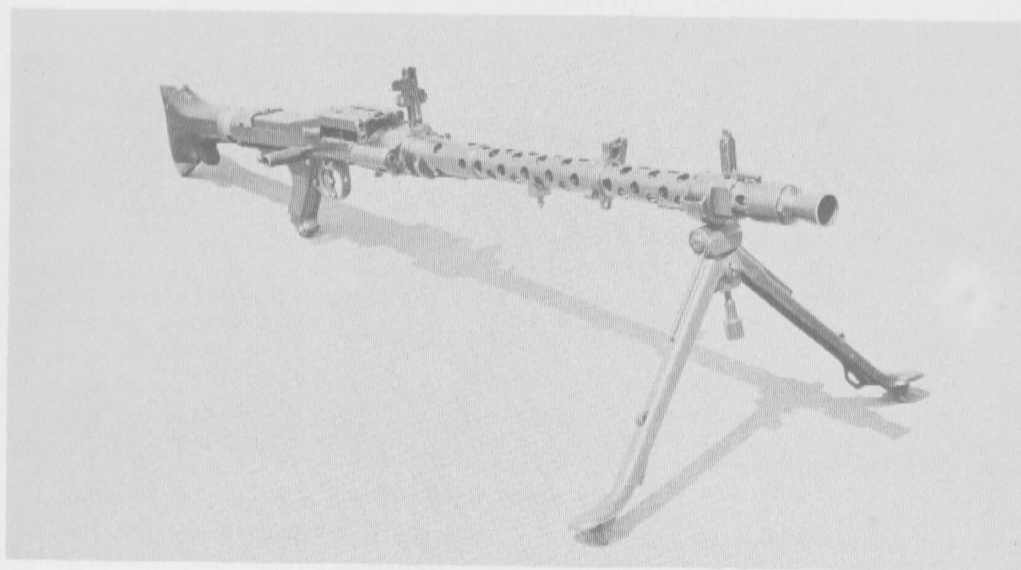


GERMAN 7.92-MM MG34 (LIGHT MACHINE GUN)



The Treaty of Versailles prohibited the Germans from manufacturing heavy machine guns. Their way around this restriction was to develop an all-purpose machine gun which could officially be called a light machine gun, but which had the necessary characteristics built into it, to enable it to be used as an anti-aircraft gun or in a special mounting as a heavy machine gun. Originally, a light machine gun was a weapon with a magazine capacity of 20 or 30 cartridges, and a light, not easily removable barrel. Thus it could not be used for sustained firing nor was it valuable for long range use as a tactical weapon.

With the facilities of the Solothurn factory in Switzerland, the Germans were able to develop a light weight machine gun whose barrels could be changed so rapidly that the disadvantage of overheating was completely eliminated. This compensated for the heavy weight and water cooling devices necessary on the typical heavy machine gun. By developing a special metal link belt whose sections can be fastened together speedily to provide a belt of any length, they overcame the factor of feeding. By developing a special form of mount in which the excessive recoil of the gun in continuous operation is utilized to work the elevating movement, when mounted in a heavy tripod, they made the weapon suitable for long range searching fire.

This weapon can be used by an individual or by a gun crew of three or more men. Each gun is issued with three spare barrels. These barrels can be changed in a matter of seconds.

This is the most widely used machine weapon in the German Services at the present time.

However, a new light machine gun, somewhat resembling this one in exterior appearance but however far surpassing this simple design in simplicity, reliability and ease of manufacture, was introduced to the German Services in 1942.

In passing it should be noted that the MG-34 is intended as an all-purpose weapon. No gun in this particular class has yet been developed in the United States. In Great Britain, the Bren Gun has been utilized along these lines.

Caliber: 7.92 German Service cartridge.

Feed: (a) Metal belt feed is normal. Capacity of belt is 50 rounds. Any number of belts may be fastened together.

(b) In tank and anti-aircraft uses, this gun may be fitted with a 50-round belt contained in a drum type magazine, attached to the left side of the feed block.

