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G06-02
Protected A

Storage Guideline

Police, Explosives Disposal Units, Tactical Units and Canine Units

Explosives Regulatory Division
Explosives Safety and Security Branch

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Canada

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1. INTRODUCTION

This Guideline applies to any organization that meets the definition of a "law enforcement agency" as defined in the *Explosives Regulations, 2013*, section 205.

This Guideline addresses the storage of police operational stocks in a Rapid Access Magazine (RAM). A RAM is used to store explosives that are required for immediate operational needs, where it would take too much time to retrieve the explosives from a regular magazine. Quantities in a RAM must be kept to a minimum. A RAM can be either in a fixed location inside or close to police stations, or on a vehicle. These options are further explained in this document.

A main magazine built in accordance with the *CAN/BNQ 2910-500 Explosives – Magazines for Industrial Explosives* and sited according to the *CAN/BNQ 2910-510 Explosives – Quantity Distance*, is to be used for the storage of training stock and operational not required for immediate purposes. Normal licensing procedures apply.

Options are available for main magazines where the distances between the magazine and exposed sites do not meet the required distances of *CAN/BNQ 2910-510 Explosives – Quantity Distances*. Any proposed option must meet an equivalent level of safety as a magazine sited according to the requirements of *CAN/BNQ 2910-510 Explosives – Quantity Distances*. Please contact the Explosives Regulatory Division for any additional information about these options.

This Guideline will be used for processing new licence applications and for the renewal of existing licences.

For a copy of the *CAN/BNQ 2910-500 Explosives – Magazines for Industrial Explosives* or *CAN/BNQ 2910-510 Explosives – Quantity Distance*, contact the Bureau de Normalisation du Québec, www.bnq.qc.ca.

2. POLICE STATION RAM REQUIREMENTS

2.1 Quantities

The maximum quantity of high explosives in a fixed-location RAM should be **5 kg NEQ or less**.

2.2 Fixed RAM

A fixed RAM at police stations may be located outside or inside the police station.

The RAM construction must meet this Guideline for both high explosives and detonators magazines. A RAM situated outside of the main police station and designed using this Guideline should be located in a secure building.

A RAM located inside must be sited in accordance with the principles of layered security. Inside RAMs are not to be positioned against load-bearing surfaces or columns.

A fixed RAM in the interior of a police station may not need to meet the bullet resistance requirement.

Fixed RAMs or RAMs on vehicles are to be made as per Annex A or as per *CAN/BNQ 2910-500 Explosives – Magazines for Industrial Explosives*.

A secure building is deemed to be a substantial stand-alone structure, without windows, and equipped with a solid lockable door. Padlocks, if used, must meet the requirements specified in section A.7 of Annex A.

A secure building would typically be a:

- Type 4 magazine built to the 1982 Standard;
- Sea container with an enhanced lock protection cover; or a
- Wooden shed without windows, built with 5cm x 10cm (2”x4”) studs. The exterior walls are made from two layers of 16 mm (5/8") plywood sheets, with a layer of expanded metal in between. The steel door must be secured solidly to the frame with either internal hinges or external prison type hinges. The door must be locked by a quality deadbolt.

2.3 Preparation Area

A high explosives preparation area may be included in the RAM storage room if there is adequate space. The quantity of explosives must be kept to a minimum required to perform the preparation activities.

For the preparation area, the electrical classification for all electrical enclosures, including lighting, should be a minimum of EEMAC 4 (dust resistant and water resistant).

When entering the preparation area, measures must be taken to minimize the likelihood of an accidental ignition. Ref.: *ER, 2013* - Section 19 & 20.

3. VEHICLE RAM REQUIREMENTS

3.1 Quantities

Explosives must not exceed **5 kg NEQ** in RAMs on vehicles parked inside a police station, such as an attached parking garage. Explosives should not exceed **10 kg NEQ** in RAMs on vehicles parked outside a police station or facility (open-air or light-framed garage, i.e., not attached to the police station). The parking location must be as isolated as possible and not near schools, hospitals, or any vulnerable exposed sites (ES).

A reasonable number of detonators may be stored in the vehicle (in a separate RAM). The licence will state the maximum quantity.

