SERVICE MANUAL

7.62-mm Kalashnikov Rifle (AK)

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GENERAL INFORMATION

PURPOSES AND CHARACTERISTICS OF THE AUTOMATIC RIFLE

The 7.62-mm Kalashnikov automatic rifle (AK) (fig. 1) is a powerful individual automatic weapon designed to destroy enemy personnel at short distances.

The rifle can be employed for both semiautomatic and automatic fire. The rifle is designed basically for full automatic fire.

When firing automatic fire in short bursts, the rifle is capable of destroying collective and individual targets at ranges of up to 500 meters. The rifle can be fired most effectively at ranges of up to 300 meters.

In firing the rifle on semiautomatic fire, best results are obtained at ranges of up to 400 meters. Well-trained riflemen can fire aimed semiautomatic fire at ranges of up to 600 meters. The bullet retains a lethal effect at ranges of up to 1500 meters.

Deliverable rate of fire:

--90 to 100 rounds per minute in short bursts;
--up to 40 rounds per minute in semiautomatic fire.

The rifle fires 7.62-mm rounds M1943.

The principal characteristics of the automatic rifle are listed in table form in Appendix I.

BRIEF DESCRIPTION OF THE CONSTRUCTION OF THE AUTOMATIC RIFLE

The 7.62-mm Kalashnikov automatic rifle is a gas-operated weapon, in which the gas is channeled through a special port in the stationary barrel and reacts on a piston.

The bore is sealed by rotation of the bolt and engagement of the bolt locking lugs with locking lugs on the receiver.

The rifle is fed from a curved box magazine with a capacity of 30 rounds.

The rear sight is of the curved ramp type, and is designed for fire of up to 800 meters.

The firing mechanism is of the hammer type, and is actuated by means of a spring. The rifle is equipped with a selector for changing from semiautomatic fire to full automatic and the reverse. The selector also acts as a safety.

The rifle is provided with either a wooden or a folding metal stock. In the traveling position, in movement on skis, and in parachute jumps, the metal stock is folded beneath the receiver (fig. 2). As a rule, the rifle is fired with the stock unfolded; however, if time does not permit the unfolding of the stock, the rifle may be fired with the stock folded.

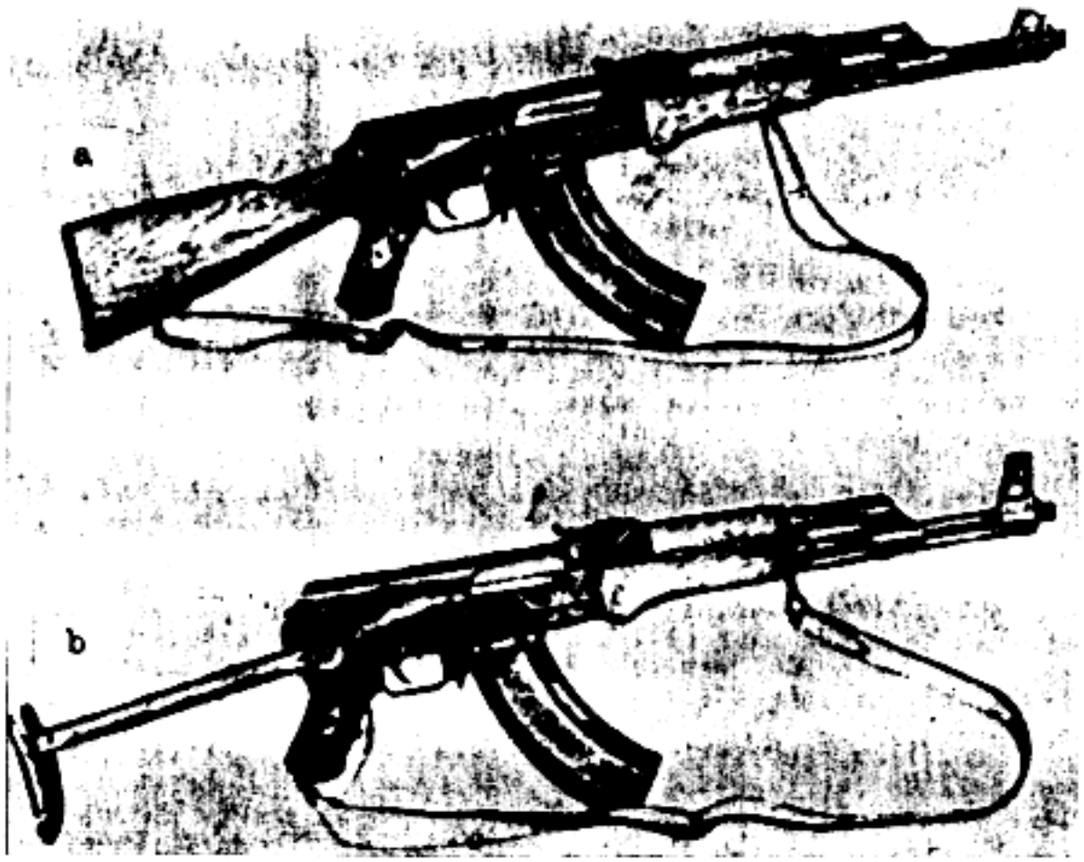

Figure 1. General view of the Kalashnikov automatic rifle.

a. With wooden stock.
b. With folding metal stock.

