COLT'S SMALL CALIBER

MACHINE PISTOL

(SCAMP)

(5.5 x 28 mm)

6.1 Discussion

The soldier who is not primarily a first line combatant, but who may on occasion find himself in a firefight, has been long neglected as far as a personal defense weapon is concerned. While any engagement that he may enter or is drawn into is generally defensive in nature, he must still have sufficient firepower to defend himself against a heavily armed aggressor and, possibly, even counter-attack if the situation warrants such action. Under conditions such as these, a conventional pistol would probably be inadequate. An adequate firearm such as the service rifle would be a burden under ordinary circumstances and impair his efficiency while performing his primary duties.

Any weapon which is considered as a personal defense weapon should be proposed in full cognizance of the above problems. An excellent candidate weapon would be a submachine gun or machine pistol. It should, however, be of a size and weight which will not unduly hamper the soldier in the normal excerise of his duties. Otherwise, he will tend to remove it from his person where it would be less available. Ideally, it should be as light and compact as possible. Also, the smallest and lightest practical cartridge should be chosen within the limits of range and lethality requirements. A cartridge firing a light weight bullet at relatively high velocity should allow a candidate weapon to be light and compact and, at the same time, provide adequate lethality and low recoil. Low recoil is extremely important, especially if the weapon is one that features serially fired projectiles in bursts, a characteristic that Colt's feels is worth exploring in depth.

The 9mm Parabellum, which is the most widely used submachine gun cartridge in the world, would not lend itself to use in a weapon such as is described above. Its 115 grain projectile, fired at 1300 feet/sec., generates substantial recoil and dictates a weapon weight in the area of 7 lbs., or more. This weight level, even in compact designs such as the Uzi or Berretta submachine guns, does not permit carrying the weapon in a holster so that it is instantly available.

The Colt's SCAMP (Small Claiber Machine Pistol) concept involves both weapon and cartridge. It provides improved hit capability and increased range over the normal submachine gun in a package which is only one third heavier than the present service pistol. Its small size and light weight makes holster carrying practical. For this reason the weapon should be available when needed. This might not be true if a submachine gun or service rifle were used. The cartridge, .22 caliber centerfire, provides adequate lethality within reasonable range limits, yet has a low impulse level. This low impulse level allows considerable reduction in both the size and weight of the proposed weapon. Design of a prototype has been completed and Colt's is now in the process of fabricating a working model.

6.2 Description

The SCAMP personal defense weapon is gas operated, autoloading, and has been designed to be fired with either a one hand or two hand stance. It is chambered for a special centerfire cartridge which fires a 40 grain, .22 caliber bullet at 2,100 feet/sec. Feeding is from a double row staggered magazine contained within the grip. Magazine capacity is 27 cartridges. The weapon has an overall length of 11.6 inches, a height of 6.8 inches, and weighs approximately 52 ounces. Two modes of fire are possible, single round (semi automatic), and 3 round (burst).

CHARACTERISTICS	
Length	- 11.6 in. (overall)
Width	- 1.4 " "
Height	- 6.8 " "
Weight	- 3.25 lb. (est.)
Magazine	- 27 rds.
Semi Auto & 3 Rd. Burst	
Locked Breech	
Gas Operated	
Fires From Closed Bolt	
Cyclic Rate	- 1500 Rpm Est.

Figure 6-1. Colt's Small Caliber Machine Pistol. (SCAMP)

6.2 Description

The weapon consists of a relatively lightweight barrel and receiver assembly which contains all of the moving parts of the mechanism. This assembly is contained within a housing which forms the pistol grip and trigger guard. The housing is made of glass reinforced, high strength plastic. This material provides a lightweight, non-corrosive exterior surface for maximum protection of the internal mechanism. All metal parts are made of stainless steel alloys for maximum corrosion resistance and reliability under adverse environmental conditions, and to minimize maintenance.

The bolt is locked at the rear, via a tilting type lock, similar to the BAR. It is operated by an operating rod which is connected to a gas piston concentric with the barrel and located close to its muzzle. The action spring is also concentric with the barrel and located between the gas piston and the receiver.

The fire control mechanism is located in the upper rear area of the receiver and consists of the hammer, hammer spring, sear, and burst control assembly. The fire control lever projects from the right rear of the receiver and has three positons; safe, semi-auto, and burst. When set on burst, three shots are fired with each pull of the trigger and the mechanism is self-resetting so that three shots will always be fired. Cyclic rate when firing in the burst mode is anticipated at 1500 rounds per minute.

