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WEAPON

Division (entry)
JAN 13 1967
P. O. Box 100
FT. BENNING, GEORGIA

DEMONSTRATION

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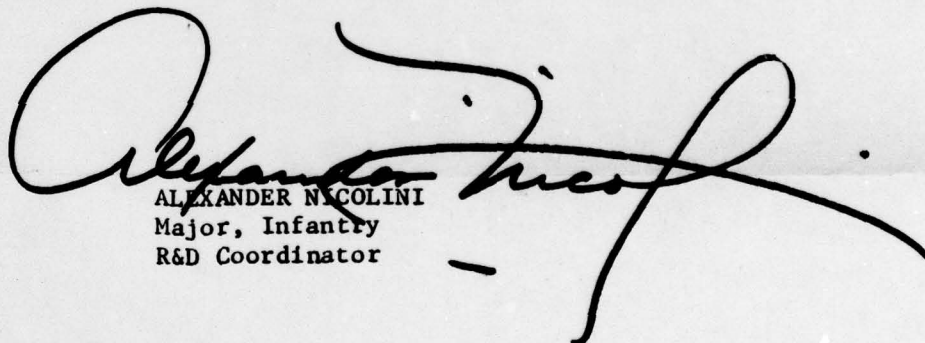
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FOR THE CHIEF:

A large, stylized handwritten signature in black ink, likely belonging to Alexander Nicolini, is written over the typed name and title.

ALEXANDER NICOLINI
Major, Infantry
R&D Coordinator

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40MM WEAPON DEMONSTRATION,
FORT ORD, CALIFORNIA

11 9 June 1966

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Participating Agencies

U. S. ARMY WEAPONS COMMAND

SPRINGFIELD ARMORY

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- AGENDA -

40MM WEAPON DEMONSTRATION

FT. ORD, CALIFORNIA

9 June 1966

- I. INTRODUCTION - Mr. C. Lanizanni (Springfield Armory)
- II. 40MM GRENADE LAUNCHERS - Mr. C. Lanizanni (Springfield Armory)
1. 40mm Low Velocity Grenade Launcher (M406 HE rounds)
 - a. Bipod Mount w/5-round Magazine - Range - 100-150 meters
 - b. M2 Tripod Mount - 10-round burst - silhouettes - range - 200-225 meters
 - c. M2 Tripod Mount - 10-round spasmodic firing - same target
 - d. Shoulder Firing w/ 5-round Magazine - Range - 100-150 meters
 2. 40mm High Velocity Grenade Launcher (M384 HE round) on M3 Tripod
 - a. 10-round burst - Target of opportunity - Range - 600 meters
 - b. 10-round burst-Silhouette targets - Range - 600 meters
 3. 40mm Manually Operated Automatic Launcher (M384 HE round) on M3 Tripod
 - a. 10-round burst - Target of opportunity - Range - 600 meters
 - b. 10-round burst-Silhouette targets - Range - 600 meters
- III. Viewing of Weapons and Targets and Discussion Period

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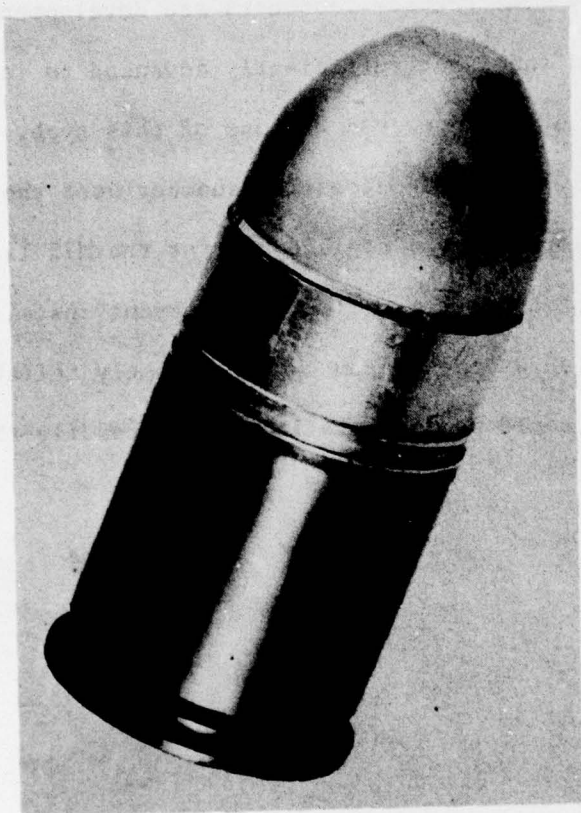
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FOREWORD

