



**SPECIAL PURPOSE ASSAULT  
MACHINEGUN 5.56×45**

**DESCRIPTIVE HANDBOOK**

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**Patent Pending**

## SPAM 5.56×45

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## I. TECHNICAL CHARACTERISTICS

### A) Ballistics:

Calibre . . . . .	5.56 × 45 (.233)
Rifling twist . . . . .	178 or 305 mm (7" or 12")
Muzzle velocity . . . . .	910 m/s (2,980 ft/s)
Muzzle energy . . . . .	1,660 J (1,224 ft · lb)
Rate of fire . . . . .	850 or 1,250 R.P.M.
Sight settings . . . . .	300 to 1,000 m

#### Performance with 7" twist barrel:

— Perforation of NATO plate . . . . .	605 m (1,985 ft)
— Perforation of US helmet . . . . .	1,300 m (4,265 ft)
— Perforation of FRG helmet . . . . .	1,100 m (3,640 ft)
— Lethal range . . . . .	1,650 m (5,400 ft)

### B) Structural:

#### Weights:

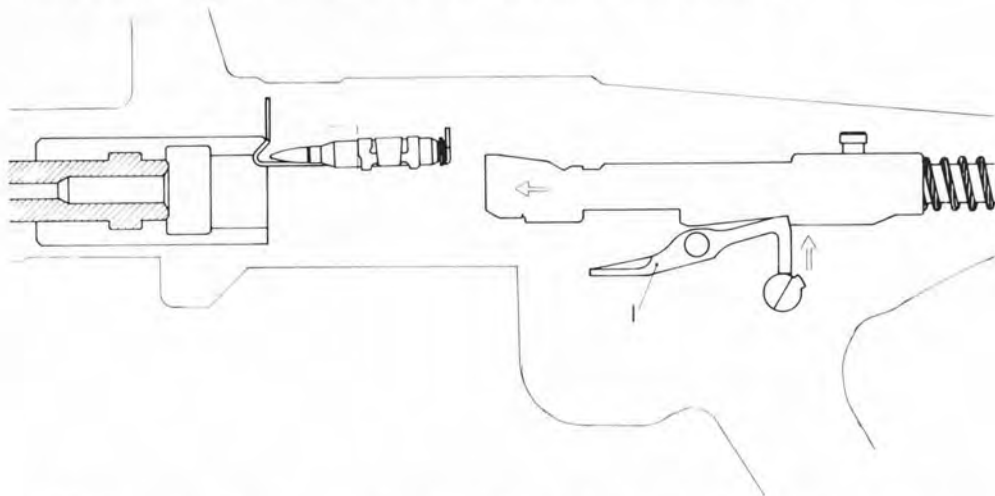
Weapon . . . . .	6.41 kg (13.56 lb)
Bipod . . . . .	0.53 kg (1.17 lb)
Spare barrel . . . . .	0.82 kg (1.82 lb)
Box with 200 rounds . . . . .	3.00 kg (1.37 lb)
Box with 100 rounds . . . . .	1.55 kg (0.71 lb)

#### Lengths:

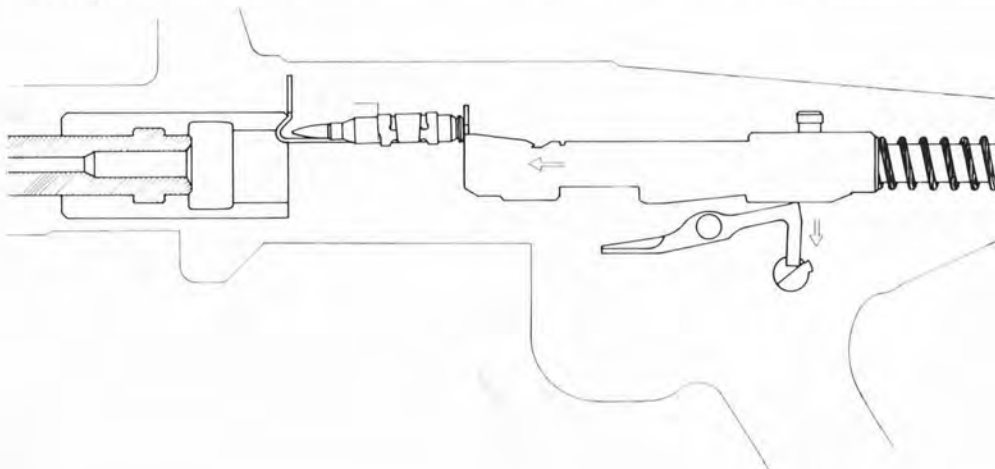
Overall . . . . .	0.97 m (38.20")
Barrel . . . . .	0.40 m (15.75")
Sight radius . . . . .	0.34 m (13.50")