(c) On anti-aircraft types of this kind, a saddle-type drum is used. In this type, which holds 75-cartridges, two drums are connected by a center strip which locks down over the feedway so that a drum lies on each side of the receiver.

Barrel Length: 23½".

Overall Length of Gun: 48".

Weight: 26½ lbs. with the attached bipod mount.

Sights: V-notch rear is graduated from 200 to 2,000 meters. A folding peep on the rearsight may be used with an anti-aircraft ring. Also an anti-aircraft air sight is issued which fits on the barrel jacket. A telescope sight is also provided for mounting on the tripod when gun is used as a heavy machine gun. This is graduated to 3500 meters.

Effective Range of the Gun: German sources claim 2000 yards used with the bipod and about 3800 yards with the tripod mount.

Maximum Range: About 5000 yards.

Ballistics: Standard for type of German cartridges employed. Muzzle velocity may vary from 2500 to 3000 feet per second.

Gun Operated By: Recoil. (A special recoil booster screwed onto the muzzle causes some of the expanding gases that follow the bullet after it has left the barrel to rebound against the face of the barrel, thus speeding up the rearward action of the recoiling parts.)

Locked: Breech block is firmly locked to the barrel at the moment of firing by interrupted screw threads.

Cooled: Air. Barrel is mounted in a fixed barrel jacket or casing which is perforated. This gun fires from an open bolt. As it stays open between shots, air can circulate through the breech opening and the

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barrel. Since there is no cartridge in the chamber, except at the instant of firing, there is no danger of a cook-off in this weapon.

Cyclic Rate of Fire: 800 to 900 per minute. This high rate of fire is one of the defects of this gun. While it is desirable for firing against aircraft, the rate is entirely too high for effective use as a ground weapon. It wastes ammunition.

Position of Cocking Handle: On right hand side of receiver.

Ejection of Empty Cartridge: From bottom.

Type of Fire: Single shot or full automatic. This gun is equipped with a special trigger. The top part of this trigger is marked "E." Pressing it will fire one shot and then the weapon will stop until the trigger is released and pressed again. The bottom part of the trigger is marked "D." Pressing this bottom half lets the gun fire automatically as long as the trigger is held back.

Safety: A safety lever is placed just above the trigger. Pushing it to the "S" position locks the sear so that the bolt cannot go forward.

LOADING AND FIRING

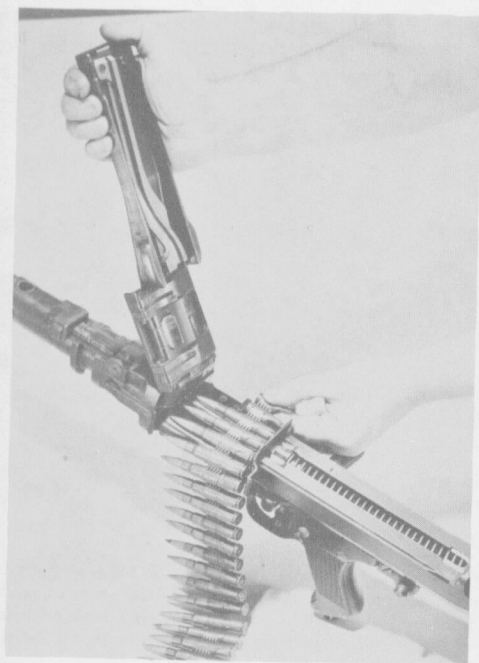
Loading the belt. A machine is provided but is not needed to load this form of belt. The belt consists of a series of individual metal links, joined together by small pieces of coiled wire. These links are shaped much like an ordinary pencil clip. Press the cartridge down into the clip so that the spring sides spring around the cartridge and retain it. A nib at the end of the clip will spring into the cannellure of the cartridge and hold it in the correct position. It will be evident that in this form of belt there can be no malfunction of the type

so common to web belts which may expand when wet and to brass-studded belts which must pass through a complicated feed mechanism.