✓
This hand-out provides general information on the 40mm weapon prototypes and ammunition discussed and fired during the demonstration. The low and high velocity 40mm grenade launchers are development prototypes produced with limited funds but sufficiently advanced to indicate future potential in the use of self-powered weapons of this type.

The 40mm manually operated automatic launcher uses the same weapon currently under development, as a replacement for the M75 launcher in the M5 helicopter armament subsystem and future armament installations. Development tests have shown the weapon to be extremely reliable and maintenance-free and could be made available more readily than the self-powered launcher.

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40MM LOW VELOCITY GRENADE

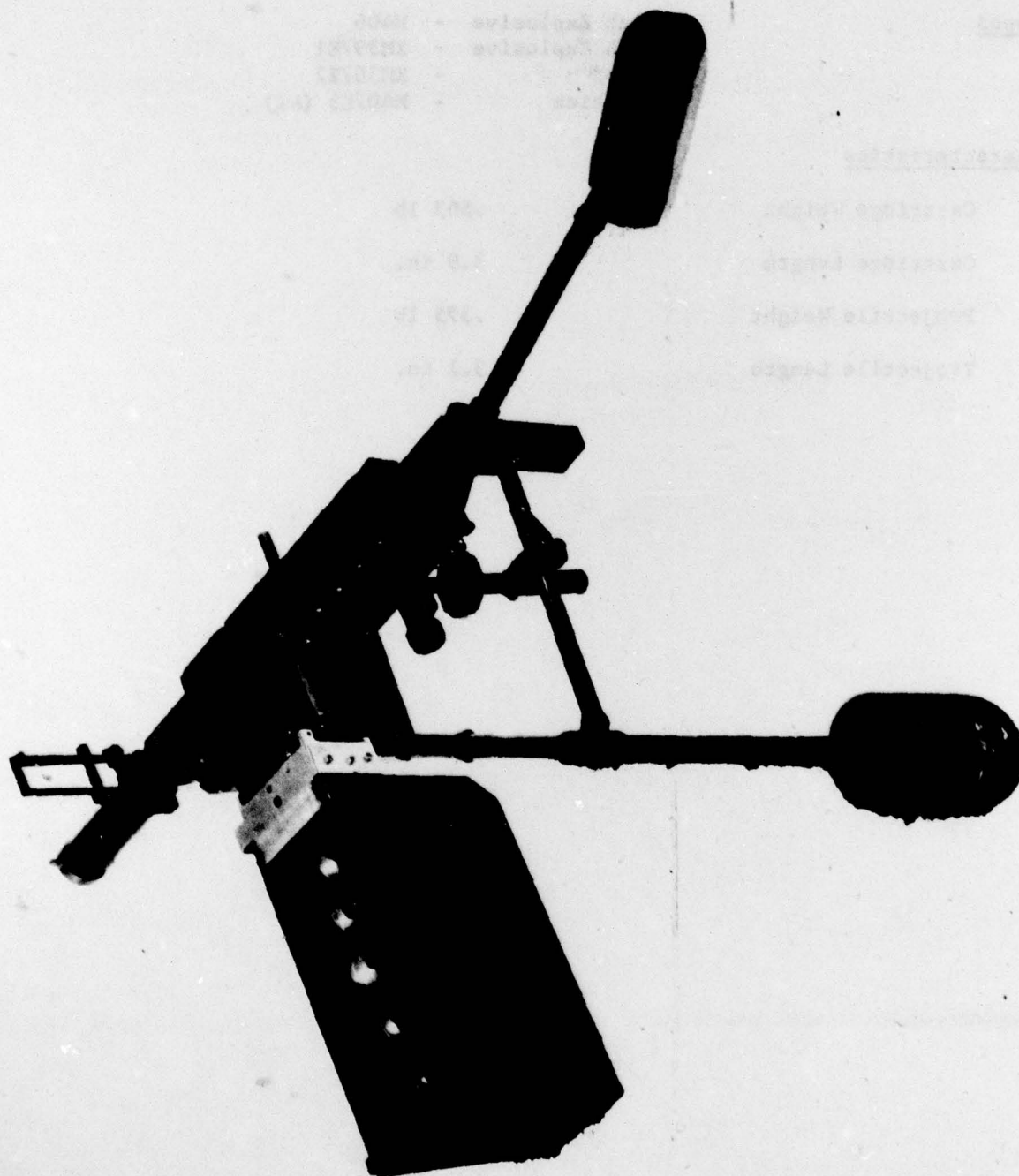
40MM LOW VELOCITY GRENADE

Types

High Explosive - M406
High Explosive - XM397E1
Proof - XM387E2
Practice - M407E3 (A1)

Characteristics

Cartridge Weight	.563 lb
Cartridge Length	3.9 in.
Projectile Weight	.375 lb
Projectile Length	3.1 in.



