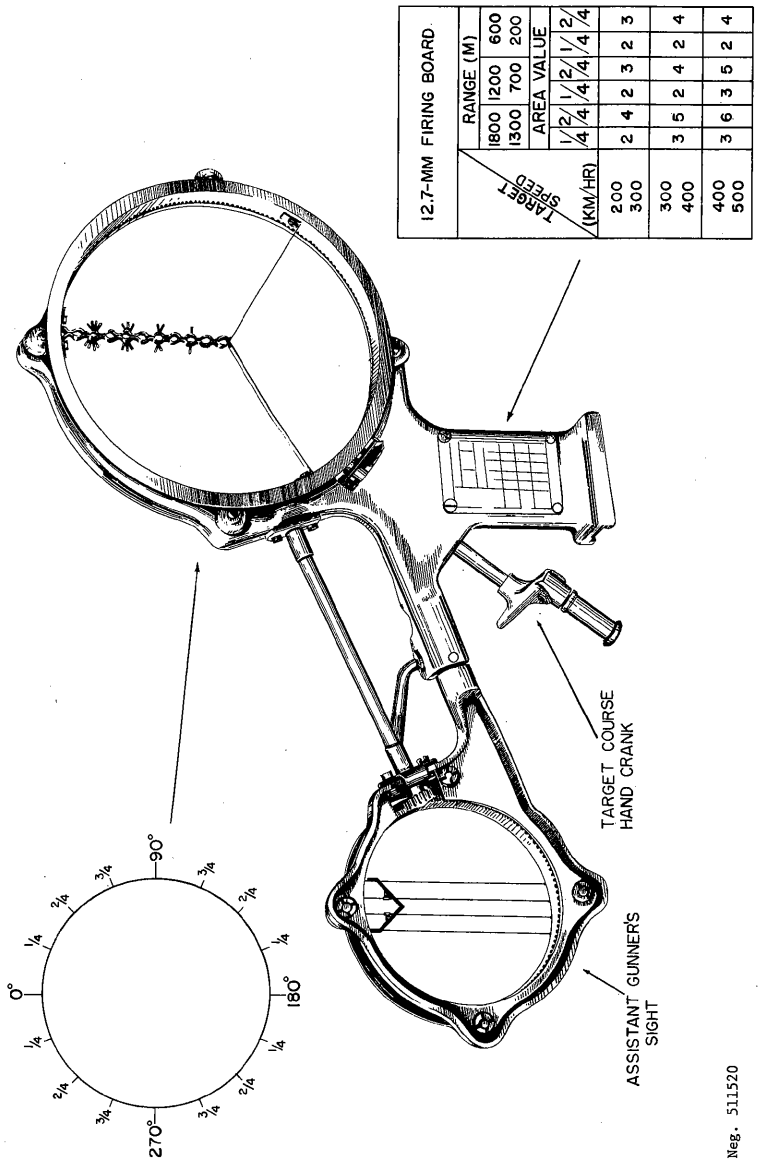


Figure 221. M1943 antiaircraft sight.

234. Accessories

a. The same general type of accessories used with the Goryunov heavy machinegun are used with the 12.7-mm Degtyarev heavy machinegun (para 221).

b. The Model 1943 antiaircraft sight (figs 216 and 221) is a computing sight. When the assistant gunner turns the target course hand crank to rotate his sight to conform with the apparent course of the target airplane, a gear drive rotates the main sight to provide correct deflection. By sighting through the AA peep sight and using the correct marker on the main ring, the plane can be correctly lead during fire.

N. MAINTENANCE

235. Care and Cleaning

The procedures and materials prescribed for cleaning standard US Army gas-operated machineguns also apply to Eurasian Communist country machineguns. These weapons should be disassembled only to the extent necessary for adequate cleaning, in order to prevent breakage and subsequent loss of use. No repairs should be attempted on foreign machineguns other than replacement of parts, and this should be done only by a competent armorer.

236. Malfunctions and Stoppages

See table IX for common malfunctions and their remedies. Malfunctions caused by broken or worn parts can be corrected by replacing the defective part with a serviceable one. This should be done only by a competent armorer, and the repaired weapon must then be function test fired.