In the 50-round drums, the loaded belt is inserted in the drum, being wound around the center piece.

The 75-round, saddle type drums, do not use a belt. The drum itself contains the cartridges. The springs force them around into position, one coming alternately from each side.

TO LOAD THE GUN



Tabs are provided on the end of each belt. If several sections are being fastened together, or if no tab is available, then the first two or three cartridges should be removed from the metal belt.

Insert the feeding end of the belt in the feedway on the left side of the receiver, and pull through as far as it will go.

Warning: Unlike the Browning and the Vickers, the belt on this gun lies **on top of the cartridges** as they pass through the feed block. 9n alternate way of loading is to push forward the cover catch (which is on top of the receiver at the rear of the gun) and lift the feed cover to vertical position. The belt may then be laid in the feedway; make sure that the first cartridge rests against the stop on the right side of the guide. Close the cover and snap it down in place.

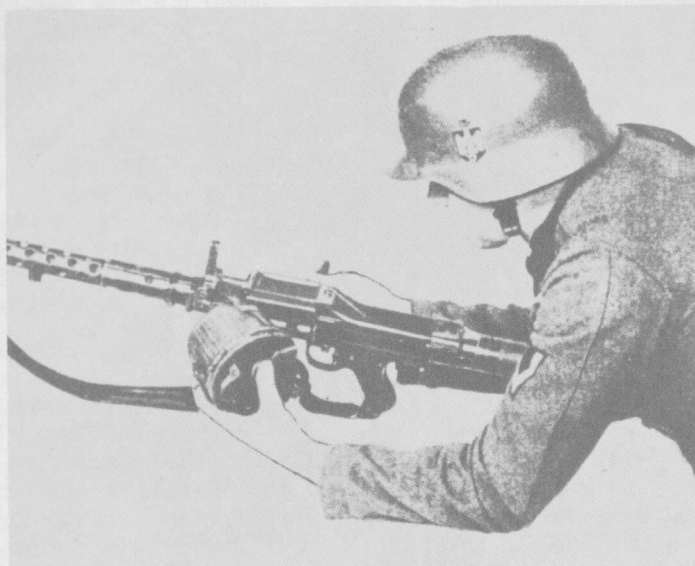
Pull back the cocking handle as far as it will go and the bolt will be caught and held in rearward position by the sear. Now **push the cocking handle forward** as far as it will go. If this is not done it will be carried forward as the bolt moves to the front, and this additional weight may cause malfunctioning.

Pressing the upper part of the trigger will now fire a shot. Pressing the lower part of the trigger will fire the weapon full automatically.

Note: If the cocking handle will not come back, it indicates that the safety is on. Move the lever to the "Fire" position.

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FIRING WITH THE 50-ROUND DRUM



Press the catch on the sliding cover of the drum and open the cover so that the tag end of the belt can be pulled out. Insert the tag of the belt in the feedway as for the ordinary belt. The narrow end of the belt is the front end. Engage the hook on the front end with

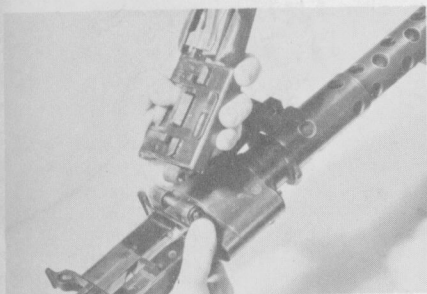
the lug on the rear end of the lower part of the feed plate. Now swing the rear end of the drum around until the spring catch engages with the lug on the rear end of the feedway. Pulling back the cocking handle now leaves the weapon ready for firing.

75-ROUND SADDLE DRUM

With this drum the feed cover is removed and a magazine holder is substituted. The feed plate is also removed. Belts are not used in this type of feed. The drum is placed directly over the magazine holder ahead of the trigger guard. Its center piece pushes down the

dust cover in the magazine holder. A spring catch at the top center of the connecting piece can be pressed to release the drum and a hand-strap is provided to lift it off the gun.