40MM LOW VELOCITY GRENADE LAUNCHER w/BOX AND LINK FEED SYSTEM

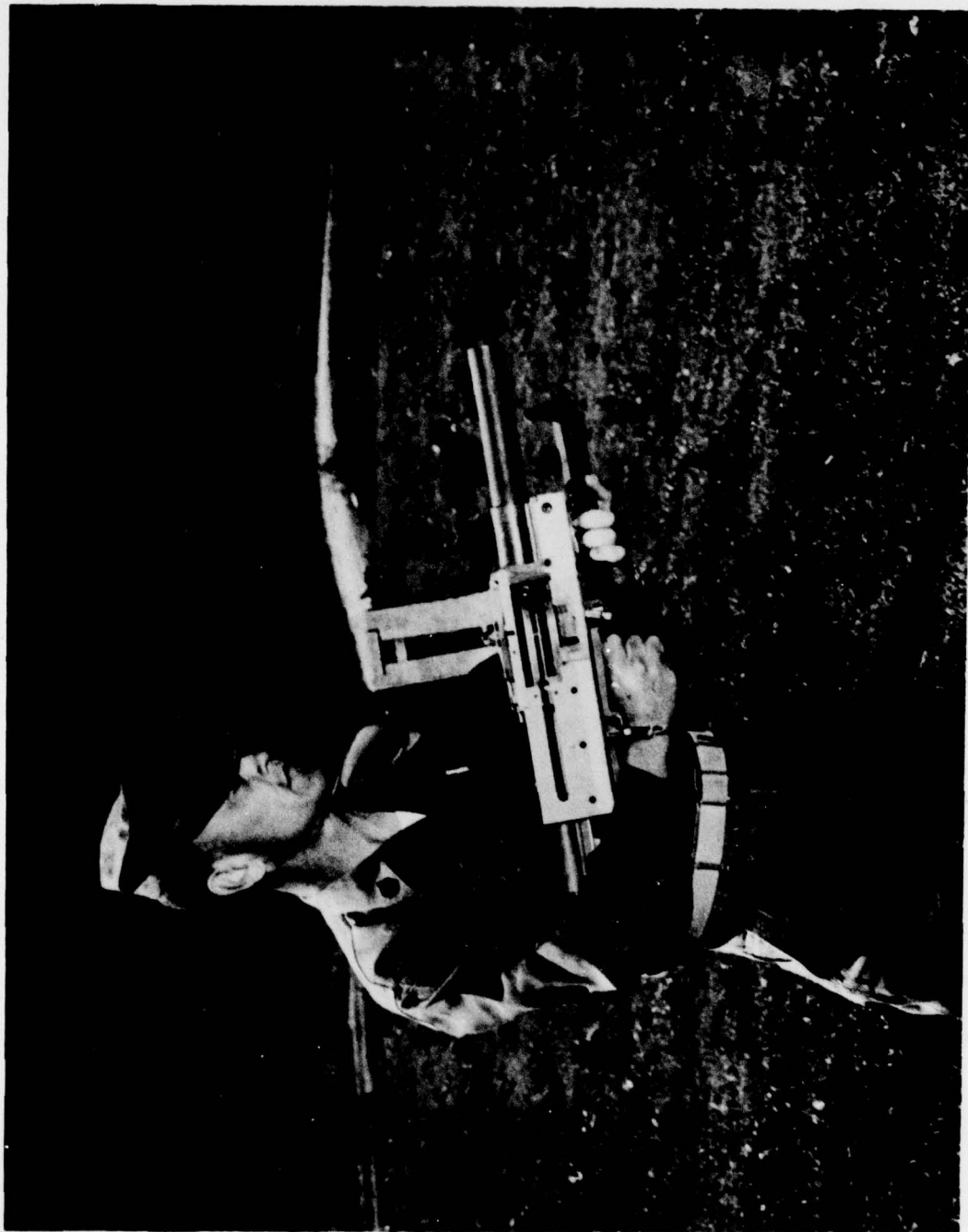
40MM LOW VELOCITY AUTOMATIC GRENADE LAUNCHER

Description

A lightweight automatic and semiautomatic self-powered antipersonnel weapon. This weapon concept employs a straight blowback action making the mechanism simple and compact. It is designed to utilize the same round as the M79 launcher using a metallic link disintegrating belt. The weapon can be used on tripod or vehicular mount.

Characteristics

Launcher Weight	13 lb
Launcher, M2 Tripod and 20-rd Ammo Box	38.5 lb
Length	27.6 in.
Width	6-1/2 in. without charging handle 9 in. with charging handle
Height	5-3/8 in. without pistol grip 7-1/8 including pistol grip
Direction of Feed	LH or RH
Method of Feed	Belt
Rate of Fire	300 s/m
Maximum Range	375 meters
Muzzle Velocity	250 ft/sec
Muzzle Impulse (Proj)	2.91 lb-sec



40MM LOW VELOCITY GRENADE LAUNCHER w/BIPOD, 5-ROUND MAGAZINE AND STOCK

40MM LOW VELOCITY AUTOMATIC GRENADE LAUNCHER

W/BIPOD, 5-RD MAGAZINE AND STOCK

Description

This is the same basic weapon as the 40mm Low Velocity Automatic Grenade Launcher modified to include a bipod, 5-round magazine and shoulder stock for firing from the prone and shoulder position.

