

TM-10-95

MR-35 PUNCH GUN

By: Sergeant Fred Ellarby

TECHNICAL MEMORANDUM

Submitted by
Metropolitan Toronto Police

May, 1995

**NOTE: Further information
about this report can be
obtained by calling the
CPRC information number
(613) 998-6343**

Executive Summary

The MR-35 Punch Gun was provided by Mr. Stephen Stanko of Century International Arms Ltd. for evaluation purposes to Metropolitan Toronto Police. Sergeant Ellarby of the MTP Public Order Unit conducted and organized the field trials.

This type of equipment was originally designed for home intruder use in Europe. However, it may have application for police and other uses such as correctional institutions dependant upon how it is used, and the range at which it is used.

The MR-35 Punch Gun is one alternative to lethal force. The projectile is a spherical rubber ball weighing approximately 322 grains. Its average velocity is about 112 meters per second which translates into 110 Foot Pounds. This energy level should be sufficient to incapacitate at close proximity. The field trials showed that the projectile is affected by cross winds. This could be crucial in a potentially dangerous situation if the projectile missed its mark.

Résumé

M. Stephen Stanko, de la société Century International Arms Ltd., a fourni le MR-35 Punch au Corps de police de la communauté urbaine de Toronto pour évaluation. Les essais pratiques ont été menés par le sergent Ellarby, de l'unité de l'ordre public.

D'abord conçue pour la protection des particuliers en Europe, cette arme pourrait avoir certaines utilités pour les corps policiers et les établissements de détention selon la façon dont ils l'utilisent et la distance à laquelle elle est tirée.

Le MR-35 Punch Gun est une solution de rechange aux armes à balles. Son projectile, une balle de caoutchouc pesant environ 322 grains, atteint une vitesse moyenne de près de 112 mètres par seconde, ce qui se traduit par une énergie de 110 pieds-livres, un niveau suffisant pour neutraliser une personne située à proximité. Toutefois, les essais ont montré que les vents de travers influent sur le projectile, un facteur qui pourrait s'avérer crucial dans des situations risquées, si le projectile manque la cible.

MR-35 PUNCH GUN

by

Manurhin Equipment

INTRODUCTION

The MR-35 Punch Gun is manufactured by Manurhin Equipment of Mulhouse, France, an internationally known firearms manufacturer. It is distributed in Canada by Century Arms International. Conversations with a representative of Manurhin Equipment indicate that while the company is seeking the Police market, in France the weapon is primarily marketed for home defense.

The MR-35 is described by the distributor as “a 5 shot gun that shoots 35 mm non-lethal’ balls at a speed in excess of 300 fps. It induces a neutralizing shock that is designed to stop the opponent, deterring them from further action. It has the energy level of a .38 Special, with an effective range of 25 meters. The MR-35 is also an ideal training gun when used with the special training kit (included).”

The Public Order Unit of the Metropolitan Toronto Police Service examined the MR-35 gun in its research for a capability to stop a violent crowd from over-running its position and a non-lethal means to stop the actions of a potentially violent aggressor in a crowd environment. Contact with the distributor, Century Arms International, was made and the company was very co-operative in assisting in the Units examination of the weapon.

¹ When used in accordance with instruction manual

TECHNICAL DATA:

The MR-35 comes both with and without a shoulder stock. As the model without the shoulder stock was deemed inappropriate for use by the Public Order Unit due to aiming difficulties, the shoulder stock model was tested.

Length with shoulder stock: 30 inches

Weight: empty: 2.68 lbs.
with full magazine 3.42 lbs.

Barrel length: 11 inches

Cali bre: 35 mm

Materials: Barrel: A5 Aluminum

Frame: Polyamide reinforced with
fi breglass

Miscellaneous stainless steel parts

Action: The MR-35 is a double action, magazine fed weapon. Each trigger pull fires the loaded shot then advances the magazine by means of a ribbon spring integral to the magazine, which lines up the next shot.