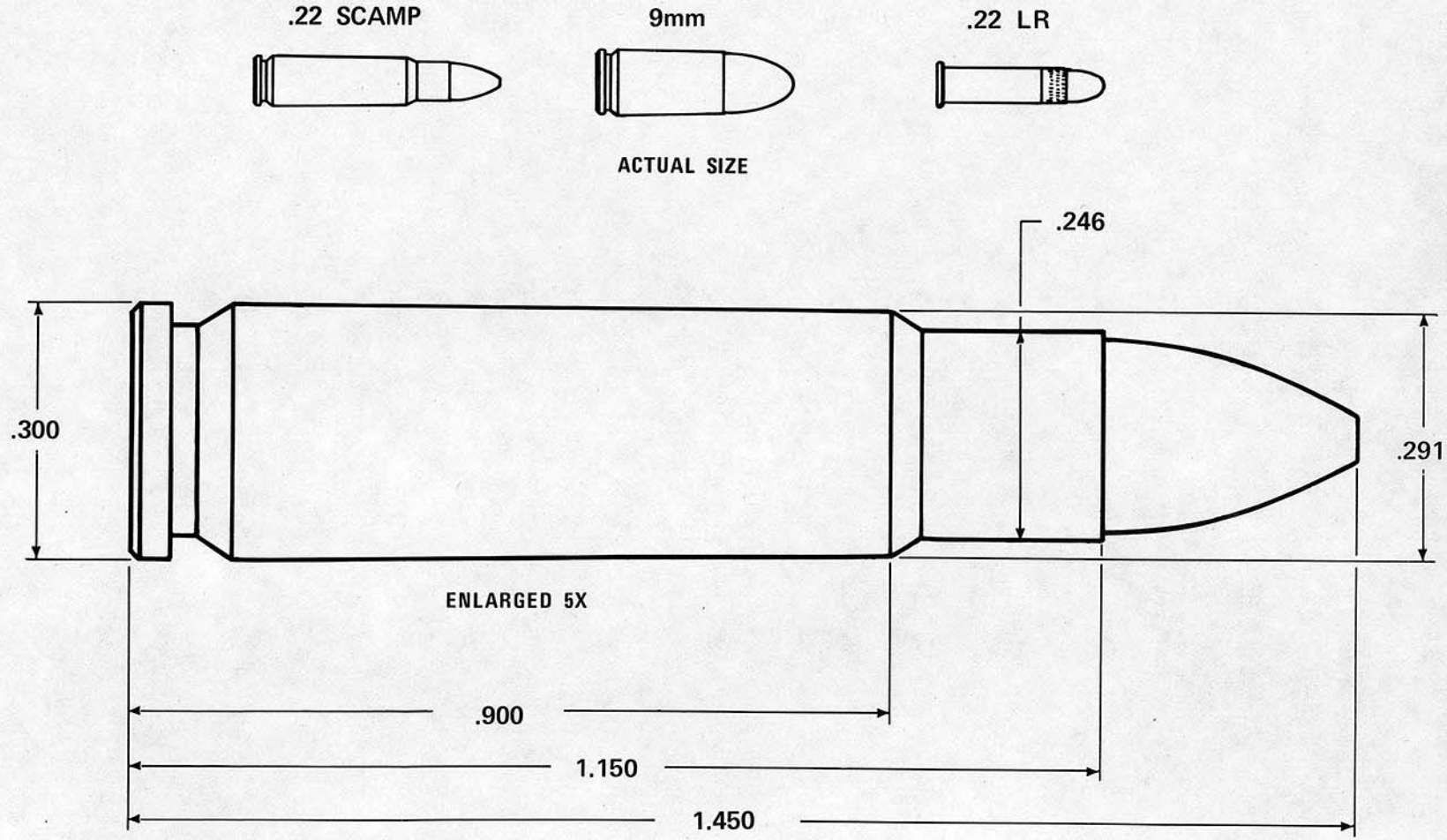

Figure 6-2. .22 Caliber SCAMP Cartridge.