Table IX. Machinegun Malfunctions

Condition	Cause	Remedy
Fails to fire (cartridge in chamber)	Defective cartridge	Retract bolt and fire
	Weak driving spring	Replace spring
	Fouled weapon	Clean and lubricate
Fails to fire (no cartridge in chamber)	Defective magazine	Replace magazine
	Short recoil	Adjust gas regulator to next larger setting
	Short recoil	Clean and lubricate
Ruptured cartridge (repeatedly)	Excessive headspace, loose barrel, worn bolt	Adjust (may require armorer's repair)
Fails to extract	Dirty chamber	Clean
	Broken extractor	Replace extractor
Fails to eject	Fouled weapon	Clean and lubricate
	Short recoil	Adjust gas regulator
Runaway gun	Short recoil	Adjust gas regulator, lubricate

Table X. Machinegun

Weapon	Kalashnikov Squad LMG	Vzor 52 and 52/57 LMG	Degtyarev LMG	Degtyarev Company MG	Degtyarev Squad LMG	Type 67
Short name	RPK	Vz52 and Vz 52/57	DP and DPM	RP-46	RPD	Type 67
Caliber (mm)	7.62	7.62	7.62	7.62	7.62	7.62
Length (in)	40.75	41.1	50	50.5	40.8	45.0
Weight, empty (lb)	11.1	18.2	20	28.7	15.6	21.8
Barrel length (in)	24	21.5	23.8	23.9	20.5	23.5
Barrel change	No	Yes	Yes	Yes	No	Yes
Feed device	Box or drum	Box or belt	Pan	Belt[1]	Belt	Belt
Capacity (rd)	Box, 40; drum, 75	Box, 25; belt, 100	47	250	100	100
Operation	Gas	Gas	Gas	Gas	Gas	Gas
Lock feature	Rotary bolt	Tilting bolt	Pivoting flaps	Pivoting flaps	Pivoting flaps	Tilting bolt
Fire-type	Selective	Selective	Automatic	Automatic	Automatic	Automatic
Muzzle velocity (m/sec)	735	745 (M52)	840	840	735	835
Practical range (m)	800	800	800	800	800	800
Rate of fire, practical (rpm)	Semiauto-matic 50; Full auto-matic, 150	Belt, 300; box, 125	80	250	150	150
Rate of fire, cyclic (rpm)	600	900 to 1100	600	600	650 to 750	600 to 700
Mount-type	Bipod	Bipod or tripod	Bipod	Bipod	Bipod	Bipod or tripod

[1] 47-rd DP drums can be used if feeder is removed.
[2] Gun only, SGM.
[3] Gun only.
[4] PKS w/mount: 49.9.
[5] PKS w/mount: 36.3.
[6] 2B30: 20:0
[7] May be also mounted on a light tripod.

Technical Data

ZB26 ZB30	MG34	PK/PKS GP Machinegun	Vzor 59	Vzor 59L	Goryunov heavy MG	Degtyarev heavy MG
BRNO	MG34	PK, PKS	Vz59	Vz59L	SG-43, SG-43M, SGM, and SGMB	DShK-38 and Model 38/46 DShKM
7.92	7.92	7.62	7.62	7.62	7.62	12.7
46.0	48.2	45.7[4]	47.8	43.9	44.1[2]	62.5[3]
19.6[6]	26.4	19.8[5]	42.4	19	29.8	78.5
26.5	23.5	25.9	27.3	23.3	28.3	42.1
Yes	Yes	Yes	Yes	Yes	Yes	Yes (38/46 only
Box	Belt	Belt	Belt	Belt	Belt	Belt
20	50-rd section	100, 200, 250	50, 250	50	250	50
Gas	Recoil	Gas	Gas	Gas	Gas	Gas
Tilting bolt	Rotary bolt	Rotary bolt	Pivoting block	Pivoting block	Pivoting bolt	Pivoting flaps
Selective	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
755	755	825	830	810	800	860
700	550	1000	1000	1000	1000	2000
Semiauto-matic 50; Full auto-matic, 180	100-200	250	350	150	250	80
500	900	650	700 to 800	700 to 800	600 to 700	540 to 600
Bipod	Bipod[7]	Bipod or tripod	Tripod	Bipod	Tripod	Tripod