Trigger Pull: 12.75 lbs. (on test gun)

Ammunition: The MR-35 uses a factory loaded 5 round magazine for duty use and comes with a reloadable single shot breech block for practice and training.

Magazine: weight: 0.75 lb.

material: polymer body

Projectile: weight: 21.5 grams (0.076 oz. / 320 grains)

material: hollow hard rubber ball
designed to split on impact

CHRONOGRAPH TESTING

Factory Duty Magazine loads:

Velocity: 112.7 meters per second (369.9 fps)
***averaged from 2 magazines**

Energy level: 1 10 ft/lbs (calculated with 322 grain ball)

Single shot breech block/Training load:

Velocity: 68.4 meters per second

ACCURACY TESTING

A standard police training silhouette target was used for all testing. Due to ammunition restrictions, extensive testing was not possible. After firing for familiarization and technical testing, the following results were obtained. These results were representative of the shooting done during familiarization.

Indoors:

7 meters: 3 rounds: all within 6 inches of point of aim

18 meters: 3 rounds: 8-1 2 inches below point of aim

Outdoors: light to moderate gusting cross-wind (from right to left)

**10 meters: 5 rounds: 4 rounds within 6 inches point of aim
1 round unknown as it did not penetrate or mark single sheet cardboard target.**

**20 meters: 5 rounds: 2 rounds low on target
3 rounds blown well left of target**

IMPRESSIONS

The MR-35 is a very impressive looking weapon due to the large bore and the magazine configuration. It is very lightweight and easy to carry.

Accuracy is a problem with this gun. It is acceptably accurate at 7 meters but by 18-20 meters, the weapon suffers greatly. The drop from point of aim at this distance can create difficulties in deciding whether to aim high and hope for a suitable drop to avoid a potentially lethal head shot or aim at centre mass as most police training now teaches and strike low enough to miss the torso. Outdoors the weapon was sufficiently sensitive to cross-winds as to be ineffective.

When the weapon was initially shown to members of the Public Order Unit, several firearms instructors who tried the gun found it difficult to fire accurately beyond 7 meters.

The initial examination of this gun was made with a view to crowd control. An accurate range of 7 meters is not suitable for this activity and, in fact, in any use against a weapon allows an assailant within the 21 foot danger zone.

The trigger pull on the gun, at 12.75 lbs. feels long and heavy and does not lend itself to accurate fire.

Chronograph testing of the weapon was done by Finn Nielsen, Firearms Section Head of the Ontario Center of Forensic Sciences. His testing shows the energy level of the gun similar to that of a .380 calibre handgun. While acknowledging that this is a high enough level for incapacitation it would likely require a hit to the face or throat that is potentially lethal. (See attached letter.)

Testing of the "training ammunition" found that it had only half the velocity of the duty ammunition. This renders it useless for accuracy training and only marginally effective for practicing gun handling skills due to the different operating system from the magazine feed.

CONCLUSIONS

The MR-35 may have limited use in home defense for those not in a position to use firearms or other means of force. It has an intimidating appearance and fires with a loud report and releases a typical "black powder" cloud of smoke. This effect coupled with the strike of the rubber ball would likely deter a common burglar.

However, in dealing with violent crowds or hostile individuals, it is unlikely that the MR-35 has sufficient impact to stop a determinedly aggressive assailant.

BIOGRAPHICAL NOTES

Finn Nielsen is the Section Head in charge of Firearms for the Ontario Center of Forensic Sciences under the Ministry of the Solicitor General. He is well-known as an expert in all aspects of firearms research. His testimony and opinions in regard to firearms have been accepted at all levels of the Courts.

Sgt. Ellarby has served with the Metropolitan Toronto Police Force for 19 years and currently is an organizer and trainer for the Police Public Order Unit (the unit responsible for crowd control). He has taught firearms use and tactics for a number of years. He is an active target/sports shooter and has been accepted as an expert witness regarding firearms.