3.2 RAM Safety and Security Considerations

Both high explosives and detonators RAMs must meet the requirements of Annex A or *CAN/BNQ 2910-500 Explosives – Magazines for Industrial Explosives*. This includes the requirement for bullet resistance.

Mobile RAMs are to meet the requirements of the *Explosives Regulations, 2013*, Part 9.

3.3 Additional Considerations for Vehicles

Trailers may be used only with a fifth-wheel type attachment.

Recognizing that one is working in a rather confined space, electrical outlets should be located as far away as practical from the explosives storage area and the work bench. The electrical classification for all electrical enclosures, including lighting, should be a minimum of EEMAC 4 (dust resistant and water resistant).

It is recommended that the vehicle be equipped with an isolating battery disconnect to isolate the power to the battery when the vehicle is parked overnight and unattended. The preference is to locate it as close to the battery as practical (within 0.3 m) and to have it switched off during non-operational hours (ensure that any alarm systems are not affected).

Electric detonators can be accidentally initiated by radio communication frequencies. Precautions are to be taken to minimize the likelihood of the accidental initiation of electric detonators from radio transmitting devices.

4. CANINE UNITS REQUIREMENTS

4.1 On Duty or On Call Situation

Quantities

A canine training kit containing a maximum of **1.0 kg NEQ** aggregate (not more than 100 grams for each individual sample) may be in a storage unit.

The storage unit for the canine training kit is not required to be bullet resistant.

The canine kit must be transported in its original packaging or in another mean of containment that is subject to equivalency certificate issued by Transport Canada.

Vehicle

The vehicle must be alarmed as required by the *Explosives Regulations, 2013* - Section 199(2)(d).

4.2 Off Duty, Holiday or Sick and not on call

The dog training kit must be stored in the RAM at the police station or in a licensed magazine when the officer in charge of the dog training kit is off duty.

ANNEX A

TYPE RAM
(Bin, Box or Cupboard)

A.1 USE

A RAM is a small bin, box or cupboard used for the limited storage required for emergency situation. A RAM built to the specifications in this guideline may be used as licensed magazine e.g., for the storage of small quantities of industrial explosives, including detonators.

A.2 BASIC CONSTRUCTION

A RAM shall be a metal receptacle with a closely fitting lid/door secured by one or two high-security padlocks or specialty lock system as per section A.7. The construction of the magazine may be in the form of a bin, box or cupboard with a lid or a door.

A.3 MATERIALS

Plywood shall be exterior-ply type good one side. The good side should face the interior of the magazine.

Expanded metal (Can be aluminum) shall be 5-mm Short Way Dimension (SWD) openings, 20-gauge (3/16”-20) flattened for ventilation openings.

Metal plate mild steel or aluminum alloy 5083-H32 similar quality. Welding filler must be done by a certified welder.

A.4 STRUCTURAL DESIGN

The detailed design of a RAM, built according to this Guideline, is left to the ingenuity of the builder, depending on the end purpose. The RAM is to be reasonably secured against forced entry.

RAMs in vehicles and fixed outdoor RAMs are required to be bullet resistant. The RAM shall be constructed using a laminated design, with the following cross-section on all surfaces, including the door or lid. From the exterior to the interior, the construction must be metal plate of mild steel or of 6-mm (1/4") aluminum alloy 5083-H32 or better, assembled with continuous welds; bullet-resistant panel, and lined inside with a minimum of 6-mm (1/4") G1S plywood. The whole wall assembly must meet UL752 ballistic Standard level # 8. Any interior shelving is to be of wood. The bullet resistance performance must be supported by technical data from the manufacturer or by a competent/certified ballistic facility.

Note: The ballistic material panelling is to overlap at the corners and is not to have any slots cut in for shelving, etc. The older bullet resistance wall assembly of a 6 mm (1/4") and 22 mm (7/8") rigid fiber glass "Armotex" continues to be an acceptable bullet resistance wall assembly.

