



USER HANDBOOK

**STERLING**

**SUB-MACHINE GUN**

9-mm. MK 4

(S.M.G. 9mm. L.2.A.3.)

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**STERLING ARMAMENT COMPANY LIMITED**

**DAGENHAM . ESSEX . ENGLAND**

CONTRACTORS TO MINISTRY OF DEFENCE, HER MAJESTY'S GOVERNMENT,  
CROWN AGENTS, AND OVERSEAS GOVERNMENTS.  
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STERLING SUB-MACHINE GUN 9-mm. MK. 4.



Above: Shown with butt extended and bayonet fitted  
Below: Shown folded

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## SECTION I—GENERAL

**1.0 INTRODUCTION.** The Sterling Sub-Machine Gun, Mark 4, is a light and easily handled weapon which will selectively fire automatically or single shot. Standard 9 mm Parabellum ammunition is used.

It is a short range weapon normally used for engagement at ranges up to 200 yards. It may be used at longer ranges dependant on the skill of the firer.

On account of its accuracy, lightness and reliability, the gun can be regarded as a general purpose weapon.

It is automatic, being operated by case reaction or "blow back" whether fired "single shot" or in bursts.

### 2.0 TECHNICAL DETAILS

Calibre .....	9 mm .....	9 mm
Length—butt folded .....	19 inches .....	48.2 cms
—butt extended .....	27 inches .....	69 cms
Weight—machine gun only .....	6 lbs (approx.) .....	2.7 Kg (approx.)
—with full magazine (34 rds) .....	7 lb 10 oz (approx.) .....	3.5 Kg (approx.)
—with full magazine and bayonet .....	8 lb 4 oz (approx.) .....	3.73 Kg (approx.)
Barrel—length .....	7.8 inches .....	19.8 cms
—number of grooves .....	6 .....	
—pitch of rifling .....	1 turn in 9.84 inches .....	25 cms
—twist of rifling .....	Right hand .....	
Sights—radius .....	16.1 inches .....	41 cms
—type .....	Rear—aperture .....	
	Fore—blade .....	
—range settings .....	100 and 200 yards .....	100 and 200 metres
Cyclic rate of fire .....	550 r.p.m. approx. ....	

## TERMINAL VELOCITY AND KINETIC ENERGY OF STANDARD 9 mm BULLET

RANGE		VELOCITY		KINETIC ENERGY	
Yards	Metres	Ft/Sec	M/Sec	Ft/lbs	Kgm
0	0	1280	390	447	62.2
109	100	1115	340	339	47.0
218	200	975	298	262	36.4
327	300	872	266	207	28.7
436	400	780	238	167	23.2
545	500	700	214	135	18.8
654	600	632	193	109	15.2
763	700	572	174	89	12.3
872	800	518	158	74	10.2

### 3.0 SPECIAL FEATURES

- 3.1 **BUTT.** When not in use the butt is folded under the weapon reducing the overall length by 9 inches. With the butt folded the weapon can be used as a pistol.
- 3.2 **BODY.** The forward part of the body, i.e. the barrel casing, is perforated to assist cooling. It will be found that even after prolonged firing the body remains comfortably cool. Finger guards are fitted at both ends of the barrel casing.
- 3.3 **TRIGGER AND SAFETY MECHANISM.** The trigger mechanism is fitted with a change lever which can be set to give either automatic fire or single shot. The change lever also has a SAFE position which locks the trigger and sear, irrespective of the position of the bolt, which eliminates the possibility of a round being fired if the weapon is dropped.
- 3.4 **BACKSIGHT.** The rear peephole sight is instantly changed from 100 to 200 yards range setting by rocking over.
- 3.5 **BAYONET.** The bayonet is mounted so that it is off-set when the weapon is in the firing position. It will be found that, when the weapon is held in the "on-guard" position for bayonet fighting, the natural balance of the weapon, with or without magazine, brings the bayonet into the upright position.