## II. FUNCTIONING CYCLE OF THE CETME SPAM 5.56×45 mm

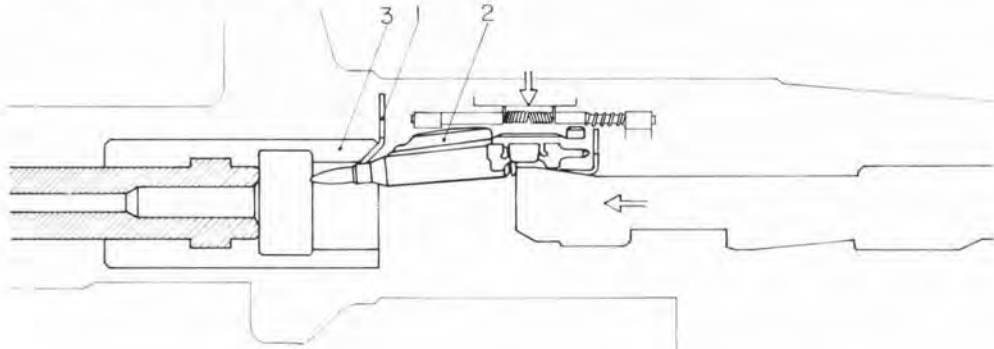
The automatic functioning of the weapon has the following steps:



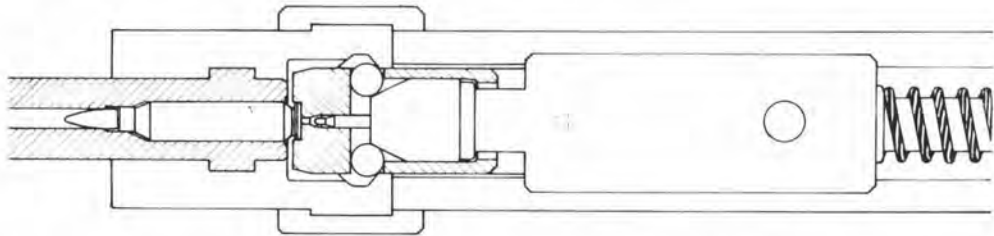
1. Machine gun is cocked, safety is off, cartridge belt locked in place. The sear 1 locks the bolt back. The cartridge belt is placed and locked in the feeding tray.



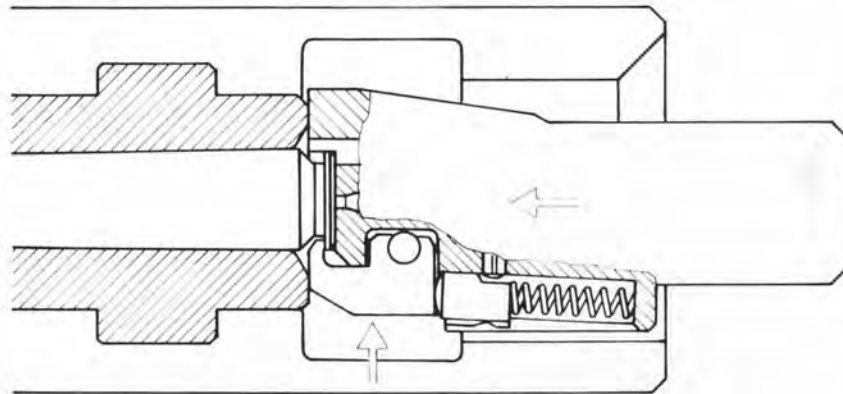
2. When the trigger is depressed, the sear is lowered and allows the bolt assembly to slide forward.



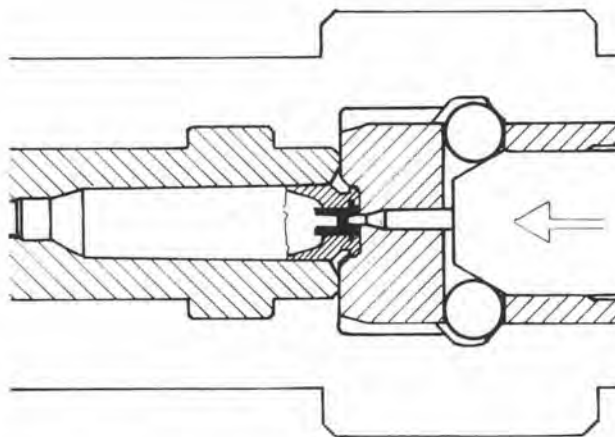
3. The bolt, traveling forward, pushes the cartridge out of the belt. The feeding ramp 1, the pressure plate 2 and the locking piece 3 guide the cartridge until it is introduced into the chamber.