Figure 2. Kalashnikov automatic rifle with folding metal stock in folded position.

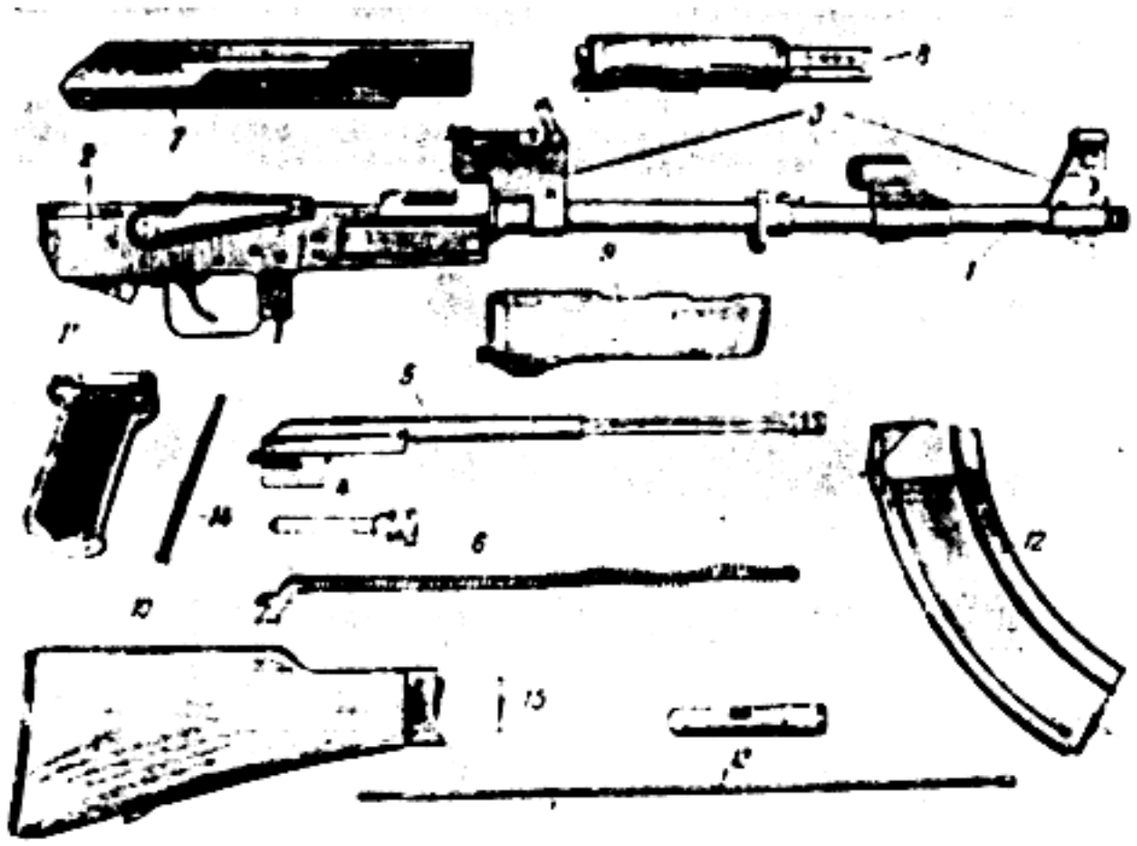

Figure 3. Principal parts of the Kalashnikov automatic rifle.

1 - barrel (1-10); 2 - receiver (assy. 1-1); 3 - sights; 4 - bolt (assy. 3-2); 5 - operating rod (assy. 3-1); 6 - return mechanism (assy. 4); 7 - receiver cover (0-1); 8 - gas tube and hand guard (assy. 1-12); 9 - fore end (assy. 6); 10 - stock (assy. 5); 11 - pistol grip (assy. 8); 12 - magazine (assy. 7); 13 - cleaning rod and accessory case; 14 - pistol grip screw (0-19); 15 - stock pin.

PART ONE

CONSTRUCTION, FUNCTIONING, DISASSEMBLY, ASSEMBLY, AND INSPECTION ON THE AUTOMATIC RIFLE

CHAPTER 1

PARTS AND MECHANISMS OF THE AUTOMATIC RIFLE

The 7.62-mm Kalashnikov automatic rifle consists of the following principal parts and mechanisms (fig.3)*: barrel (1), receiver (2), sights (3), bolt (4), operating rod (5), return mechanism (6), firing and trigger mechanisms, receiver cover (7), gas tube (8) with hand guard, fore end (9), stock (10), with pin (15), pistol grip (11) with screw (14), and magazine (12).

