

The MAGAL - A new weapon in the fight on urban terrorism

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Abstract

This report describes the development of a new, long-range weapon, specially designed for police use. To our knowledge, no similar weapon has ever been employed by any other police force.

In light of the special demands, placed on the police in Israel, it was decided that a new weapon was needed. This firearm, the MAGAL, can be classified as an *urban weapon*, as this is the environment in which it was designed to be used.

Historical aspects of the use of long-range weapons by the police are discussed. The development of the MAGAL, together with technical specifications of this new weapon, are also presented.

Introduction

Law enforcement officials have always had to use weapons that were at least as effective as those in their environment.

Traditionally, police forces have used weapons originally developed for the military or civilian markets. Police forces, both in the past and currently, are using a variety of long-range firearms such as shotguns, sub-machine guns (SMG), assault rifles (AR) and other kinds of rifles, such as sniper guns, for instance.

Since its inception, the Israeli police has used a number of different weapons including the STEN and UZI, SMG's, the M16 and GALIL assault rifles and the M1 carbine. The latter is generally used by the Civil Guard and patrol units. In certain operations, SWAT teams are also known to use rifles.

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The assault rifle was initially introduced into police service when combatting urban terrorism became one of the major tasks of the Israeli police. Since the weapons used by terrorists were usually of military origin, the police were forced to employ similar weapons to counter them. However, using a firearm, originally designed for field operations, in an urban setting, raised fears that innocent bystanders might be injured or killed.

Therefore, the special features suggested by the police for an urban weapon were:

1. Long range and accuracy.
2. High stopping power.
3. No excessive penetrating power.

After examining many standard firearms, it was decided that a new, purpose-built weapon should be developed. The result was a firearm named the MAGAL.

Rarely, if ever, has a weapon been designed exclusively for police work. The prohibitive costs of weapon's development and the small market - the police as opposed to the military - were probably reasons for this. In a review of the literature, including JANE'S Infantry Weapon, no reference was found to a long-range weapon designed *specifically* for police work.

Development of the MAGAL

The police requirements for an urban fireman were supplied to the Israeli Military Industries (IMI), which developed a new weapon, the MAGAL. The design of the MAGAL was based on the Israeli GALIL assault rifle, also manufactured by the IMI. (Figs. 1,2).

Ammunition for the MAGAL is the same as for the American M1 Carbine rifle, i.e., 7.62X33mm caliber (.30 Carbine). This ammunition was selected based on past successful experience. However, in order to meet the needs of the MAGAL, it was necessary to introduce a modification. By replacing the Full Metal Jacket with a Soft Point bullet, the ammunition's stopping capability was increased and excess penetrating power reduced.

Close co-operation between the police and the IMI resulted in a compact, semi-automatic, multi-purpose firearm. One special feature of the weapon is a built-in housing under the barrel for a flashlight, or Laser pointer.

In Israel, the MAGAL is currently in service, primarily in urban areas. The police, including the border police and special patrol units are using it. In one terrorist attack, in which a lone gunman fired on civilians, a MAGAL was used to take him out. No civilians were found to have been hit by the MAGAL bullets.

Technical specifications

Ammunition	7.62X33mm (.30 Carbine) FMJ, SP
Operation system	Gas action on piston head
Locking method	Rotating bolt, locking lugs
Feed	15 or 27 rd. magazine
Barrel characteristics	Polygonal, 5 grooves, 1:20" RH twist
Weight (Kg.) empty	3.2
Empty magazine (Gr.)	120 (27 rd.)
Loaded magazine (Gr.)	480 (27 rd.)
Overall length (mm)	740
Length with stock folded (mm)	485
Barrel length (mm)	230
Muzzle velocity (m/sec.)	500

The MAGAL's internal design is similar to the GALIL assault rifle, which in turn, resembles the Kalachnikov AK-47 assault rifle. Disassembly and assembly are, therefore, very simple (Fig. 4). Since this weapon was especially designed for the Israel Police Force, it is appropriately marked. (Fig. 5).



Figure 1 – the MAGAL “origin” (right hand view)

***Top – the MAGAL
Center – the GALIL SAR
Bottom – the M1 Carbine***



Figure 2 – the MAGAL “origin” (left hand view)

***Top – the MAGAL (stock folded)
Center – the GALIL SAR (stock folded)
Bottom – the M1 Carbine***

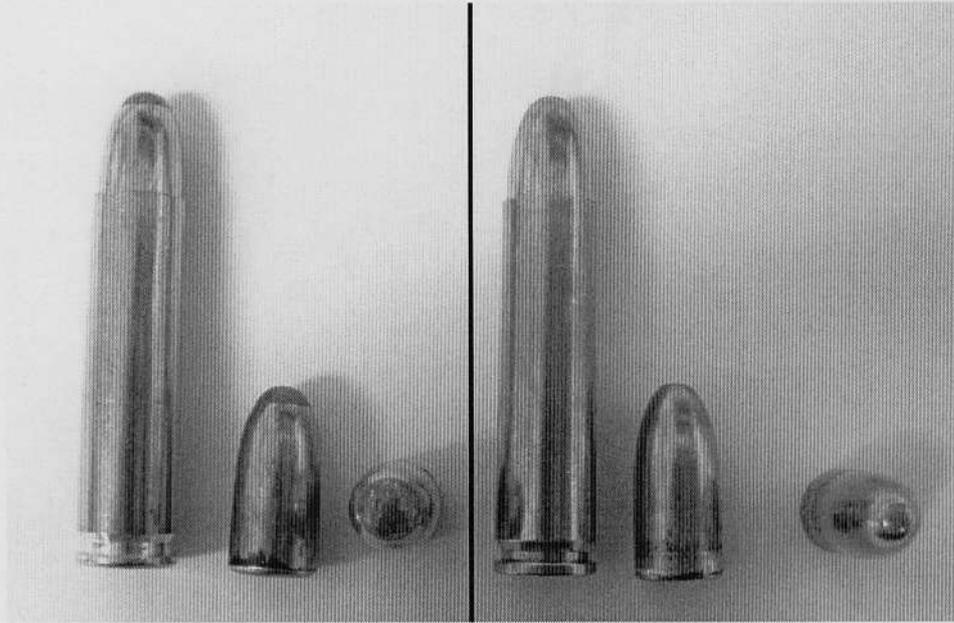


Figure 3 – .30 Carbine (7.62X33 mm) ammunition

*Left – Soft Point bullet
Right – Full Metal Jacket bullet*



Figure 4 – internal parts of the MAGAL

*1 – Bolt
2 – Bolt carrier with gas piston & cocking handle
3 – Returning spring
4 – Receiver
5 – Gas cylinder*



Figure 5 – Israel Police & Model insignia