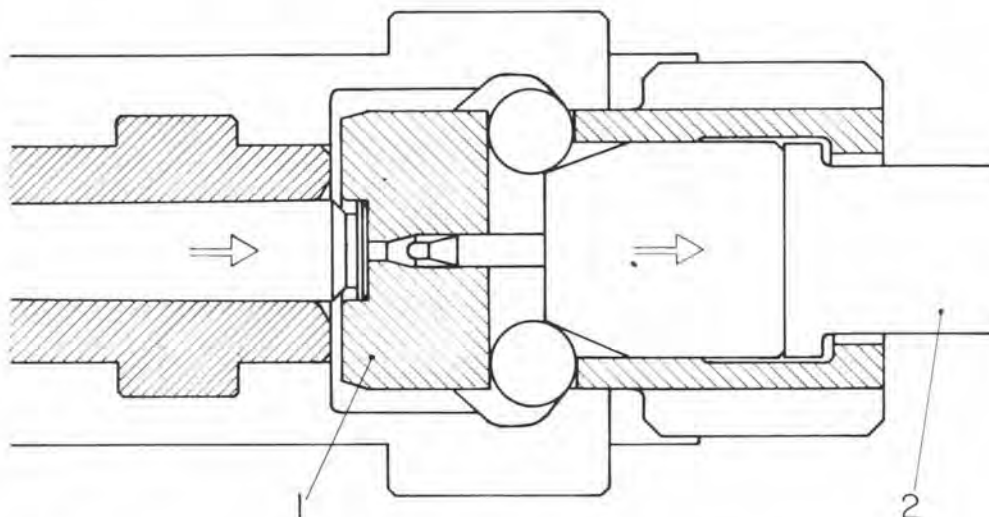
4. The locking rollers start to come out, pushed by the firing pin carrier and they lodge in the locking recess. The firing pin still does not protrude with premature ignition is avoided.



5. The lip of the extractor goes into the rim of the cartridge case.

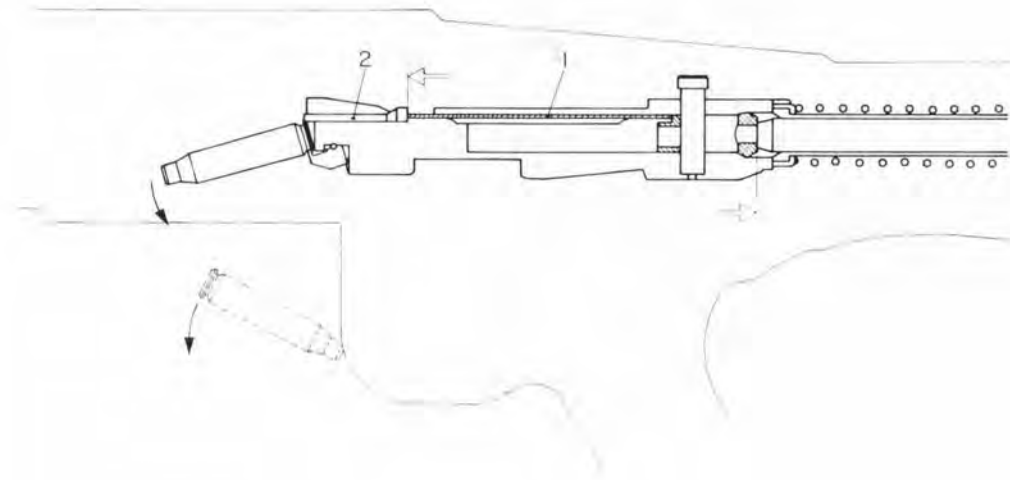


6. At the end of the forward travel of the bolt, when the rollers completely lock the assembly, the firing pin hits the primer, causing the powder to ignite.



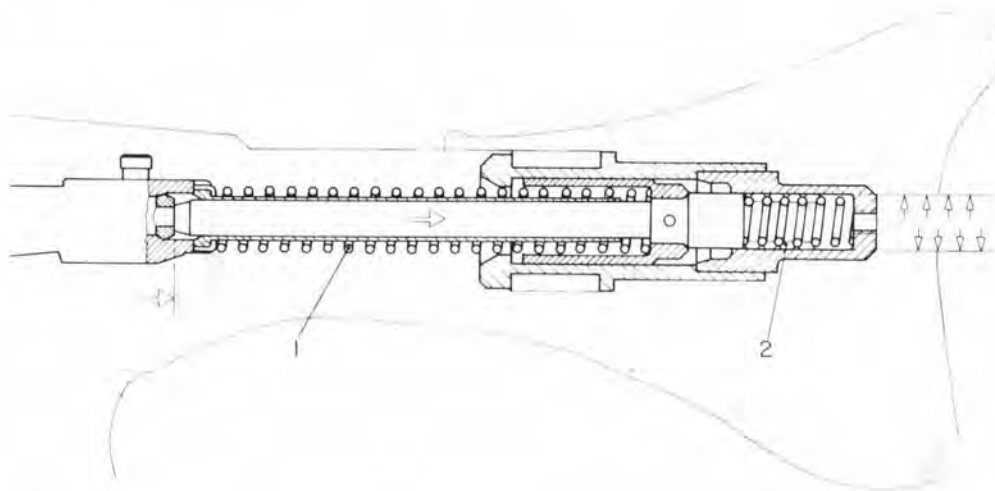
7. The cartridge case, due to the gas pressure, conforms into the chamber. When pressure drops, the gas which has passed by the flutes in the chamber unstick the cartridge case rearwards. The extractor does not extract the case, its mission is to hold the case in its position until it is ejected.