In addition, the rifle is provided with accessories (13) for cleaning and lubricating, disassembly and assembly.

1. BARREL

The barrel (fig.4) serves to direct the flight of the bullet. To the barrel are attached the barrel bushing (1), the front sight base (2), the gas cylinder (3), the fore end band (4), and the rear sight base (5).

The barrel is provided with exterior threads (6) for installing the device for firing blank cartridges; there are cylindrical portions for the front sight base, the gas cylinder, the fore end band, and the rear sight base. A shoulder (7) serves as a support for the barrel when inserted into the receiver. At the rear of the barrel there is a reinforced section (8) over the chamber, and a thread (9) for the receiver.

On the cylindrical portions of the barrel for the front sight base, the gas cylinder and rear sight base, there are semicircular recesses (10, 11 and 12) for pins; on the cylindrical portion for the fore end band there is a semicircular recess (13) for the fore end band lock.

The interior of the barrel consists of the bore, made up of the chamber (14) and the rifled portion (15).

The chamber is connected to the rifled protion by means of a passage (16) which assures smooth engagement of the bullet with the rifling. On the breech face of the chamber there is a

*The following description is of the model with wooden stock. Differences between this model and the model with metal stock are noted later.

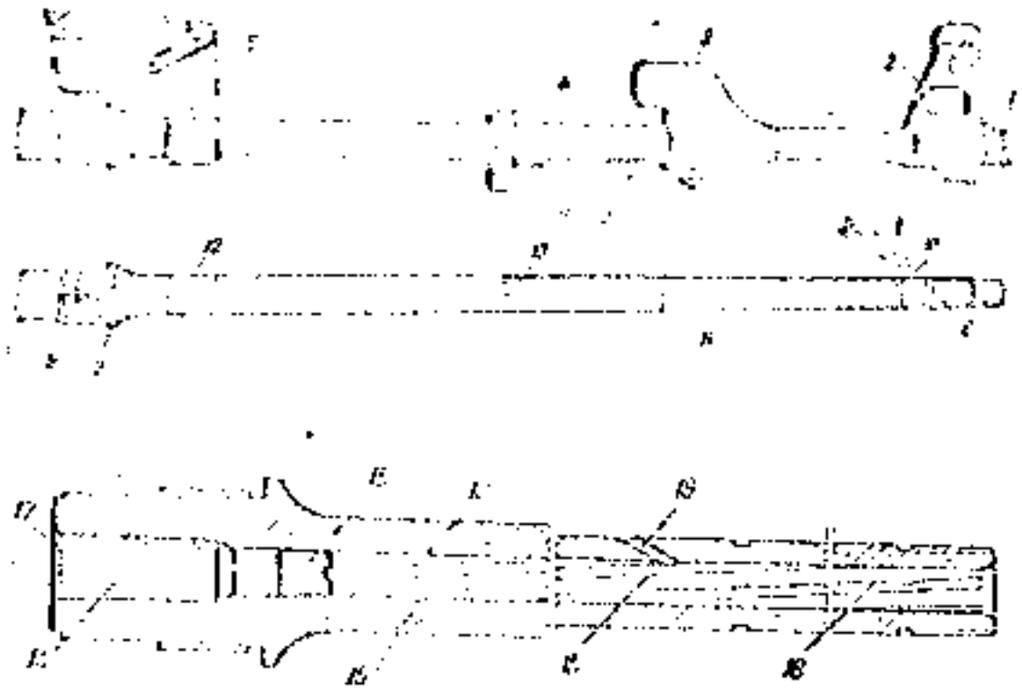

Figure 4. Barrel (A - overall view; B - section).

1 - barrel bushing (0-14); 2 - front sight base (1-30); 3 - gas cylinder (1-29); 4 - fore end band (assy. 1-11); 5 - rear sight base (1-21); 6 - thread for device for firing blank cartridges; 7 - supporting shoulder for barrel; 8 - barrel reinforce; 9 - thread for connecting barrel to receiver; 10 - semicircular recesses for front sight base pins; 11 - semicircular recesses for gas cylinder pins; 12 - semicircular recesses for rear sight base pins; 13 - semicircular recess for fore end band lock; 14 - chamber; 15 - rifled portion; 16 - passage; 17 - bevel; 18 - rifling; 19 - gas port.

ramp (17) for guiding the bullet into the chamber. The rifled portion of the bore has four grooves (18), which originate at the left and continue in a counterclockwise direction. The grooves serve to impart rotary motion to the bullet.

The portions between the grooves are called the lands. The distance between two opposite lands is called the caliber, and is equal to 7.62-mm. In the central portion of the barrel there is a gas port (19) for passing a portion of the gases into the gas cylinder.

The barrel bushing (fig.5) serves to protect the threads on which the device for firing blank cartridges is installed. On the exterior of the barrel bushing there is a shoulder (1) with four recesses (2) for the lock; there are also a circular groove (3) and two recesses (4). The grooves and recesses are designed to hold the hand guard when the bore is being cleaned. The barrel bushing is provided with interior threads (5) for installation on the muzzle.