## SECTION 2—DESCRIPTION AND OPERATION

4.0 The weapon (Fig. 1) is operated by case reaction or "blow back".

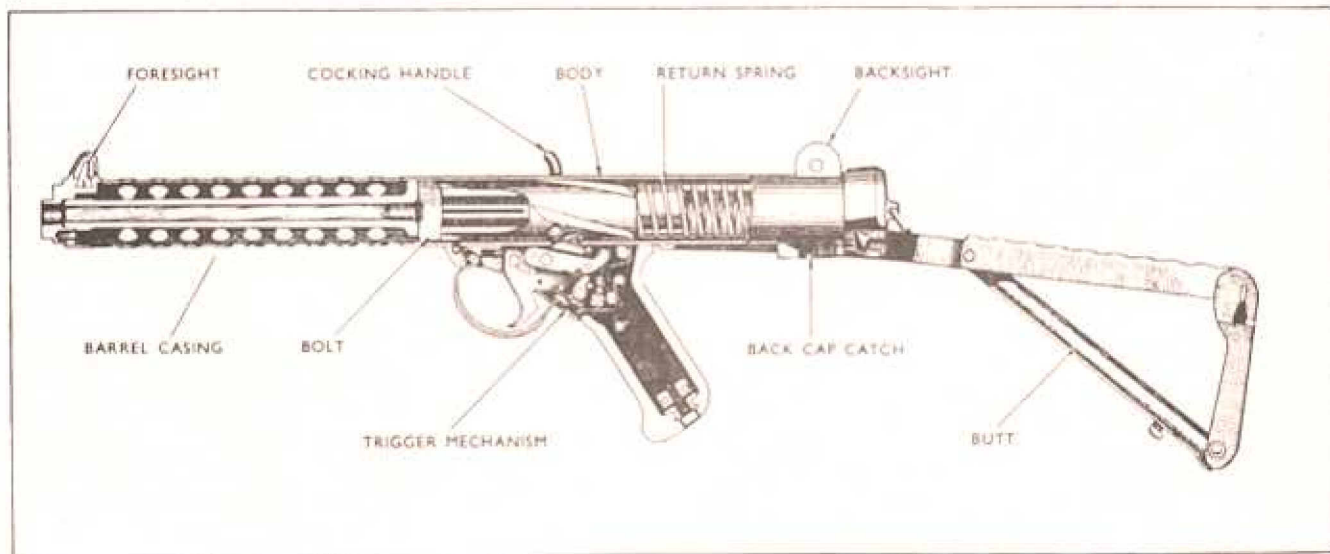


Fig. 1. Sectional arrangement

4.1 **THE BACKWARD ACTION** (Fig. 2). When the cartridge is fired the propellant gases exert an equal pressure against both the bullet and the cartridge case, the latter being supported by the bolt and the compression of the return spring. The gas pressure accelerates the bullet also the cartridge case and bolt in opposite directions and as the weight of the bullet is considerably less than that of the combined weight of the cartridge case and bolt, the bullet attains a much greater velocity than that of the cartridge case and bolt. When the bullet clears the muzzle all have reached their maximum velocities but the cartridge case has not yet cleared from the chamber, thus preventing the gases escaping from the breech. The cartridge case does not clear the breech until the gases behind the bullet have dispersed into the air, ensuring that pressures are down to safe limits before the breech is unsealed.

The bolt is now being decelerated by the compression of the return spring.

The empty cartridge case, held against the face of the bolt by the extractor, is carried back until it strikes the ejector and is ejected through the opening on the right side of the weapon.

