

SUB-MACHINE GUN V - 41.
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Sub-machine gun V - 41 is fully automatic weapon of 9 mm caliber, having a stationary air-cooled barrel and a movable breech. The gun is the recoil operated type.

The gun is designed for automatic fire in series and single fire. The gun can be secured against accidental discharge by a safety device mounted on the left hand side and easy to handle.

A special design of the magazine enables the cartridges to be accommodated therein " in two columns one behind the other " so that the capacity of the magazine is substantially increased. A simple mechanism ensures continuous automatic supply of cartridges from both - the front and rear - compartment of the magazine. In addition, the magazine is flat, light in weight and allows an easy operation of the gun from any position.

The firing mechanism allows the firing of a cartridge to take place only after the cartridge case has been fully inserted into the cartridge chamber and positively prevents any firing until the breech has been closed.

Empty cartridge cases are extracted in a simple manner on the shortest way.

Sights are simple with three easily adjustable distance positions. The fore sight is provided with a phosphorescent mass to enable exact firing at night.

The gunner can make sure at night whether the desired distance position of the sight is actually adjusted by a simple touch with his hand.

The circular cross section of the gun with a semi-cylindrical breech prevent completely any failures occurring with guns of similar types by entering of impurities and foreign bodies - dust, not burned particles of powder, sand and the like - into the mechanism.

All functional components are protected against mechanical damage.

Assembly and disassembly of the sub-machine gun is very simple and convenient. After withdrawal of a connecting bolt the gun can be decomposed into 3 units. Small components mounted on these units are secured against loss.

The gun is provided with a carrying belt by which it can be carried when used by infantry. Carrying the gun by the belt is very convenient. The gun can be fired during movement even when suspended on the belt.

The sub-machine gun can be provided with a tiltable bayonet, if necessary. The bayonet does in no way impair the suitable form of the gun. The easy maneuverability of the gun is not decreased by tilting down the bayonet, which in its tilted position cannot hurt the operator.

Small dimensions of the sub-machine gun, its light weight, easy maneuverability and firing power render the gun suitable for use with parachute troops, infantry on armoured vehicles and with other bodies, such as cyclist, motor cyclist troops and the like.

The gun can easily be handled on a small space and can therefore be advantageously used for gendarmery, police, guards etc.

Description of the sub-machine gun.

General features.

The sub-machine gun is an automatic gun with a stationary barrel. The construction is based on the principle of using the recoil forces for operating the mechanism, said forces moving the breech into a position for further round. During this movement the recuperator or recoil spring is pressed.

The gun is designed for pistol ammunition of 9 mm caliber. The gun is supplied by cartridges from a magazine containing 60 rounds. The gun allows firing with single shots or automatic fire in series.

Constructional features.

From manufacturing point of view the sub-machine gun consists of 67 components wherein also small components such as springs, pins, small bolts etc. are included. 10 of these components are welded or riveted to other components so that the finished gun has only 57 components. The double-chamber magazine consists of 8 components.

The sub-machine gun consists of two principal parts : a stationary and a movable one.

The stationary part comprises : a complete barrel, body, trigger mechanism and butt.

The movable parts are : breech with extractor and ejector and recuperating or recoil mechanism.

Stationary parts.

The barrel for pistol ammunition caliber 9 mm is provided with a jacket having cooling orifices made therein. A front collar with fastening means for the belt and fore sight is fixed on the fore part of the tube. The fore sight is protected against damage. The barrel is firmly connected with the cylindrical body of the gun by a nut. In the lower part of the body a semi-cylindrical breech block guide is provided. An orifice for ejecting the cartridge cases and guiding means for the cocking crank are provided at the right front side of the body. The lower side of the body has an opening with a guide for inserting the magazine, said guide forming also a handle for holding the gun during firing. A spring biased lever for securing the magazine is mounted on the magazine guide. The back sight is mounted on the top and has its basis welded to the body. The back sight has one simple and one double leaf for the threefold adjustment of the distance position.

The trigger device is firmly mounted in the rear part of the body from which it can be removed as one unit. The sear is biased by a spring into a position for retaining the breech block. The spring is mounted on a pin which forms also a support for the sear. The movement of the sear is controlled by a tripping lever connected with the sear and pulled upwards by the tripping lever spring. The tripping lever can be adjusted by the safety device or change lever into three positions, namely:

1. Secured : If the trigger is pulled, the tripping lever does not engage the sear because the peg of the tripping lever passes through a slot in the sear.

2. Single fire : If the trigger is pulled, the peg of the tripping lever releases the sear, but immediately afterwards

the tripping lever is pressed down by the moving breech block and the peg of the tripping lever slides through the slot in the sear. The latter is returned by a spring into its original position in which it retains the breech block again.

3. Automatic fire : The tripping lever releases the sear and holds the latter in its rocked down position, so that the breech block can move freely as long as the trigger is pulled.

The safety catch operating lever -change lever- is arranged on the left hand side of the body. The movement of the lever is limited by abutments in both directions. The particular positions are secured by a spring loaded pin and marked on the trigger housing by letters A, R, S adjacent to the change lever.