Section VI. AMMUNITION

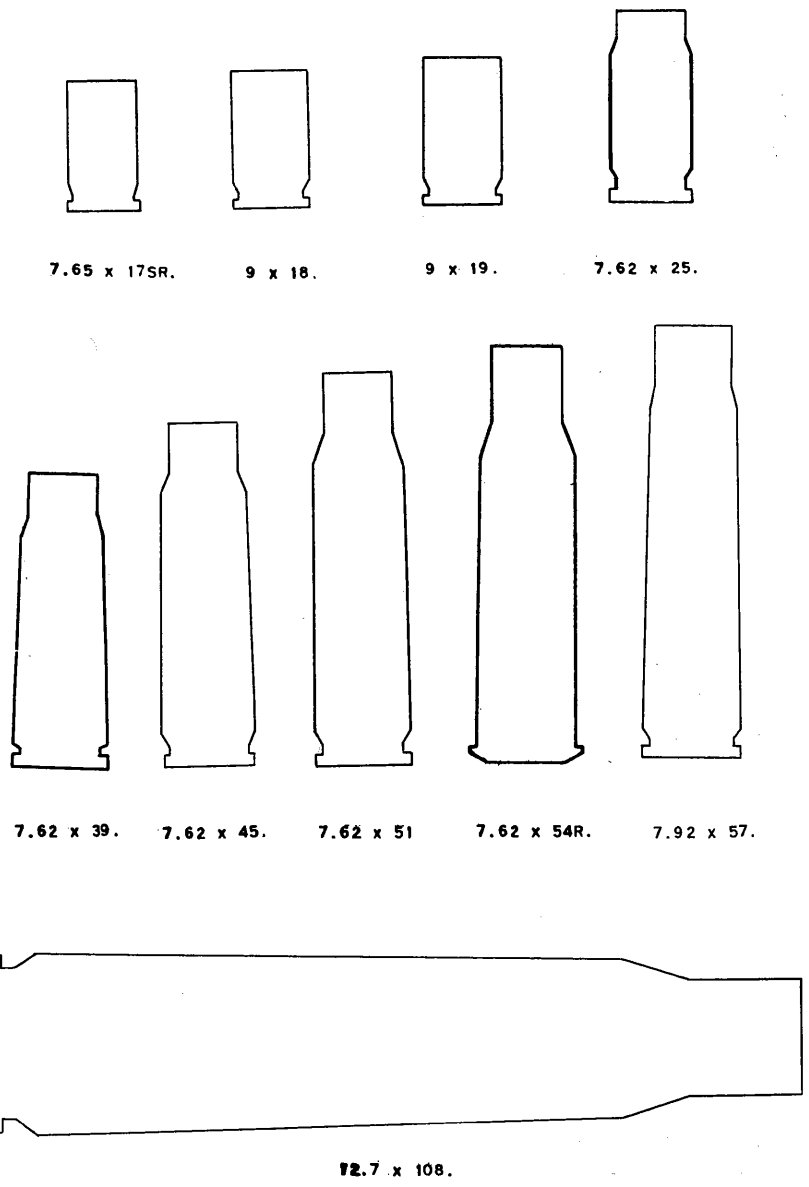
237. General

a. Communist ammunition is generally comparable to US Army ammunition in quality and reliability. Cartridge cases are fabricated from brass, copper-clad steel, or a green-lacquered steel; none of these production variants affects the use or interchangeability of specific types of ammunition. The ammunition used with Communist weapons can be identified by comparing a cartridge with the outline drawing (fig 222) contained in this section. Place the cartridge on top of the drawing and examine the fit between the drawing and cartridge. If a small uniform line of white shows between the case and the drawing, and if each line of the cartridge base is substantially parallel with its corresponding line on the drawing, the cartridge can reasonably be expected to be that identified with the drawing and will fit the weapons listed. Samples should be tested to assure functioning. Gas regulators should be set to the smallest setting that will permit reliable functioning.

b. Ammunition with rust, dents, or corrosion should not be used. Dirty or greasy ammunition should be wiped clean prior to loading. US and Communist 7.62-mm ammunition is not interchangeable; do not attempt to fire US ammunition in a Communist weapon.

238. Communist Color Codes

Communist ammunition is produced in a variety of types, and a standard color code is used throughout the Communist world to identify ammunition as to its function. This code is based upon the bullet tip color (table XI). Cartridges with the symbol Ш on their base should not be used except in Goryunov heavy machineguns.



Neg. 511521

Figure 222. Ammunition identification.

239. Identification of Cartridges

Five different 7.62-mm cartridges are currently used by the Eurasian Communists. They are:

(1) A pistol cartridge, the 7.62 x 25-mm round; the overall length is 1.36 inches.

(2) An intermediate cartridge, the 7.62- x 39-mm M1943 round; the overall length is 2.19 inches.

(3) A full-powered rimmed cartridge, the 7.62 x 54R-mm round; the overall length is 3.02 inches.

(4) A Czechoslovak 7.62 x 45-mm round used only in the M52 weapons; the overall length is 2.36 inches.

(5) The 7.62 x 51-mm NATO cartridge is used in export versions of the M59N machinegun; the overall length is 2.80 inches.