Attached: Letter, January 19, 1995, Ministry of Solicitor General
brochure, MR-35 Punch Gun, Century Arms.

**Ministry of the
Solicitor General and
Correctional Services****Ministère du
Solliciteur général et des
Services correctionnels**25 Grosvenor St
Toronto ON M7A 2G825 rue Grosvenor
Toronto ON M7A 2G8The Centre of
Forensic SciencesLe Centre des sciences
judiciairesTelephone: (416) 314-3200 Téléphone : (416) 314-3200
Facsimile: (416) 314-3225 Télécopieur : (416) 314-3225

January 19, 1995.

Sgt. Ellarby,
Metro Toronto Police Force,
Public Order Unit,
703 Don Mills Road,
8th Floor,
North York, Ontario M3C 3N3

Dear Sgt. Ellarby:

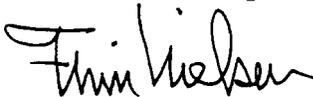
Re: Short Test of "MR-35 PUNCH"

Chronograph tests of four shots from the above item showed an average velocity of 112.7 meters per second (369.9 Feet per second). The spherical rubber ball it fires weighs 322 grains. That calculates to an energy of approximately 110 Foot lbs. That is certainly an energy level which may cause a person to be incapacitated, especially with a facial/throat hit.

While probably fine for so-called "Home Defense", I doubt if its flimsy construction would stand up to protracted duty use/training. The training ammunition is unsuitable for training inasmuch as it does not perform as a duplicate of the "Issue" cartridge. Its lower velocity (almost half), causes a vastly different trajectory.

Thank you for the opportunity to examine this item.

Yours truly,

Finn Nielsen,
Section Head,
Firearms.

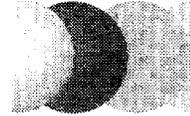
MANURHIN

**With the MR 35 Punch
Manurhin arms specialist
tackles attack**





A new Concept : "Deterrent Defense"



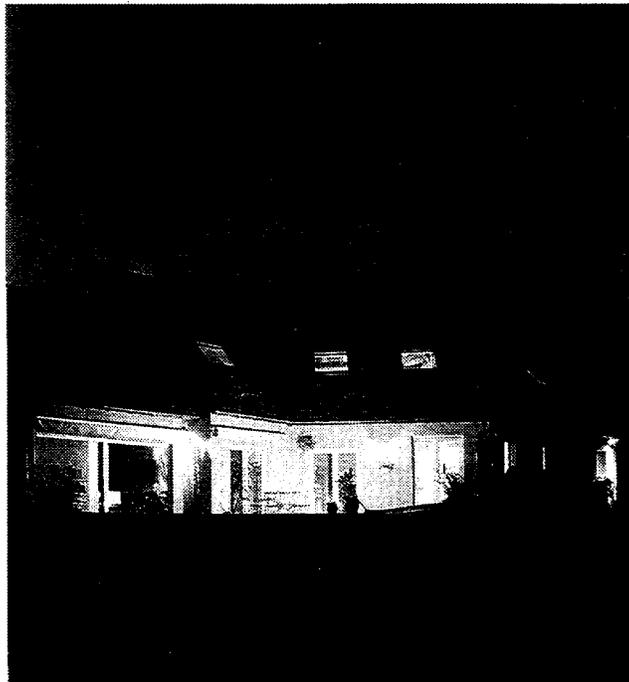
Manurhin Equipement, known as the top European manufacturer of revolvers, has developed a new product after establishing the following fact : until recently; the protection of individuals was based on 2 systems.

- **Passive defense**
(Alarm, bunker; video.. .)

It only prevents or calls your attention on an intrusion in your home.

- **Active defense**
(Tear gas, granular shots, weapons.. .)

It involves products which are often ineffective against resolute aggressor or weapons which can open the user to claims.