The barrel bushing lock (fig.6) is located in a recess in the front sight base and consists of a lock (1), spring (2), and pin (3).

The forward edge of the lock enters one of the recesses in the barrel bushing shoulder when the bushing is installed on the barrel, thus preventing the barrel bushing from coming loose.

The lock and spring are retained in the front sight by means of a pin which enters recess (4) of the lock.

The gas cylinder (fig.7) serves to direct the gases which are passed from the bore to the piston.

On the upper portion of the gas cylinder there is a circular edge (1) for fastening the gas pipe to the hand guard; and on the lower portion there are two ports (2) for pins, and a lug (3) for the cleaning rod.

The interior of the gas cylinder is provided with a cylinder (4) into which the gases pass from the bore by means of a gas port (5). Bevel (6) on the forward face of the gas cylinder serves to guide the piston into the gas cylinder, thus preventing the piston from jamming against the face of the gas cylinder.

The gas cylinder fits on the barrel very tightly, and is locked by two pins (7).

Fore end band (fig.8) serves to lock the fore end to the barrel. It has rims (1) for the forward end of the fore end; lug (2) with port (3) for lock; forward swivel (4) for the sling; port (5) for the cleaning rod; notch (6) for the lock lever when the stop ring is locked on the barrel. Lock (7) serves to lock the fore end band on the barrel. It is provided with a lever (8) and recess (9).

Figure 5. Barrel bushing (0-14).

1 - shoulder; 2 - recess; 3 - circular groove; 4 - recesses; 5 - threads.

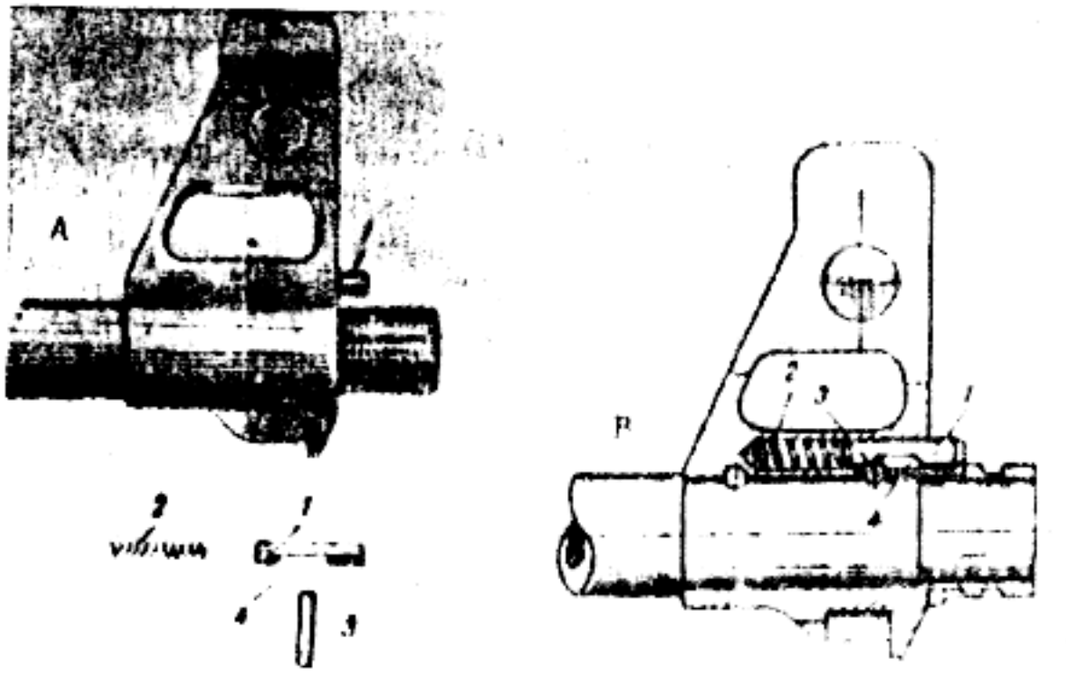

Figure 6. Barrel bushing lock.

A. Lock in assembled and disassembled views with barrel bushing removed.
B. Sectional view with bushing installed.

1 - lock (1-37); 2 - lock spring (1-38); 3 - pin; 4 - recess.