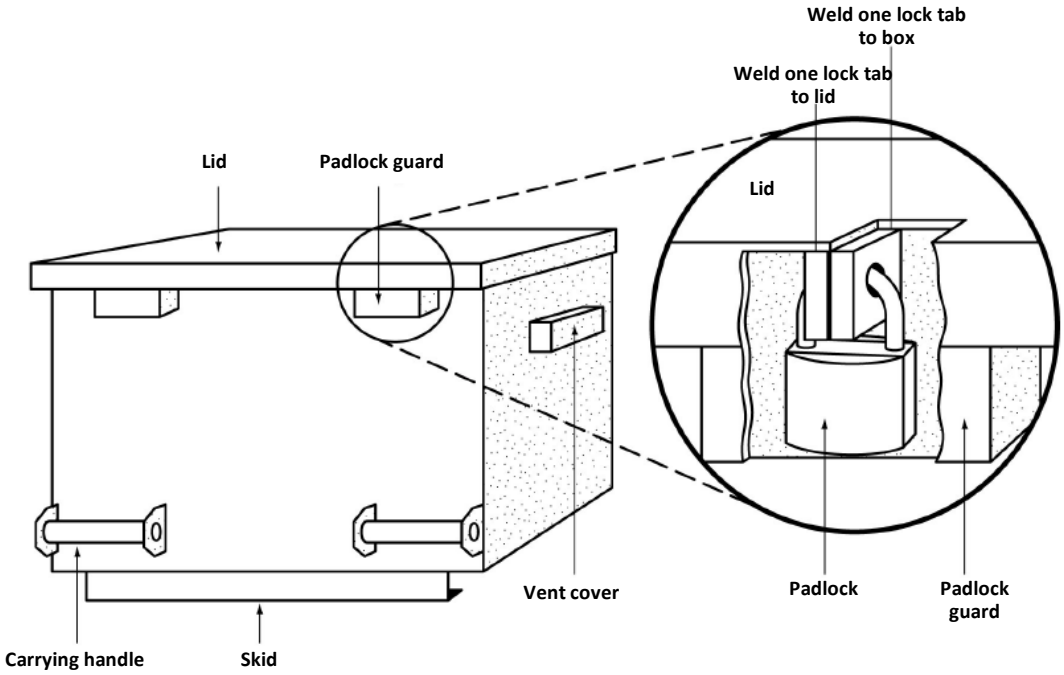
When designed as a cupboard style, the door must be recessed in a frame that leaves a 3-mm (1/8") gap around the door perimeter when closed. When designed as a bin, the lid must have a minimum of 25 mm external lip.

In all cases, if the magazine is to be used for detonator storage, then the letter "D" must be indicated with a weld bead (emboss) or stamped large enough so that it can be easily distinguished before opening and putting detonators inside.

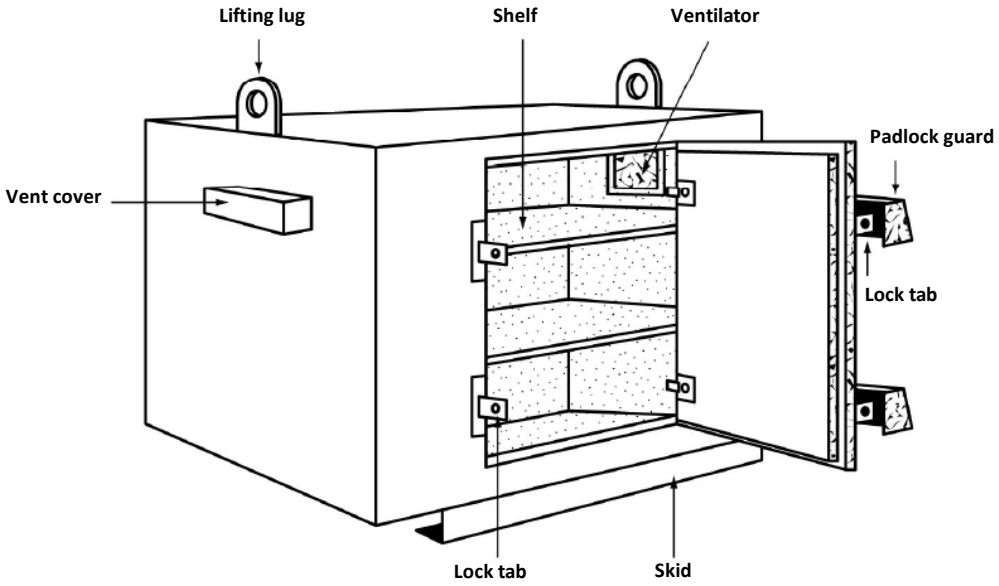
When the storage compartments are designed as a combined unit for both detonators and high explosives, the two compartments are to be constructed as if they are two separate containers with a 2" air gap between them. One common metal plate must not be used as the adjoining wall between the compartments. The doors on these combined units are to be fabricated in such a way that only one door at a time can be opened. When designed as a cupboard style the door hinges are to be mounted in the middle so that the doors would come together, back to back, if it were possible to open both at the same time.