Aware that most of today's guns are designed only for trained professionals Manurhin Equipement, thanks to its experience, created a new concept in protecting individuals with the MR 35 Punch version : **the deterrent defense**

With the MR 35 Punch, the response is up to the gravity of the threat and relies on 4 basic criteria :

- Non lethality design
- Precision
- With a efficient fire power and a good stopping power

Training

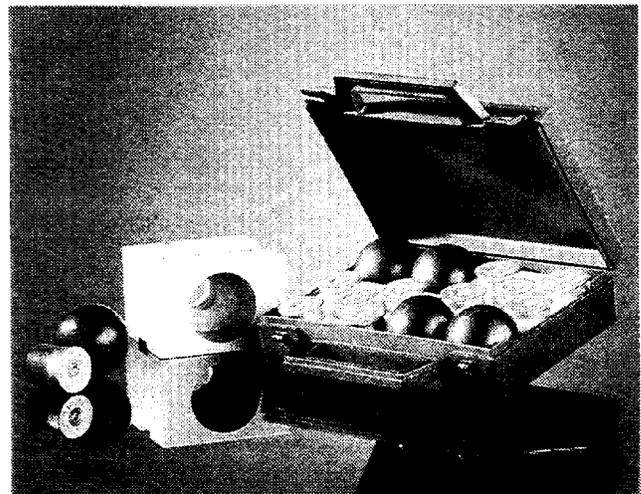
A weapon can be efficient only if its user knows it. Each weapon comes with a reloadable single-shot magazine

which allows you to train shooting at a lower cost so that you control the MR 35 Punch.

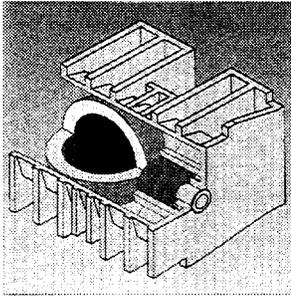
Options

- Integrated MINI MAGLITE® system with adjusting kit

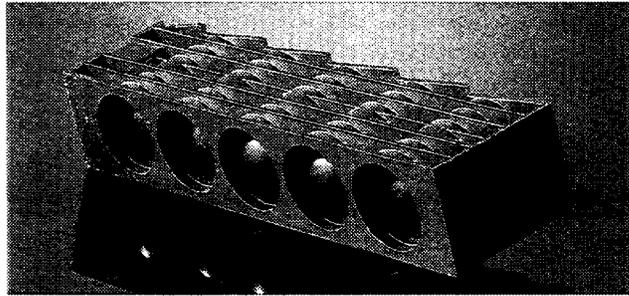
- Shoulder strap
- Carry case with accessories



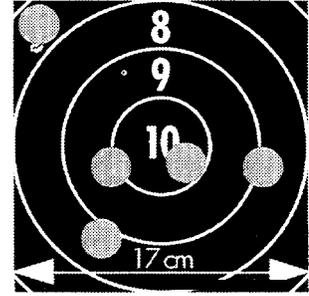
One-shot training kit



Loading section



5-shotsloader



Impacts of the shots at 23 ft

Not designed to cause death

The MR 35 Punch is not designed to kill. It imparts a neutralizing shock that stops the opponent and deter him from going on with his action. This effect is obtained thanks to an ammunition with non-penetrating projectile especially designed by Manurhin Equipement.

Fire power

Under attack, a fast and efficient reaction is vital. The MR 35 Punch has a firing capacity of 5 shots in less than 5 seconds, loading included.

Stopping power

Having a stopping power of a .38 Special, the MR 35 Punch gives you the power of a boxer able to hit his opponent within 33 Ft.

Precision

The MR 35 Punch is a precise weapon that protects you from any intrusion. At 23 ft, 5 shots are concentrated within a 7 inches sided square.