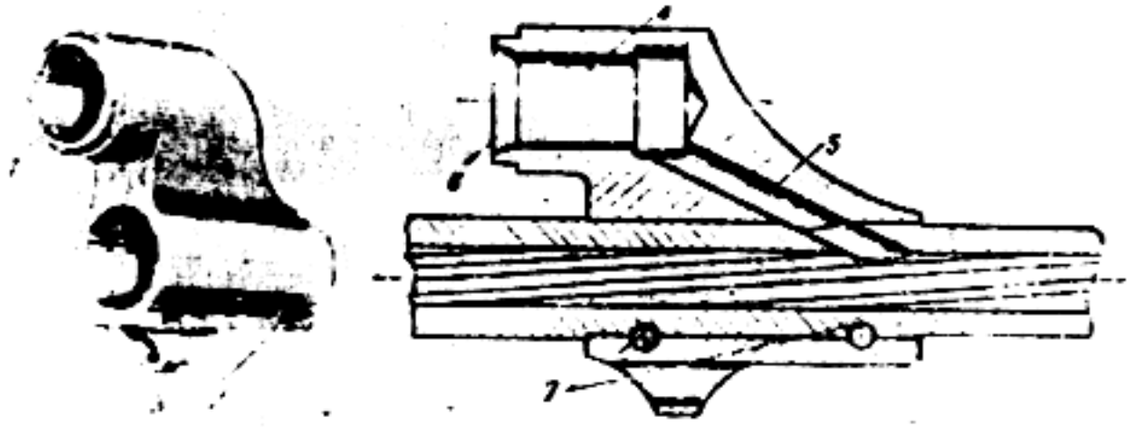

Figure 7. Gas cylinder (1-29). (Overall and sectional views)

1 - circular edge; 2 - ports for pins; 3 - lug for cleaning rod; 4 - cylinder; 5 - gas port; 6 - bevel for guiding piston; 7 - pins.

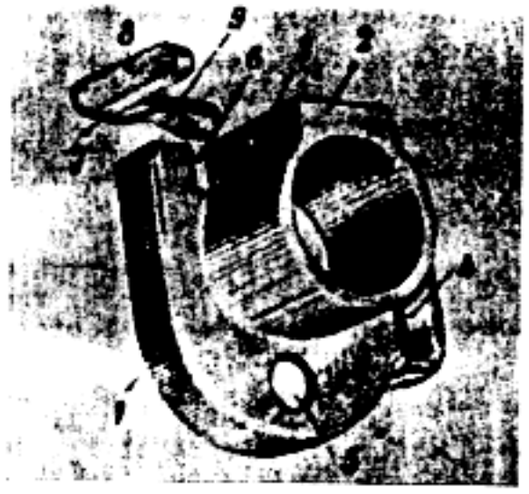

Figure 8. Fore end band with lock (assy. 1 -11).

1 - rims; 2 - lug; 3 - port for lock; 4 - forward swivel; 5 - port for cleaning rod; 6 - notch for lock lever; 7 - lock (1-28); 8 - lock lever; 9 - recess.

The fore end band is locked on the barrel when the lock lever is turned to the rear, and the round portion of the lock enters recess (13) in the barrel (see fig. 4). The fore end band can be moved along the barrel when the lever is moved forward and the lock recess is turned towards the barrel.

2. RECEIVER

The receiver (fig. 9) serves to connect the parts of the automatic rifle and to direct the motion of the bolt and the operating rod. On the top of the receiver there are guides (1) for guiding the operating rod. The guides are provided with recesses (2) for passing the bolt lugs and recesses (3) for passing the operating rod lugs when the operating rod and bolt are being connected to the receiver. The right guide is provided with a semicircular recess (4) and bevel (5) for preventing the cartridge cases from striking the receiver in extraction.

To the bottom of the receiver are fastened a safety bracket (6) and pistol grip base (7).

In addition, in the bottom of the receiver there is an opening (8) for the magazine, and an opening (9) for the trigger.

On the right wall of the receiver there is a lug (10) and a lug (11) for reinforcing the receiver wall; lug (12) for limiting the safety lever; recesses (13 and 14) for stopping the selector; opening (15) for installing the selector in the receiver (in the round portion of the opening is placed the right trunnion of the selector lever).

Near recess (13) are the letters AV, which correspond to the selector setting for automatic fire, and near recess (14) are the letters OD* which correspond to the selector setting for semiautomatic fire.

On the left wall of the receiver there is a lug (16) for reinforcing the upper portion of the receiver, an opening (17) for the left trunnion of selector lever. In the forward portion of the left wall of the receiver are the serial number of the automatic rifle and the name of the manufacturer.

In the right and left walls of the receiver there is an opening (18)for the hammer pin, opening (19) for the trigger pin, and opening (20) for the automatic trigger pin.

In the top portion of the receiver (fig. 10) there is a groove (21) for the rear portion of the rear sight base; lug (22) in which the left locking lug is formed; shoulder (23)

*The latin letters AV appear as Cyrillic АВ on the Soviet model, as 娱 on the Chicom model, and as latin L on the Chicom "export" model. The latin letters OD appear as Cyrillic ОД on the Soviet model, as 半 on the Chicom model, and as latin D on the Chicom "export" model.