FIELD STRIPPING



1. **Order of Stripping:** Push the spring catch at the extreme rear of the cover on top of the receiver and lift the cover to a vertical position. Push the cover hinge pin from the right and lift out the cover. The feed block may be lifted off.



2. The butt catch is on the underside of the receiver a few inches behind the pistol grip. Press this up with the left thumb. With the right hand, turn the butt a quarter-turn left or right. (Note: The bolt should be in forward position when this stripping motion is being done. Otherwise, the very powerful recoil spring cannot be controlled.) The recoil spring will now force the butt out of the receiver. Now remove the recoil spring.



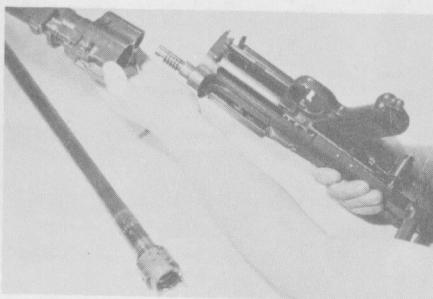
3. Pull the cocking handle back with a quick motion. (A jerking motion is required here because the action in releasing the bolt, twists the barrel extension and the barrel. Watch that the bolt and its carrier do not fly out the back of the receiver.)

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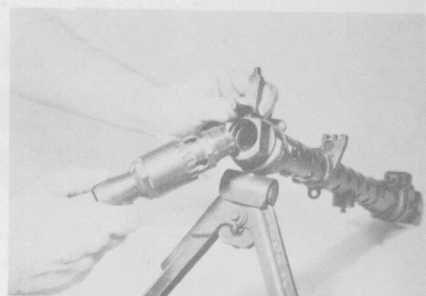
FIELD STRIPPING



4. Bolt and carrier may now be removed.

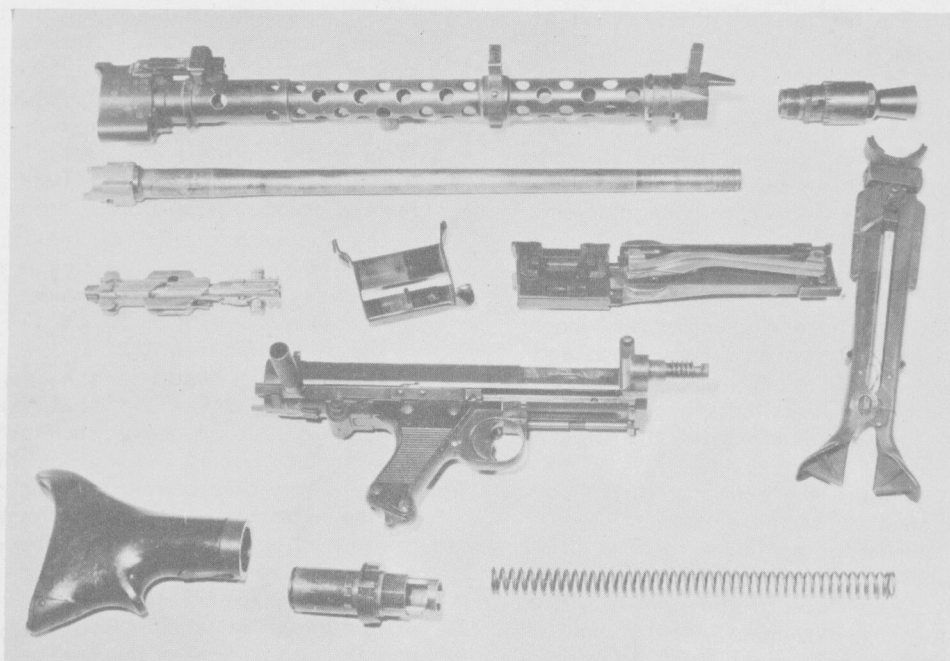


5. Pressing the locking catch on left of receiver, below and behind rear sight, twist receiver from left to right, until it clears the barrel casing. Raise the muzzle and slide the barrel out of the casing. A hinge pin catch will be found on the underside of the barrel casing, near its end and to the right. Press this up and while maintaining pressure, twist the receiver, left to right until it has completed its full half turn. It may now be pulled out to the rear.