Loading : article shown with MINI MAGLITE (option)



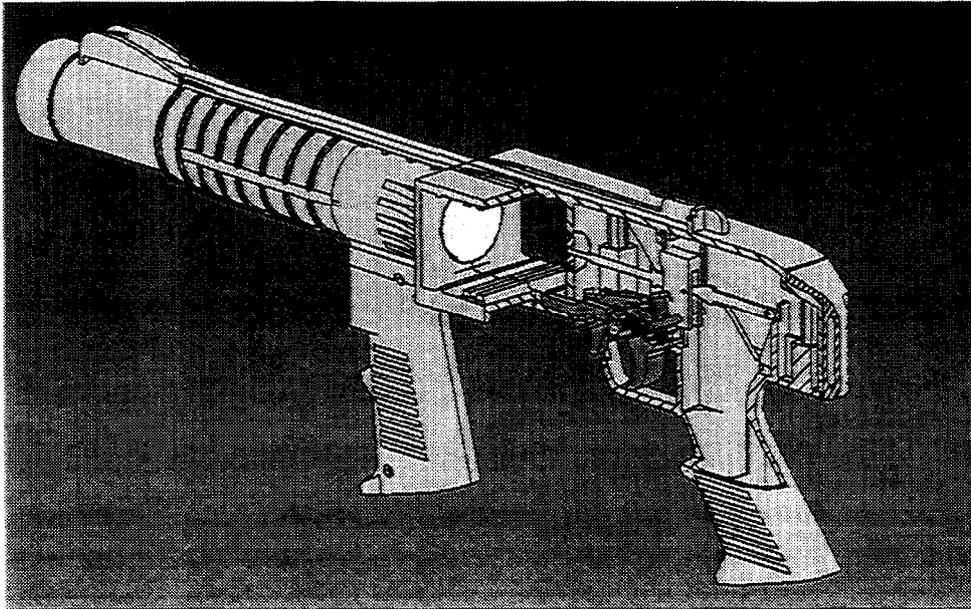
Loading : article shown with the MINI MAGLITE (option)

MR35 Punch

Manurhin Equipment is the leading European manufacturer of revolvers and thanks to its experience the company is the furnisher of :

- the French National Police
- the Section of the Gendarmerie (French military security force)
- the Special intervention forces in several countries

The MR 35 Punch is designed by a specialist in handguns for the police and military purposes. It has been developed in an industrial environment under the arms department's quality control.



Technical specifications

- Double action mechanism, revolver type
- A winding spring moves the magazine from one shot to the next.
- Body of the arm in Polyamide PA 66 30 FV
- Barrel with an A5 metallic tube
- Loader weight : 3,31 lb
- Total length : 20.4 inches
- Barrel length : 11 inches
- 1,38 inches calibre
- Complete with single-shot magazine and cleaning brush

In France the MR 35 Punch is a weapon classified in the 7th category : free purchase, possession and transport in the conditions accepted by law.

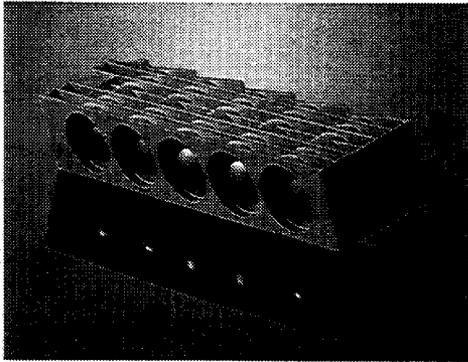
Warning : Read carefully the user's guide before use !

MANURHIN EQUIPMENT . DEPARTEMENT ARMES LEGERES
BOITE POSTALE 2119 . 68080 MULHOUSE CEDEX . FRANCE
FAX (33) 89 53 83 11

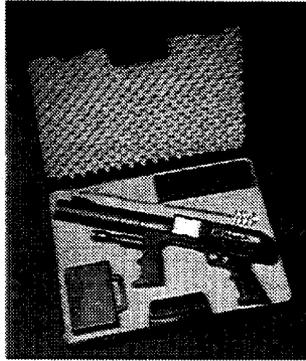
Distributor's stamp :