Note: Securing one door of an adjoining magazine from the interior of another magazine is not permitted, i.e., both doors must have separate, keyed lock mechanisms.

EXPLOSIVES MAGAZINE RAM – TYPE BIN



EXPLOSIVES MAGAZINE RAM – TYPE CUPBOARD



A.5 VENTILATION

The container is to have venting and screens. Ventilation shall be provided by drilling or cutting not more than three holes or slots, each 6.5 cm^2 or less, in the upper half of the sides. A screen of flattened expanded metal with 5-mm Short Way Dimension (SWD) openings, 20-gauge (3/16”-20), shall be securely welded over the ventilator openings. A fly screen may also be added. If exposed to the weather, ventilators shall be provided with an external hood.

A.6 HINGES, HASPS, SECURITY LUGS AND PADLOCK GUARDS

For security against a forced entry, the hinge side of the lid or door shall be designed to prevent the lid or door from being opened from that side if the hinges are cut or if the hinge pins are removed. This may be achieved by installing a security flange on the inside of the lid or door that will recess into or nest behind a section of the box to which the lid or door is hinged.

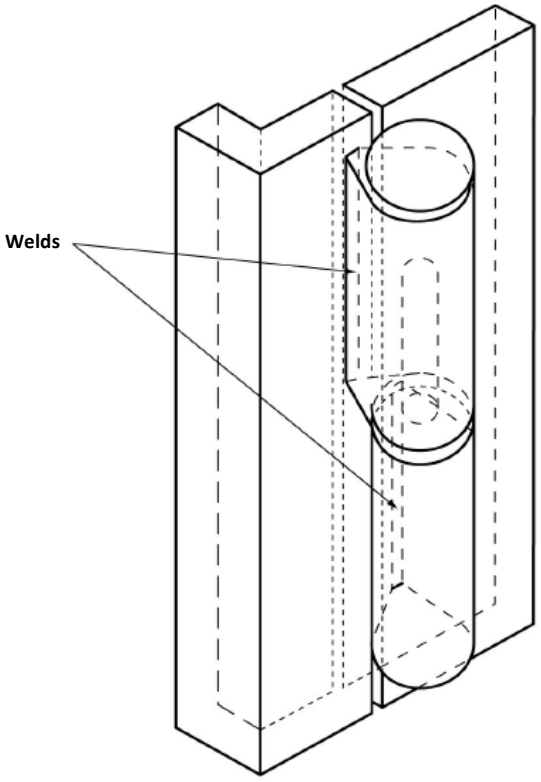
Hinges shall be of a medium-duty type or better, welded in position with non-removable (fixed) pins to prevent their removal by a forced attack (refer to Illustration below). For example, Series 8378/200 by Faucher Industries Inc. or Marr Weld-on Hinges, series FSP-200 or equivalent, are highly recommended for such a purpose.

The holes in the staple and hasp must conform to the shackle diameter of the padlock, when

installed, to give it a snug fit.

The protective padlock guards (hoods) shall be fabricated from 6.35-mm (0.25”) metal plate, be welded all around, and be of sufficient depth to protect the body of the padlock from a pry force or cutting attack.

Hasps shall be located at a distance from each corner equivalent to one quarter of the width of the opening. When the opening is 60 cm or less, a single hasp or locking tab and padlock may be installed at the center.



Typical medium-duty hinge with non-removable fixed pin, suitable for types RAM magazines.

A.7 PADLOCKS

Approved high-security padlocks and cylinders shall be used.

Padlock shall conform to either:

- Force level 4 of Standard ASTM F883; or
- Grade 3 of Method BS EN 12320.

Cylinder shall conform to either:

- Security level S3 of Standard ASTM F883; or
- The requirement of Standard CAN/UL 437.