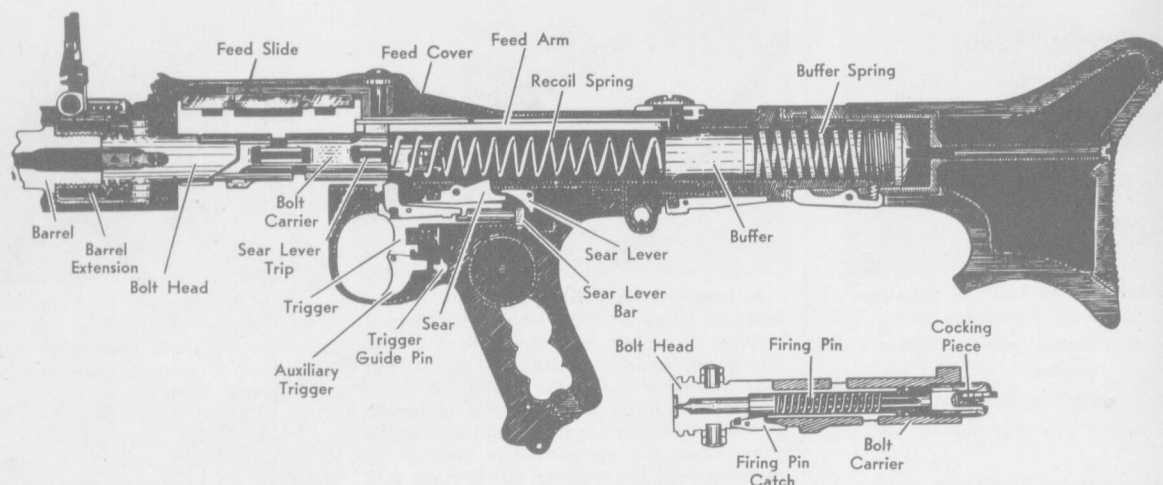
6. A catch will be found in front of the foresight. Lifting this permits you to unscrew the flash hider over the muzzle. Inside it is a mouthpiece and a recoil cone. Remove them.

7. The trigger assembly is locked to the receiver by two automatic locking pins. Pinching the split ends together permits them to be pulled out. (Removal of this assembly is not recommended without suitable tools.)



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HOW THE GUN WORKS



Starting with the gun loaded and cocked, the action is as follows: Pressing the trigger pulls the sear out of its bent in the breech block and allows it to go forward under the thrust of the compressed recoil spring located in the butt.

A feed piece on the top of the breech block strikes the base of the cartridge in line and pushes it from the belt towards the firing chamber. The feed arm is hollow and is operated by a stud on the top rear end of the breech block carrier, which rides in this hollow groove and causes the feed pawl to push the next cartridge in the direction of the firing chamber.

As the breech lock continues forward, two inner rollers on its head strike two cams on a cam sleeve and rotate the head of the breech block from left to right so that threads on the breech block lock engage threads on the cam sleeve; this effectively locks the breech block to the barrel.

As the cartridge chambers, the extractor in the bolt face slips over the cannellure of the cartridge. Meanwhile the breech block carrier continues forward, tripping the firing pin lever and allowing the firing pin to go forward through the face of the bolt to strike the primer. The forward movement of the bolt is stopped when a shoulder on its right frontside, strikes the cocking handle stop which is in its forward position at the end of its slot. Just before the cartridge is fired, a locking catch on the breech block engages behind the outer roller on the right side of the head of the breech block.