For each millimeter that the case pushes back the bolt head 1 the firing pin carrier and the heavy mass of the bolt body 2 will travel a larger distance. This system, of multiplying masses fictitiously, allows a great reduction of weight which is the reason why the CETME-SPAM is so light.



8. As the cartridge case goes rearwards, it faces the ejection chute, where it is expelled by the action of the ejection slide 1 tray and the ejector 2. The trajectory of the case is represented by dotted line.

A solid strike on the trigger guard will deform the case mouth, making it lose energy. The spent case will be ejected down and forward, avoiding accidents to the gunners.



9. The accumulated energy on the bolt compresses the recoil spring 1 and the surplus energy is dissipated in the buffer system 2.

10. The recoil spring throws the bolt forward and the cycle is renewed.



### III. OPERATION

Preparing the weapon for firing:



#### A) To cock the weapon:

1. Check that the safety 1 is in firing position F.
2. Pull 2 completely backwards until the bolt catches the sear; in this way the weapon is cocked.
3. Place the safety 1 in S (Safety) position.
4. Bring the cocking lever forward until its lip engages its slot in the receiver.

#### B) Insert the cartridge belt

Through the feed chute, insert the lead-in tab of the cartridge belt. Draw the tab through the exit chute 3 until the ammunition is locked in. This way, the weapon remains cocked, secured, and loaded.

#### IV. BARREL CHANGE



1. Pull back the sliding lock 4 and turn the barrel handle towards the right.



2. Push the barrel forward and then outward, pulling it back through the slot on the right side of the weapon.
3. Mount a new barrel following the procedure in reverse order.

## V. DISASSEMBLY

1. Verify that the bolt is in forward position.



2. Putting pressure on the button 5, with a cartridge or similar aid, withdraw stock.



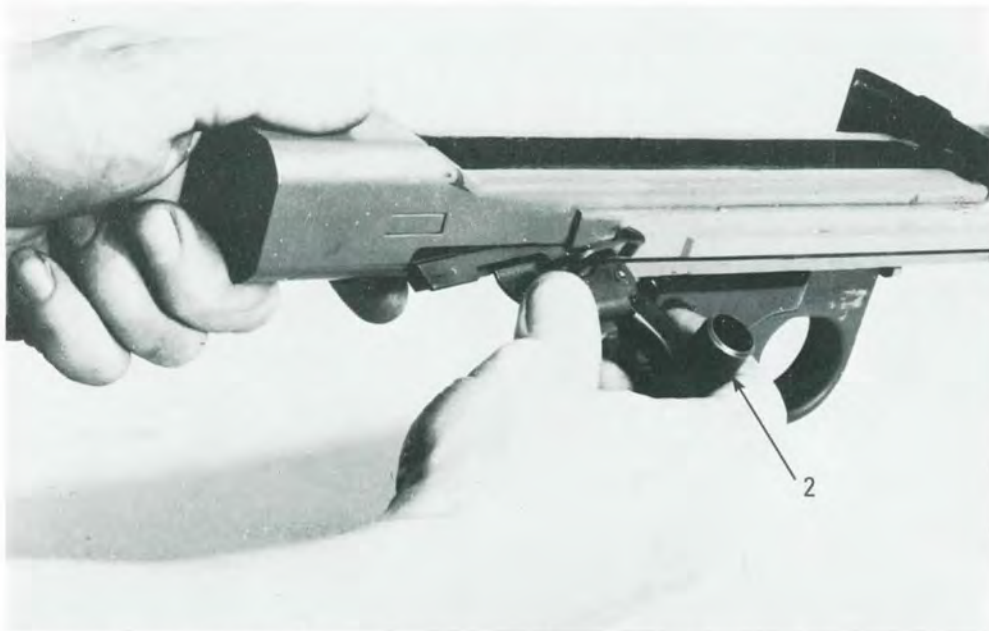
3. Driving the cover catch 6 forward, lift the receiver cover.



4. Pressing down on the button 7, rotate the buffer 8 a quarter-turn and pull it straight back to remove it. It will come out together with the recoil spring.



5. The movement of this assembly will be stopped by the bearing of the feed roller against the notch in the frame. With the point of a bullet, press down through the hole 9 on the feed roller to remove the bolt assembly and buffer.



6. Pull back on the cocking lever 2 until it meets its exit point, and remove it sideways.
7. Remove the barrel as explained in Part IV.