Characteristics

Weight, Loaded

Prototype	18 lb
Developed	17 lb

Length	30 in.
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Width	6.5 in.
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Height	5.5 in.
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Direction of Feed	LH or RH
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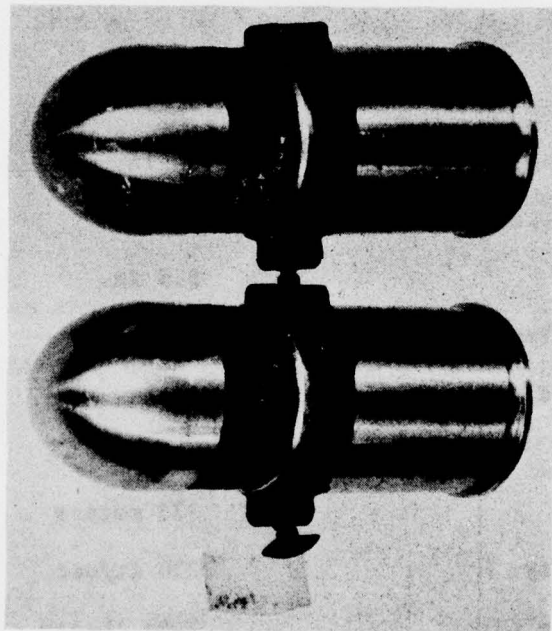
Method of Feed	Belt
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Rate of Fire	300 s/m
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Maximum Range	375 meters
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40MM HIGH VELOCITY GRENADE