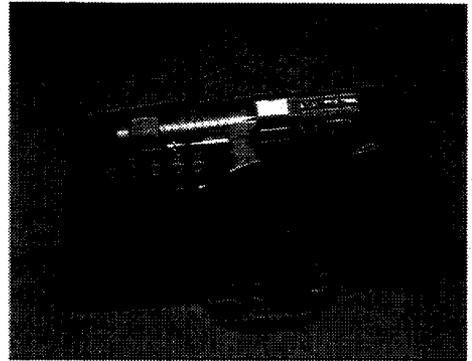
Century International Arms Ltd.
7815 Henri Bourassa Blvd. West
Montreal, Quebec
H4S 1P7
TEL: (514) 333-9933



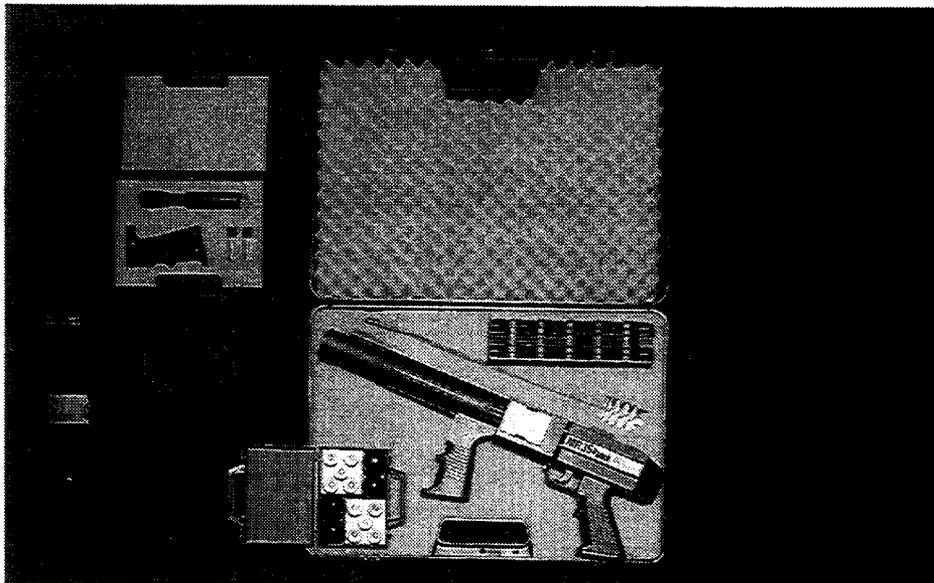
5 - shots loader



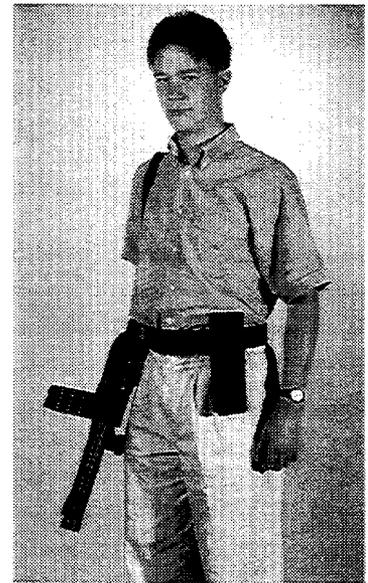
Case for MR-35



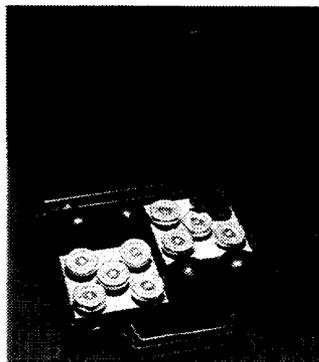
Black slip cover



Training kit



shoulder strap



Kit MAGLITE



5 - Shots loader pouch and belt

IMPRIMERIE ART REAL 6600 GUERWILLER