8. Close the ejection chute cover and withdraw the pin 10 which holds the ammunition box support 11 so that the support can be removed.



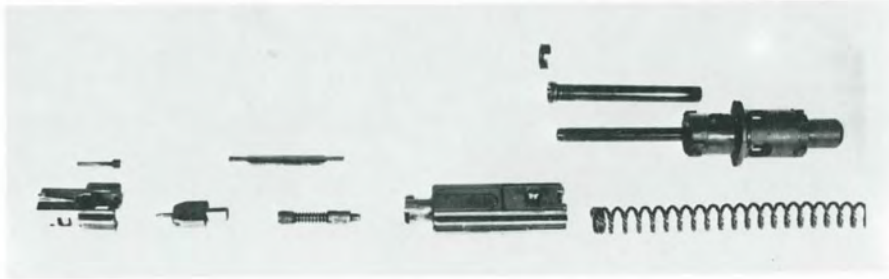
9. Take out pin 15 from the receiver cover hinge and remove cover and the feed tray.



10. Remove pistol grip pin 12. Move the pistol grip backward and downward to remove it.



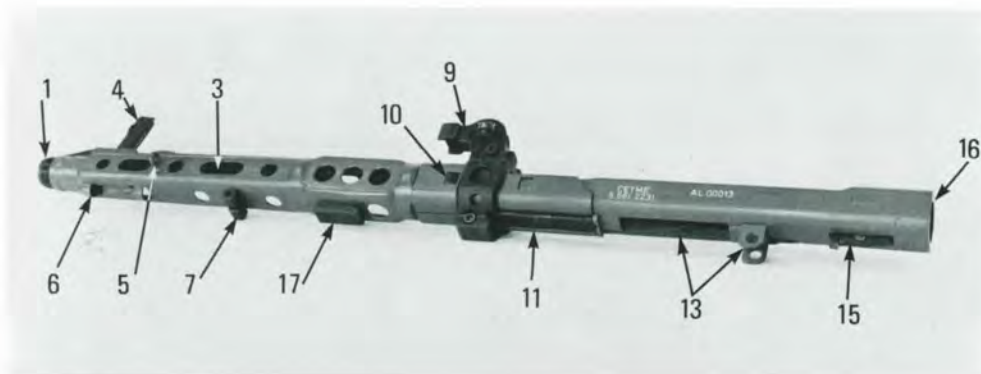
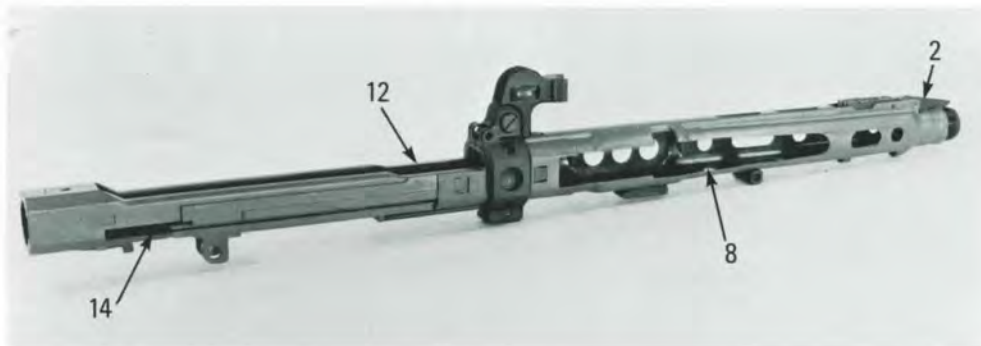
11. Lifting the locking lever 13 of the flash suppressor will release the flash suppressor so that it may be unscrewed from the receiver.
12. Pressing the locking lever 14 of the bipod, move it slightly towards the rear, downward, and then forward to remove it.