40MM HIGH VELOCITY GRENADE

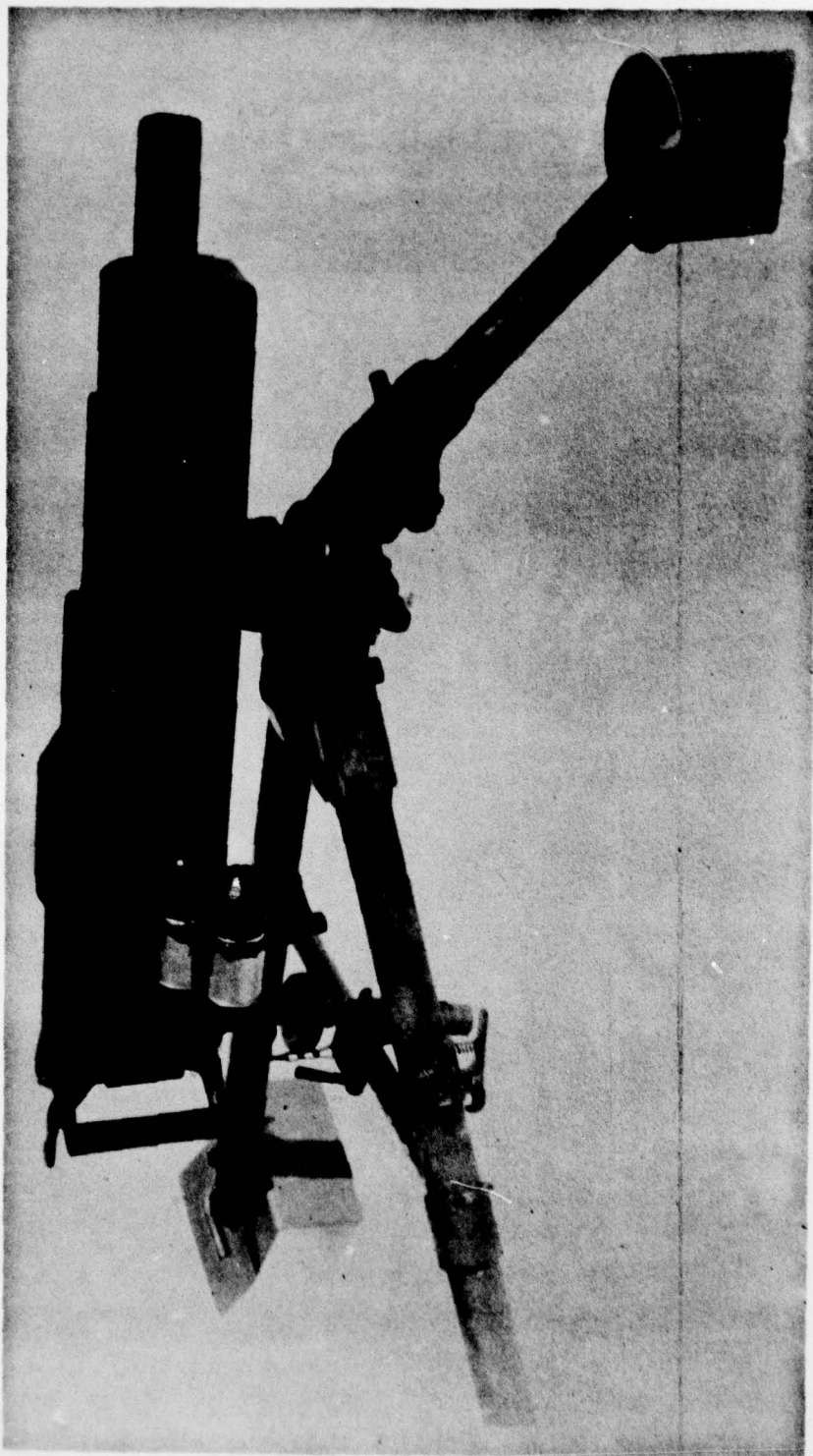
Types

High Explosive - M384
Practice - M385

Characteristics

Cartridge Weight	.75 lb
Cartridge Length	4.415 in.
Projectile Weight	.53 lb
Projectile Length	3.11 in.





40MM HIGH VELOCITY GRENADE LAUNCHER ON TRIPOD

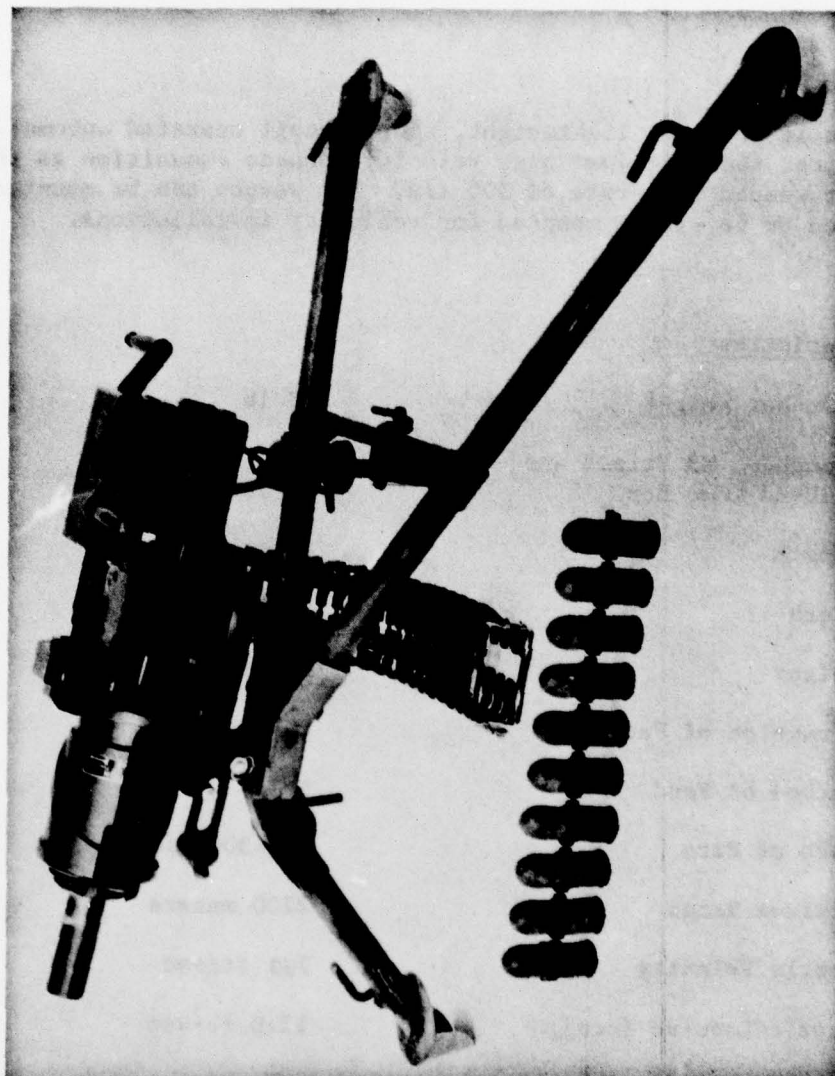
40MM HIGH VELOCITY AUTOMATIC GRENADE LAUNCHER

Description

A self-powered, lightweight, short recoil operated automatic weapon which fires the same 40mm high velocity grenade ammunition as the M75 aircraft weapon at a rate of 300 s/m. The weapon can be mounted on the M3 tripod or be pintle mounted for vehicular installations.