Table XI. Cartridge Color Codes

Cartridge	Bullet tip color	See Note
7.62 x 25-mm pistol ball Type P	None	4
7.62 x 25-mm pistol tracer Type PT	Green	
7.62 x 17SR pistol ball	None	5
9 x 18-mm Makarov pistol ball	None	
9 x 19-mm parabellum pistol ball	None	6
7.62 x 39-mm M43 ball Type PS	None	2
7.62 x 39-mm M43 tracer Type T-45	Green	2
7.62 x 39-mm M43 API Type BZ	Black and red	2,7
7.62 x 39-mm M43 incendiary-tracer Type Z	Red	2
7.62 x 45-mm M52 ball	None	3
7.62 x 45-mm M52 tracer	Green	3
7.62 x 54R ball Type L (light)	None	
7.62 x 54R ball Type D	Yellow	
7.62 x 54R ball Type LPS	Silver or White	
7.62 x 54R tracer Type T	Green	
7.62 x 54R tracer Type T-46	Green	
7.62 x 54R AP Type B-30	Black	
7.62 x 54R API Type B-32	Black and red	1
7.62 x 54R incendiary-ranging Type ZP	Red	
12.7 x 108-mm API-T Type BZT	Purple and red	
12.7 x 108-mm API Type B-32	Black and red	
12.7 x 108-mm AP Type B-30	Black	

[1]Used in emergency only.
[2]Used in assault rifles; SKS and Vz52/57 rifles; and RPD, RPK, and Vz52/57 light machineguns.
[3]Vz52 rifles and machineguns only.
[4]Do not use Czechoslovak-made ammunition in TT-33 pistols.
[5]Vz61 "Skorpion" pistol ammunition.
[6]Czechoslovak Vz23 and Vz25 submachineguns.
[7]PRC API bullet has black tip.

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Foreign Science and Technology Center
US Army Materiel Command
Department of the Army

13. ABSTRACT
This guide provides information on the identification, technical data, operation, disassembly and assembly, functioning, accessories, and ammunition of Eurasian Communist small arms.

DD FORM 1 NOV 65 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

UNCLASSIFIED
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14. KEY WORDS	LINK A ROLE	LINK A WT	LINK B ROLE	LINK B WT	LINK C ROLE	LINK C WT
Weapon						
Small arms						
Infantry weapon						
Pistol						
Rifle						
Submachinegun						
Machinegun						
Small arms ammunition						
Accessories						

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C305 18TH ABN CORPS

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D246 NAVWEPSLAB DAHLGRN
D700 MARCORPSDEV EDCOM
D559 NMEDFLDRCHLAB CLEJ
MARINE CORPS SUPPLY CENTER (1300)
Commanding General
Marine Corps Supply Center
Warehouse 1221, Section 5
Albany, Georgia 31704

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E046 AFIS/INFWA
E408 AFWL

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E436 AFSCC (SUR)
E451 AUL/LSE

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F300 USARAL

G005 CINCONAD

H005 USCINCEUR
H101 SOCEUR (J-3)
H101 USAFE 497RTG (IRC)
H300 USAICE (USAREUR)
H301 USA SCH EUR
H312 5TH PSYCHO OP BN
H320 66TH MI GP
H350 SF DET (ABN) EUROPE
H510 FICEUR
H524 HQ V CORPS
H525 HQ VII CORPS
H530 HQ 4TH ARMORED DIV
H526 HQ 3RD INF DIV
H527 HQ 8TH INF DIV
H528 1ST INF DIV (FWD)

J005 CINCLANT
J500 CINCLANTFLT
J502 COMSECONDFLT
J515 FICLANT
J517 COMPHIBLANT
J522 COMNAVBASE GTMO
J525 COMCARIBSEAFRON
J575 FMFLANT/FMFEUR

K005 CINCPAC (15)
K007 COMUSJAPAN
K010 COMUSKOREA
K019 COMUSSAG (3)
K016 COMUSMACTHAI (2)
K020 COMUSTDC

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K300 USARPAC (5)
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K500 CINCPACFLT
K515 COMSEVENTHFLT
K516 FIRST MAF
K603 THIRDMAW
K605 FMFPAC
K612 THIRDMARDIV
K650 COMPHIBPAC
K601 FIRSTMAW

L040 SAC 544TH ARTW

ARMY MATERIEL COMMAND

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AMXAA (5)
SMUFA-S3000-FIO
SMUPA-FIO
AMSWE-RDI
SWEWV-RD-FIO
STEAP-IN-F
AMXBR-XA-FI
STEBC-MA-A
STEWS-TE-PO
STEYP-SID
STEAP-TL
USAFSTC:
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AMXST-IS3 (3000)
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AMXST-SR (3)
AMXST-CR
AMXST-FS (2)
AMXST-ST2 (5)
AMXST-ST3 (5)
AMXST-IS1

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