13. Dismount the bolt assembly, as indicated in the illustration.



## VI. DESCRIPTION OF THE SUBASSEMBLIES



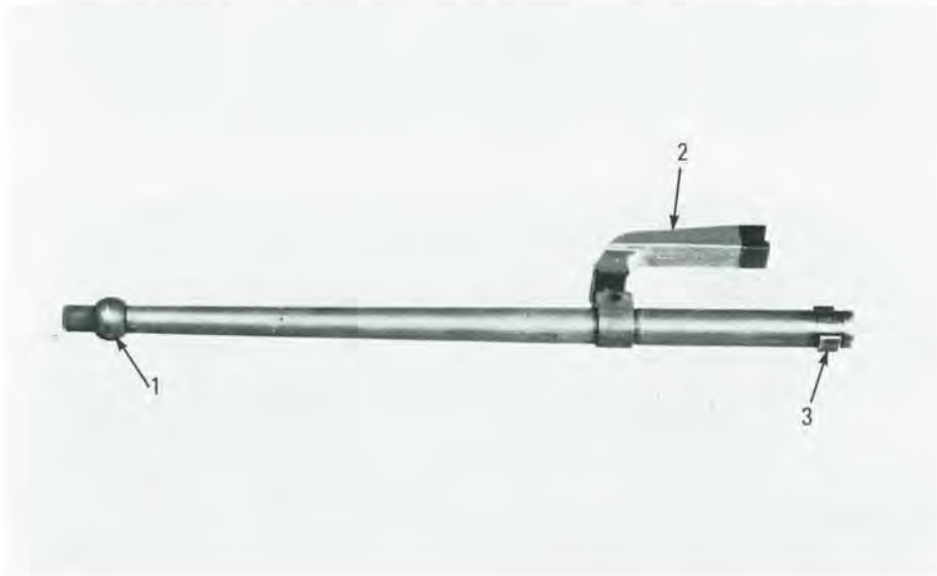
### Receiver

The receiver is a rigid structure which encloses the rest of the assemblies.

From muzzle to stock we can distinguish:

- Threaded sleeve for placement of the flash suppressor 1.
- Lever and spring to immobilize the flash suppressor 2.
- Barrel cooling ducts 3.
- Folding front sight 4.

- Ring for the attachment of the sling 5.
- Bipod housing 6.
- Attachment system to bipod 7.
- Lateral slot for barrel change 8.
- Barrel attachment system and rear sight support 9.
- Inserted blocking piece 10.
- Cartridge ejector chute cover 11.
- Bolt rails 12.
- Pistol grip slot and pin attachment lugs 13.
- Rails for the sliding of the cocking lever 14.
- Button to immobilize buffer assembly and stock 15.
- Fastening stops of buffer 16.
- Attachment system to tripod 17.



### Barrel with handle

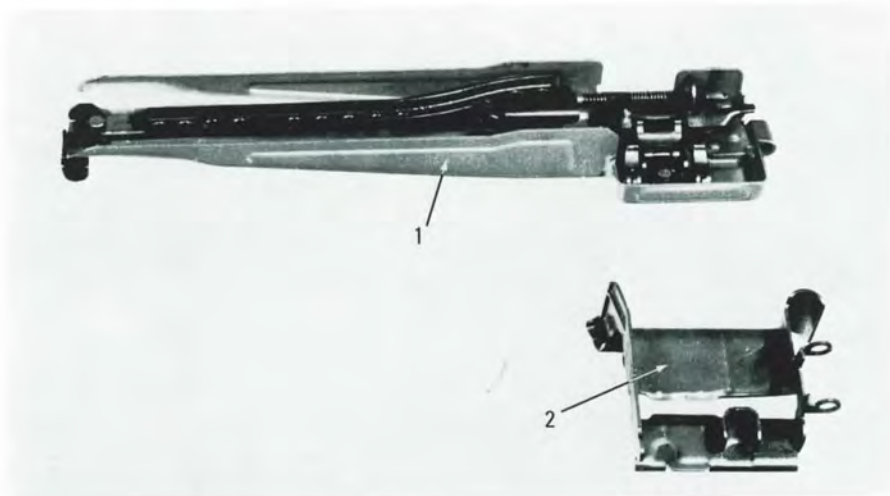
Easily changed. Has from front to rear:

- Centering ball which serves to center the barrel inside the receiver; therefore, the barrel is supported during firing and is not loose, improving precision and strength of the weapon 1.
- Handle, of insulated material, and anti-rotation attachment system, to the receiver 2.
- Two lugs that lodge in the blocking piece to form a unit during firing 3.



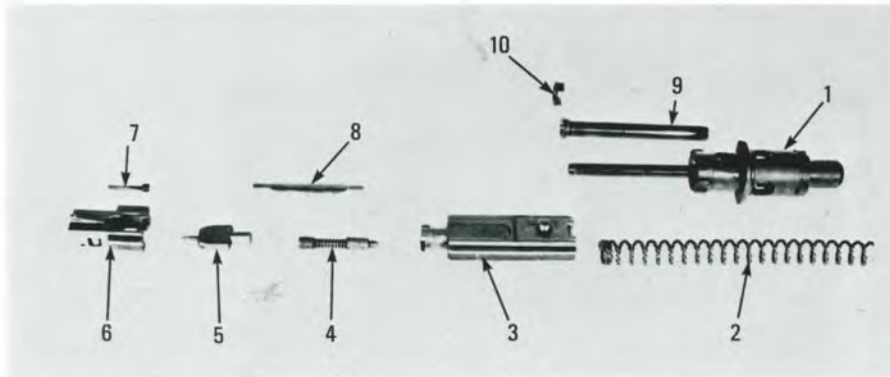
### **Grip and trigger mechanism (pistol grip)**

The pistol grip has inside the firing, the retainer, and safety mechanisms.



### **Feeder mechanism**

Formed by the receiver cover 1 which incorporates the hauling mechanism of the belt, and the feed tray 2 which correctly places the cartridge.