Characteristics

Launcher Weight	33 lb
Launcher, M3 Tripod and 20-Rd Ammo Box	94 lb
Length	31 in.
Width	5.5 in.
Height	5.5 in.
Direction of Feed	LH or RH
Method of Feed	Belt
Rate of Fire	250-300 s/m
Maximum Range	2200 meters
Muzzle Velocity	790 ft/sec
Muzzle Impulse (Proj)	12.0 lb-sec



40mm Manually Operated Automatic Launcher on M3 Tripod

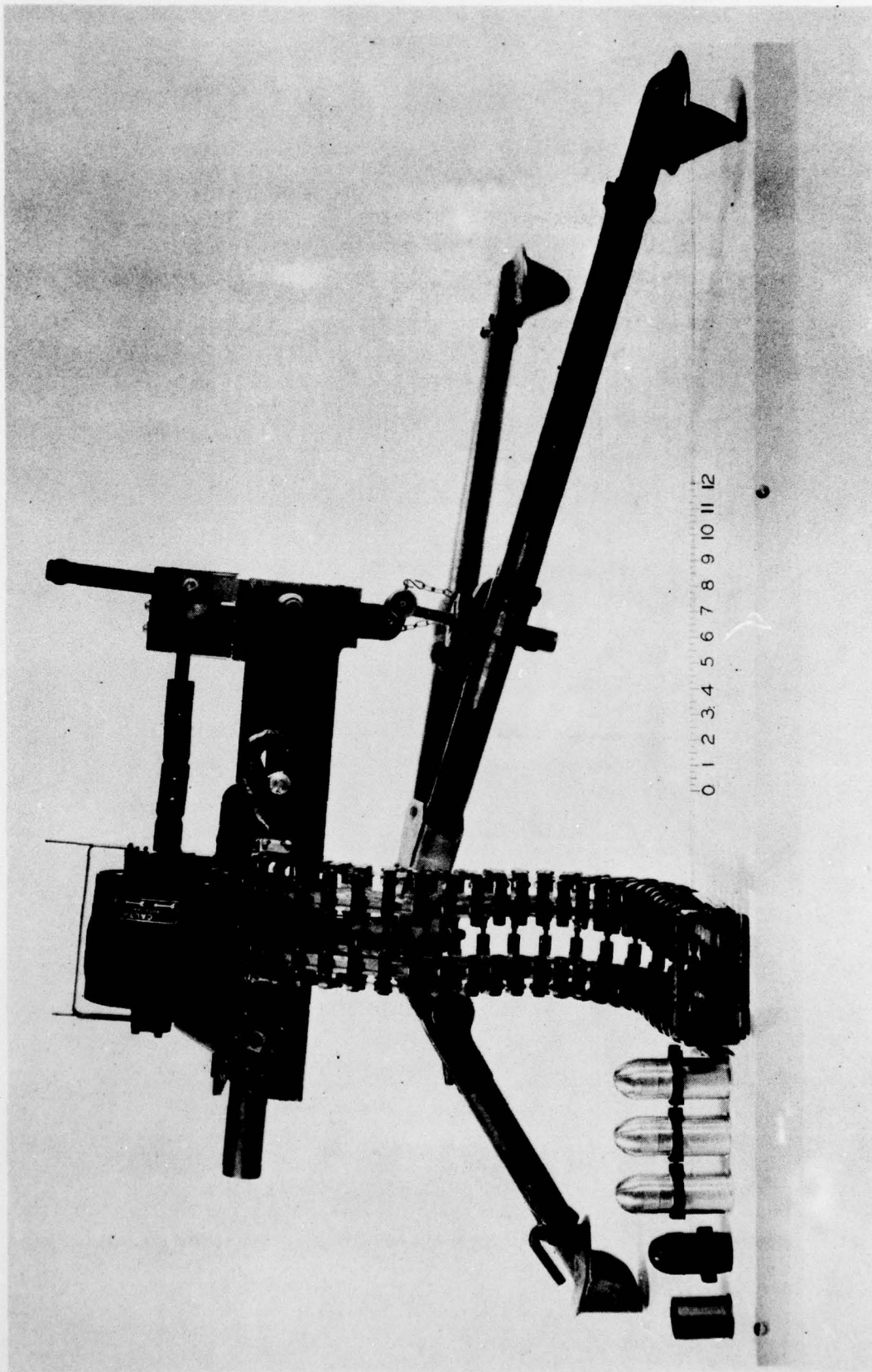
40MM MANUALLY OPERATED AUTOMATIC LAUNCHER

Description

A lightweight, compact, belt-fed, reliable automatic launcher equipped with a hand crank for ground or vehicular use where power is not available. The launcher is driven through the hand crank drive mechanism by an internal, concentric, cylindrical cam which reciprocates the barrel and actuates the feed, the firing and the locking mechanisms. One round is fired for every two revolutions of the hand crank or one revolution of the cam. The launcher fires the 40mm high velocity family of ammunition, and with minor additions to the feed tray can be converted to fire the 40mm low velocity ammunition.

Characteristics

Launcher (XM129)	40 lb
Launcher, Cradle and M2 Tripod	74 lb
Launcher, Cradle and M3 Tripod	104 lb
Length w/Barrel Retracted	26 in.
Length w/Barrel Extended	30.5 in.
Width w/o Hand Crank	9 in.
Height w/o Hand Crank	9 in.
Elevation - M3 Tripod w/o Link	-9° to +15°
Elevation - M3 Tripod w/Link	+15° to +35°
Operation	Manual
Rate of Fire, Max.	Approx. 60 spm
Effective Range	1500 meters