A wooden butt is connected with the body by means of a connecting collar carrying a connecting bolt. The end of the butt is provided with a metal butt plate, retained by one wood screw and nut which forms also a support for the rear end of the recoil spring.

The magazine guide is in the right upper part - viewing towards the barrel - arranged for receiving the mechanism which serves for automatically bringing in and out of action the rear part of the magazine during firing.

The magazine is made of sheet steel, has the form of a flat prism and is divided by a wall into a front and rear compartment. Each compartment accommodates cartridges in two rows and the cartridges are under pressure of the feeder spring pressing the cartridges continually in the direction to the mouth of the magazine. When the magazine is inserted into the magazine guide the cartridges in the rear compartment of the magazine are automatically depressed by the device in the right upper part of the guide through 5 mm downwards so

that the breech block can at first push out cartridges only from the front compartment and only after front compartment has been emptied the rear compartment of the magazine is given free and the breech block feeds cartridges into the barrel chamber from the rear compartment through the front feeder on its right hand side. The cartridges are inserted into the barrel chamber by a projection of the breech pressing against the bottom of the cartridge case. The rear side of the magazine carries a catch serving to retain the magazine when inserted into the gun.

Movable parts.

A breech block is mounted for movement in the body, said breech block carrying a firing pin with a spring, an extractor and an ejector. When the breech block abuts, the movement of the latter is transmitted by means of a rocking lever to the firing pin which fires the percussion cap of the cartridge only after the cartridge has been brought to its full inserted position in the barrel chamber. After the shot has been fired the recoil forces move the breech block back. This movement is transmitted to the recuperating rod connected with the recuperating spring mounted in the butt. The recuperator spring, which is guided in a casing, is thus pressed by the breech block. For the first round the spring is tensioned by hand by means of cocking crank arranged on the right hand side of the breech.

During the return movement of the breech block the extractor pulls the empty cartridge case out of the barrel chamber. The ejector, which is movably mounted in the left hand part of the breech block strikes against a projection of the guide and ejects the cartridge case upwards to the right side. The ejector is fixed by a pin.

Operation and use of the gun.
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The magazine filled with cartridges is inserted into the guide in the body. The breech is shifted by the cocking crank into rear position whereby the recoil spring is pressed. This spring presses then the breech against the upper arm of the sear. Let it be assumed that the change lever is set f.i. to automatic fire in series. If the trigger is pulled the breech block is released and driven forward by the recoil spring. During this movement the breech block shifts a cartridge from the magazine into the barrel chamber. After the cartridge has been fully brought into the barrel chamber the firing pin activates the percussion cap of the cartridge. Under the influence of recoil the breech block moves back and presses again the recoil spring. The pressed recoil spring moves the breech block forward again and the latter brings a new cartridge into the barrel chamber and the whole operation is repeated as long as the trigger is pulled.

If single fire is adjusted the tripping lever is brought out of engagement with the sear after each round by the breech block, which during its forward movement depresses the peg of the tripping lever. In this way the sear is released for retaining the breech block. If a further round is to be fired the trigger has to be pulled again.

In secured position the tripping lever passes freely through the slot in the sear which is thus brought out of action.

Assembly and disassembly of the gun.
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When designing the gun care was taken to render the assembly and disassembly of the gun as easy as possible. For this reason the components have been arranged so as to form groups for disassembly. So, for instance, the breech block, the firing pin with spring, hammer, extractor and ejector form one unit. This constructional provision prevents the loss of the various small parts and facilitates assembly and disassembly, particularly at night.

Transport of the gun.
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The sub-machine gun is suitable for any kind of transport owing to its small dimensions. It is therefore suitable to be carried by persons, on cycles, pack-horses, armoured cars etc.

Ammunition.
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Pistol ammunition of 9mm caliber is used in the sub-machine gun.

The sub-machine gun can be adapted by a slight change to any ammunition used in guns of similar types.

Advantages of the sub-machine gun.
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1. Light weight and small dimensions.
2. Simple construction and easy manufacture.
3. Easy manipulation and handling.
4. Easy exchange of magazine when firing a great number of rounds.
5. Functional components protected against mechanical damage.
6. The gun does not require any special lubrication.
7. The particular design of the gun prevents failures occurring with weapons of similar types due to impurities, foreign bodies -dust, sand, not burned particles of powder, etc-.
8. Extensive cooling of the gun, impossible for gunner to be burnt by the hot gun.
9. Slight change of the gun enables the latter to be adapted to any ammunition used with guns of similar types.
10. Accuracy of fire viewing the small weight of the gun.
11. Suitable form of the gun ensures its efficiency in field service and easy transport.
12. The gun is designed for great performance although requiring only simple attendance.
13. The advantage of the double chamber magazine in one piece is that the magazine is compact and simple even when accomodating a large number of rounds in contradistinction to existing magazines.
14. After withdrawal of a connecting bolt the gun may be decomposed into three greater units carrying smaller parts mounted thereon and secured in this way against loss.