Return Movement of the Action: This gun is fitted at the muzzle with a recoil increaser somewhat resembling that operating on the Vickers gun.

As the bullet leaves the barrel, part of the gas pressure behind it expands in the muzzle attachment and rebounds against the cone to give additional backward thrust to the barrel. This action, together with the rearward thrust of the gas in the firing chamber against

the head of the empty cartridge case, which transmits it to the bolt, starts the action to the rear.

Barrel and breech block start back, firmly locked together during the period of high pressure. After a backward travel of about $3/16$ ", the outer rollers on the breech block head again engage with the two cam-faces in the forward end of the receiver, thus forcing the breech block head to rotate from right to left, thereby unlocking the breech block from the barrel.

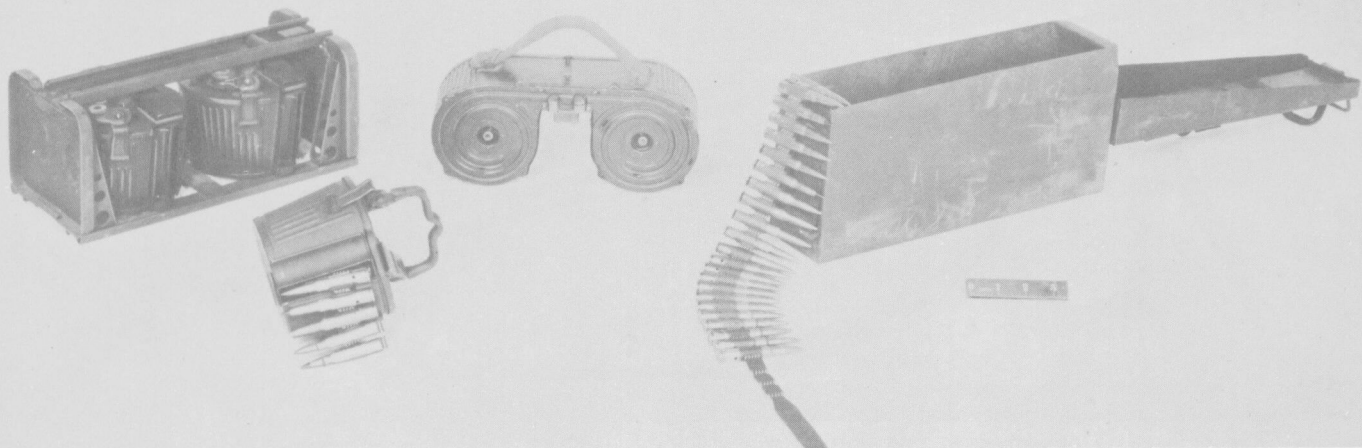
The rearward motion of the barrel is stopped, as soon as the unlocking operation is completed, when its cam sleeve strikes against shoulders in the front end of the receiver.

The stud riding straight to the rear on the breech block carrier, its head caught in the groove in the feed arm above it, twists the feed arm which forces the feed pawl slide to move back and permits the feed pawl to lock behind the next cartridge in the belt.