CARTRIDGE COMPARISON					
Cartridge	.22 LRHV	.22 WMR	5-MM. REM MAG.	.22 SCAMP	9 MM SMG
Bullet Wt. (Grains)	40	40	38	40	115
Powder Wt. (Grains)	2.1	7.7	6.6	9.0	6.0
CTG. W. (Grains)	52	66	65	95 (est.)	156
CTG. Length (In.)	1.00	1.35	I.30	I.45	1.17
Velocity (Ft./Sec.)					
Muzzle	1200	1600	1700	2100	1300
50 M	1067	1312	1465	1825	1121
100 M	972	1113	1267	1580	1010
150 M	902	995	1123	1369	937
Energy (Ft.-Lb.)					
Muzzle	128	227	244	392	431
50 M	101	153	181	296	320
100 M	84	110	135	222	260
150 M	72	88	106	166	224
MV 3/2					
Muzzle	7.4	11.4	11.8	17.1	23.9
50 M	6.2	8.4	9.5	13.8	19.2
100 M	5.4	6.6	7.6	11.2	16.4
150 M	4.8	5.6	6.3	9.0	14.6

Figure 6-3. Cartridge Comparison.

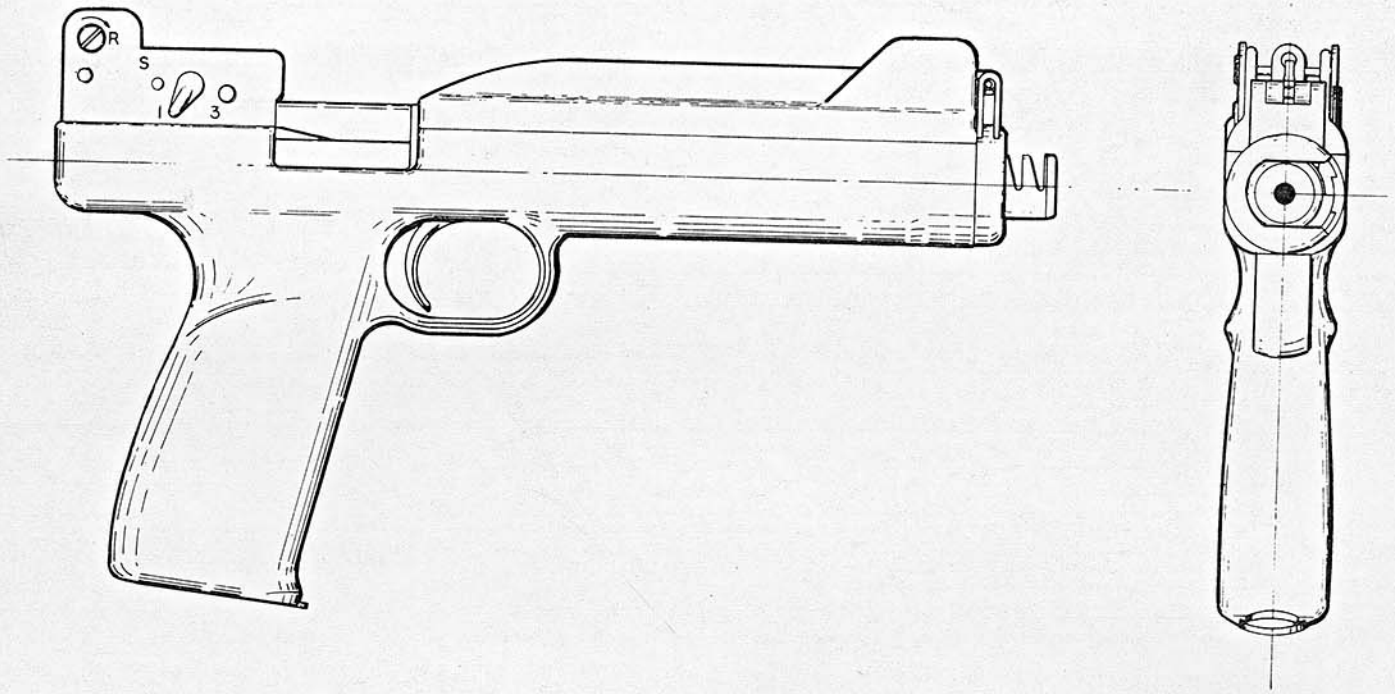

Fig 6.1 Colt's Small Caliber Machine Pistol (SCAMP)