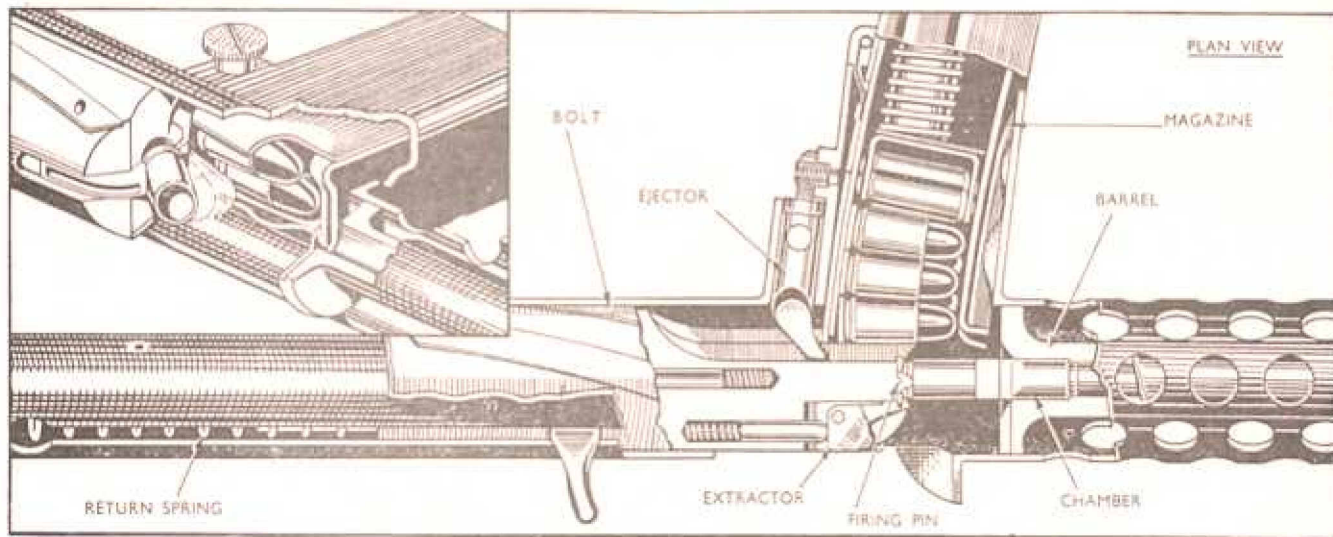
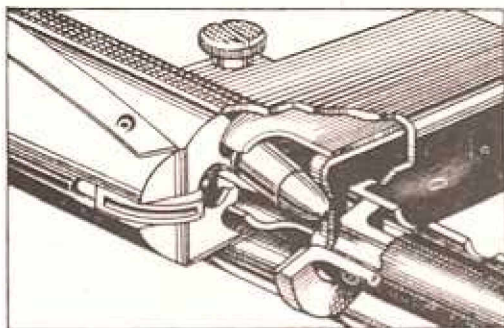


Fig. 2. Backward action

#### 4.2 THE FORWARD ACTION (Fig. 3).



When the bolt reaches the limit of its backward travel it is forced forward by the compression of the return spring. During its forward travel the bolt contacts the top round in the magazine and, guided by the magazine lips, the round is fed into the chamber. The bolt then follows up on the round, feeds it into the chamber, and fires it just before the forward movement ceases. During the forward movement of the round from the magazine, the firing pin of the bolt cannot come into line with the percussion cap of the cartridge until the round is actually in the chamber. This provides the mechanical safety for this type of weapon. Upon firing, the backward action again commences.

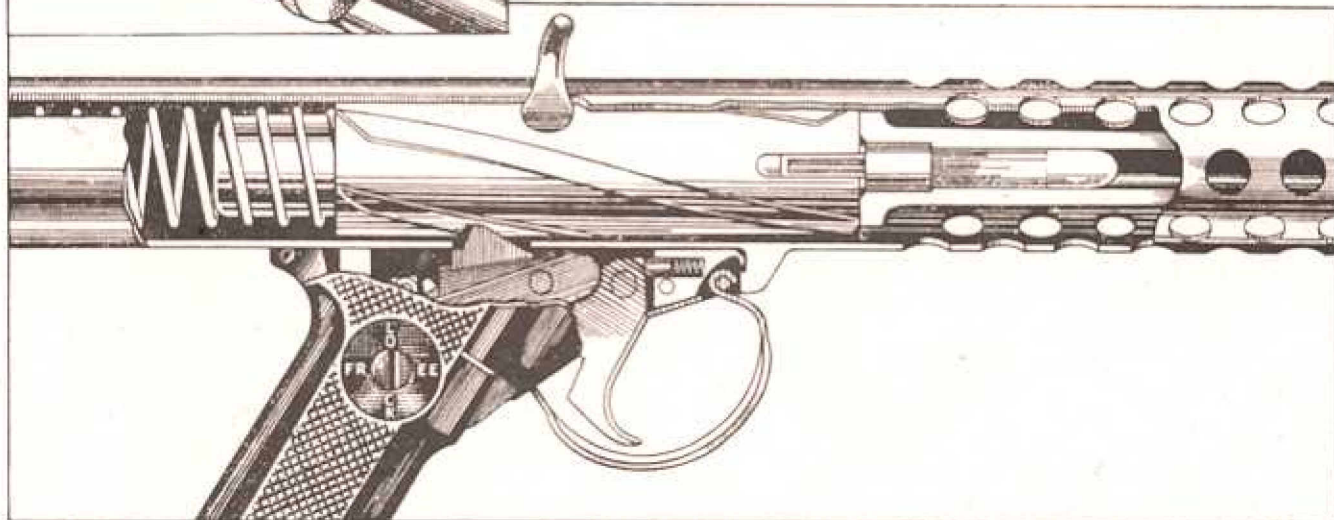


Fig. 3. Forward action