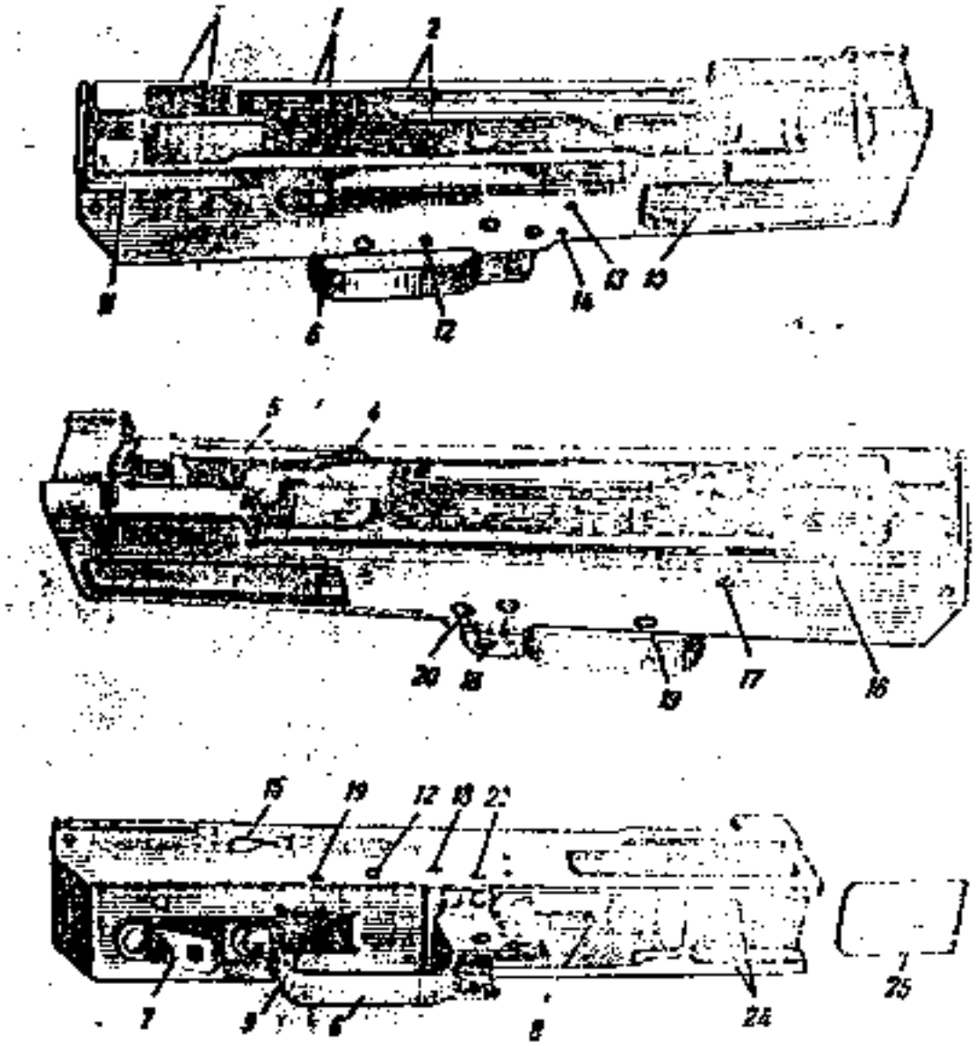

Figure 9. Receiver (assy. 1-11).

A. Right side; B. Left side; C. Bottom.

1 - guides; 2 - recesses for passing bolt lugs; 3 - recesses for passing operating rod lugs; 4 - semicircular recess; 5 - bevel; 6 - safety bracket; 7 - pistol grip base; 8 - magazine opening; 9 - trigger opening; 10, 11 - lugs for reinforcing receiver walls; 12 - lug for limiting the safety lever (1-20); 13, 14 - recesses for stopping the selector; 15 - opening for selector lever; 16 - lug for reinforcing upper portion of receiver; 17 - opening for left trunnion of selector lever; 18 - opening for hammer pin; 19 - opening for trigger pin; 20 - opening for full automatic sear; 24 - recess for fore end; 25 - cover (1-7).