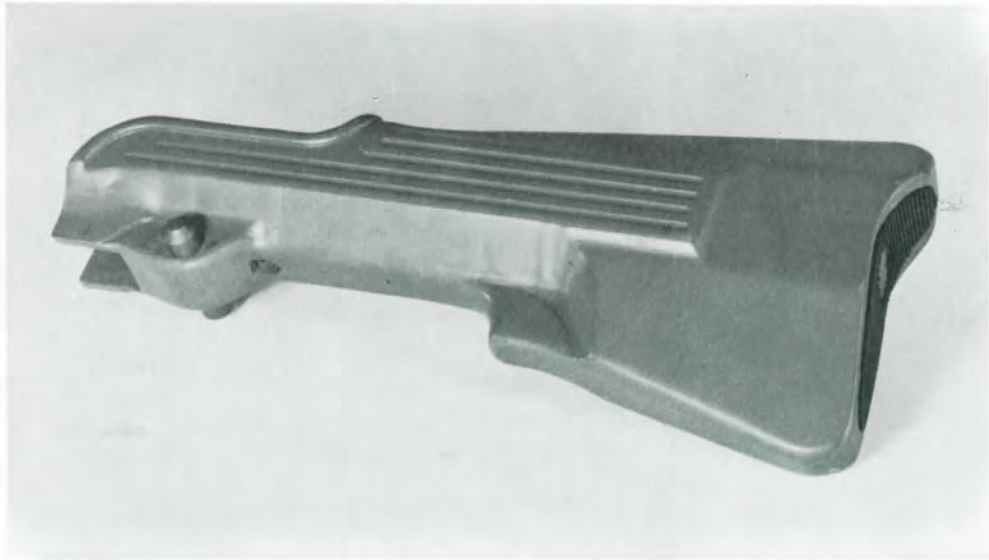
### Bolt and recoil and buffer mechanism

Formed by the following elements:

- Buffer 1.
- Recoil braided spring 2.
- Body of bolt with feeding lug 3.
- Blocking safety 4.
- Firing pin carrier with firing pin 5. The rate of fire obtained is inscribed on the firing pin carrier.
- Bolt head 6 with blocking rollers and the extractor lip.
- Ejector 7.
- Ejector Tray 8.
- Recoil guide 9.
- Attachment washer 10 of the recoil guide 9 to the bolt body 3.

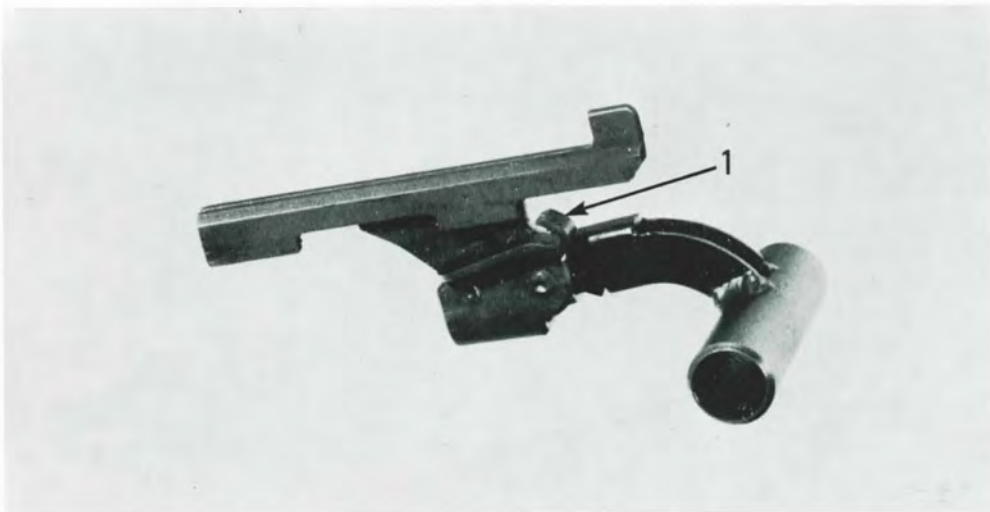


*Bipod*



### **Stock**

Molded in plastic, fastened to the receiver by means of a button lock. The base of the stock has a rubber recoil pad.