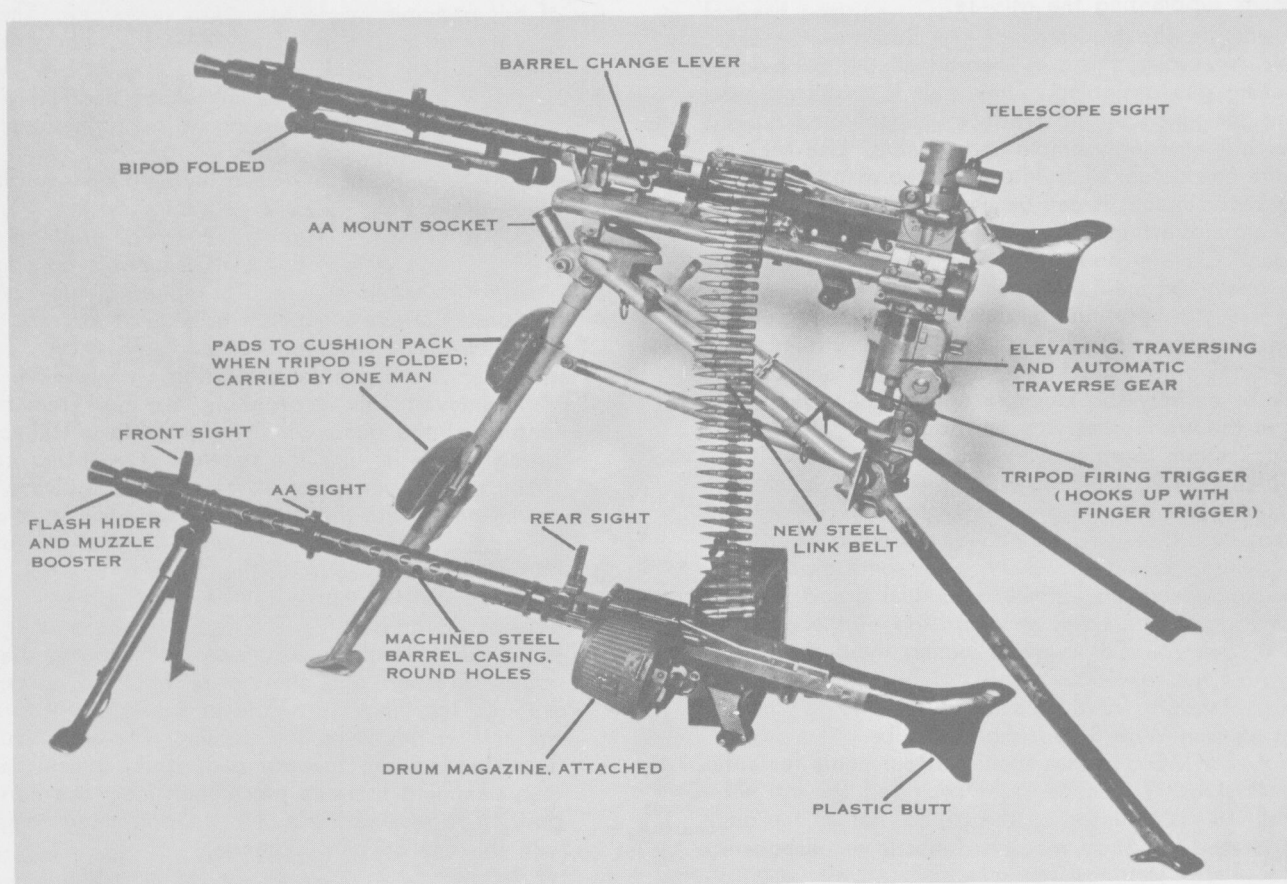
The empty case being drawn from the firing chamber by the extractor in the face of the bolt, is struck by the ejector and hurled out of the gun. The ejector is a pin in the top of the breech block; during the backward movement of the breech block the rear end of this pin strikes against a stop which forces the front end through its hole in the breech block to hit the base of the empty cartridge case. The ejection is downward. The end of the breech block carrier strikes against the buffer, the compression of the recoil spring is completed, and if the semiautomatic portion of the trigger is being pulled, the bolt will stop open, engaged from below by the sear forced up by its spring. If the automatic trigger is being pressed, the firing cycle will be completed and continued as long as there are any cartridges left in the belt.

Six modifications of the L. M. G. 34 are known. Differences are slight, however. Some models may have only a full automatic trigger and a push through safety.

GERMAN 7.92-MG34 (LIGHT MACHINE GUN)



German Machine Gun Belt and Box, Saddle Drum Magazine, Basket Magazine, and Carrier with two Baskets. Used with MG34.



de E. E. Pica Collet, Buenos Aires, 1965.