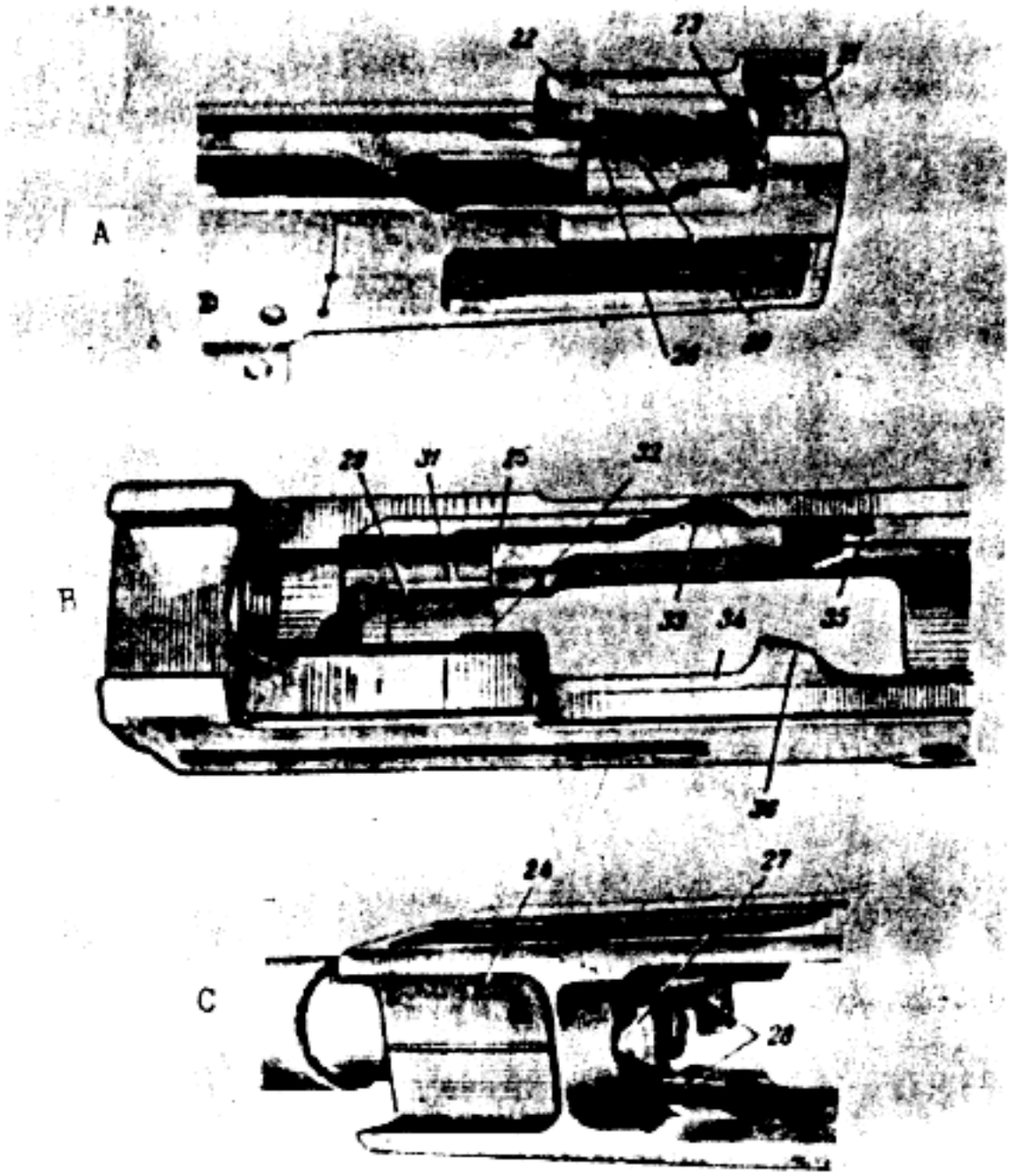

Figure 10. Forward portion of receiver.

A. Rifled side view; B. Left side view; C. Bottom.

21 - groove for the rear sight base; 22 - lug; 23 - shoulder for limiting motion of operating rod; 24 - recess for fore end; 25 - right locking lug; 26 - left locking lug; 27 - recess in which forward portion of magazine is attached; 28 - shoulders for limiting movement of magazine; 29 - cam surface (1-9); 30 - cam surface screw bevel; 31 - right edge of cam surface; 32 - cam surface guide end; 33 - right guide; 34 - left guide; 35 - groove for full automatic sear lever; 36 - extractor.

which limits the motion of the operating rod and absorbs blows of the operating rod when the latter moves to the extreme forward position.

In the forward portion the receiver is provided with a recess (24) with grooves for cover (25) (see fig. 9), which closes this recess.

Recess (24) forms a recess for holding the fore end. On the inside of the forward portion of the receiver there is thread for attaching the barrel; locking lugs (24 and 25) with which the bolt locking lugs engage when the bore is being sealed; recess (27) for holding the forward portion of the magazine; and shoulders (28), which limit the motion of the magazine upwards when it is being connected to the rifle, and cam surface (29), which is riveted to the receiver.

The cam surface serves to rotate the bolt a certain amount when the bore is being sealed, to limit rotation of the bolt at the end of its motion, and to guide the cartridge into the chamber.

On the cam surface there is a cam (30), which engages with the left locking lug of the bolt, for the purpose of preliminary rotation of the bolt when the bore is first being sealed.

At the end of the sealing action, rotation of the bolt is limited by the right edge (31) of the cam surface.

The edge (32) on the rear face of the cam surface guides the round into the chamber.

The interior of the receiver is provided with right guide (33) and left guide (34) for guiding the bolt. In the right guide there is a groove (35) for the upper portion of the full automatic sear lever, and in the left guide there is an extractor (36) for extracting the cartridge cases. In their forward portion, the guides have projections and a camming surface which serve to guide the cartridge as it leaves the flanges of the magazine, and semicircular recesses, which contain the central cylindrical portion of the bolt.

The receiver rear end (fig.11) is the back plate, which receives the blows from the operating rod as the latter moves to the extreme rear position.