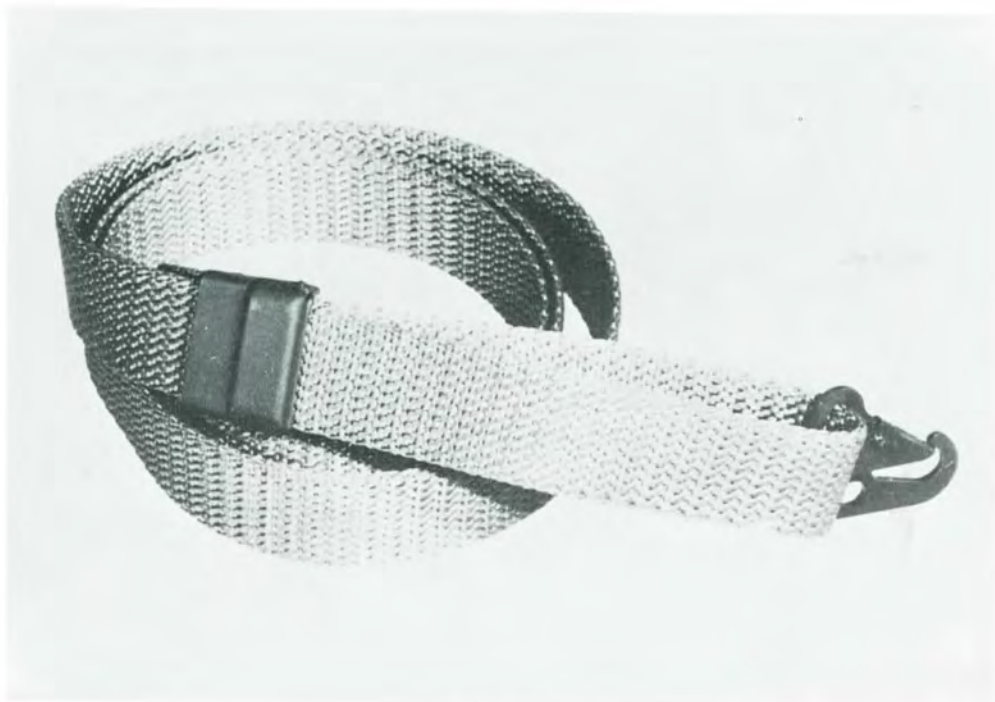


### **Cocking lever**

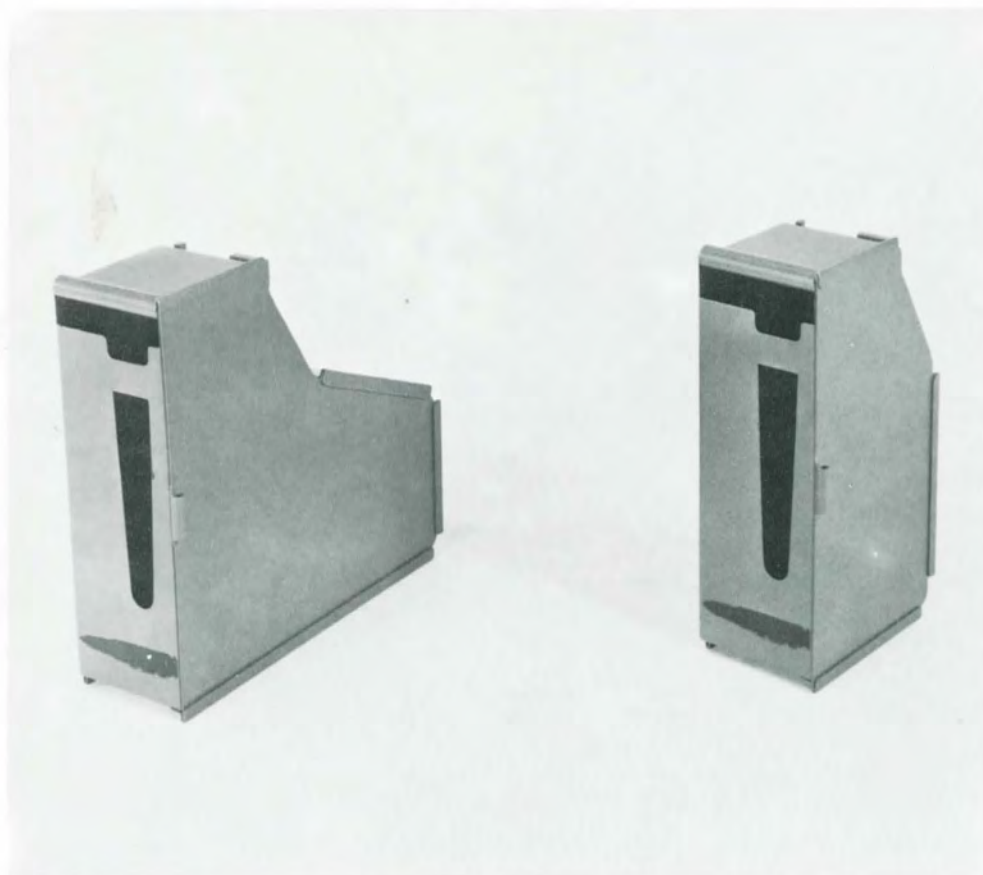
Slides on its own rails in the receiver. Has a retention lip which immobilizes it during fire 1.



*Flash suppressor.*



*Sling.*



*Box 200 and 100 rounds.*

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