Maximum Range	2200 meters
Muzzle Velocity	790 ft/sec
Trunnion Reaction	Less than cal. 50 MG
Type of Feed	Metallic Disintegrating Belt
Direction of Feed	LH or RH



MANUALLY OPERATED 40MM GRENADE LAUNCHER, M75, ON THE M3 TRIPOD MOUNT

**MANUALLY OPERATED 40MM GRENADE LAUNCHER,
M75 FOR VEHICULAR AND TRIPOD MOUNTS**

Description

A portable and simplified antipersonnel grenade launcher capable of projecting grenades from 37 meters to 2000 meters and of defeating both enemy personnel and lightly armored materiel targets. This weapon can be used on a tripod, jeep or similar vehicular mount. The launcher can be used where electricity is not available to drive the conventional M75 motor. This dual capability weapon can use the long range 40mm grenade ammunition used in the M75 launcher and with a simple feed tray insert, can also use the shorter range 40mm ammunition used in the M79 launcher. This weapon has a forward moving barrel action using linked ammunition and actuated by hand crank.

Characteristics

Height (including recoil cradle mount)	19-1/2 in. (w/crank in "up" position)
Width (including cradle and crank	15 in.
Length With Barrel Forward	30-1/4 in.
Length With Barrel in Firing Position	26-1/2 in.
Weapon Weight	26 lb
Weight With Cradle Mount, Recoil Adapters, Crank Mechanism and Feed Tray	51 lb
Weight Complete with M3 Tripod	95 lb
Rate of Fire	1-40 rounds/min
Feed	L.H.
Hand Crank	L.H. or R.H.
Links	M16