In the upper portion of the back plate there is a groove (37) for holding the heel of the return spring guide tube and a groove (38) for the rear edge of the receiver cover; at the rear, there is a groove (39) for holding the stock and hole (40) for the stock pin.

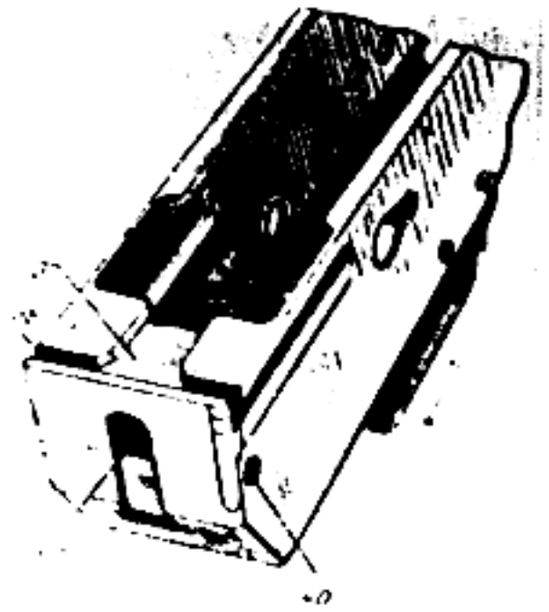

Figure 11. Rear end of receiver (back plate).

37 - groove for holding heel of guide tube; 38 - groove for rear end of receiver cover; 39 - groove for holding stock; 40 - hole for stock pin.

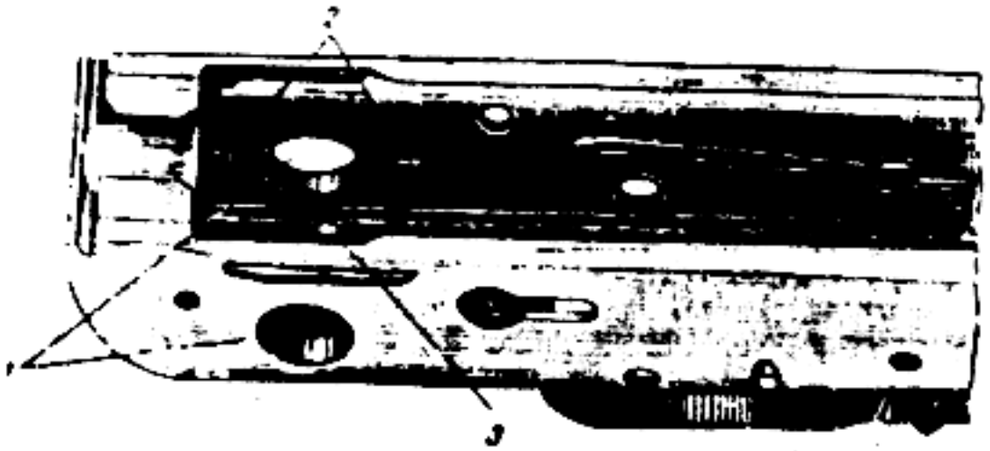

Figure 12. Rear portion of receiver of automatic rifle with folding metal stock.

1 - holes for stock pin; 2 - holes for stock catch; 3 - hole for more convenient removal of catch pin.

The receiver of the automatic rifle with folding metal stock (fig. 12) has holes (1) in the rear portion for the stock pin, holes (2) in the left wall for the stock catch, and holes (3) for convenient removal of the catch pin.

The magazine catch (fig. 13) with spring serves to hold the magazine in the receiver. It consists of a catch (1), spring (2) and pin (3).

On the catch there is a stop (4) and hole (5) for the pin.

The catch with spring is connected with the safety (trigger) guard by means of pin (3).

The upper edge of the catch is pressed forward by the spring, causing the end (6) to be engaged by the magazine stop to retain the magazine in the receiver.

There are also automatic rifles with stamped receiver (fig. 14). The stamped receiver has the following construction: An insert (1) is welded to the forward part of these receivers, and back plate (2) to the rear portion.

To the bottom of the receiver there are welded a safety (trigger) guard (3) and pistol grip base (4).

Inside the receiver there are welded guides, the upper edges of which serve as guides for the bolt, and the lower edges as a reinforcement for the receiver walls around the hole for the hammer pin.

The upper edges of the receiver are bent inward and form cam surfaces (6) for guiding the operating rod.

The insert of the stamped receiver (fig. 15) is provided with threads (1) for the barrel; shoulders (2 and 3); forward portion of bolt guides (5 and 6); extractor (7); groove (8) for the rear sight base; notch (9) for the fore end; recess (10) and shoulders (11) for holding the magazine.

The notch for the fore end is covered by the lower portion of the receiver wall.

The back plate of the stamped receiver (fig. 16) has a groove (1) for holding the heel of the return spring guide tube, groove (2) for rear edge of the receiver cover; recess (3) for holding the forward edge of the stock; two projections (4 and 5) with holes for holding the stock by means of screws.