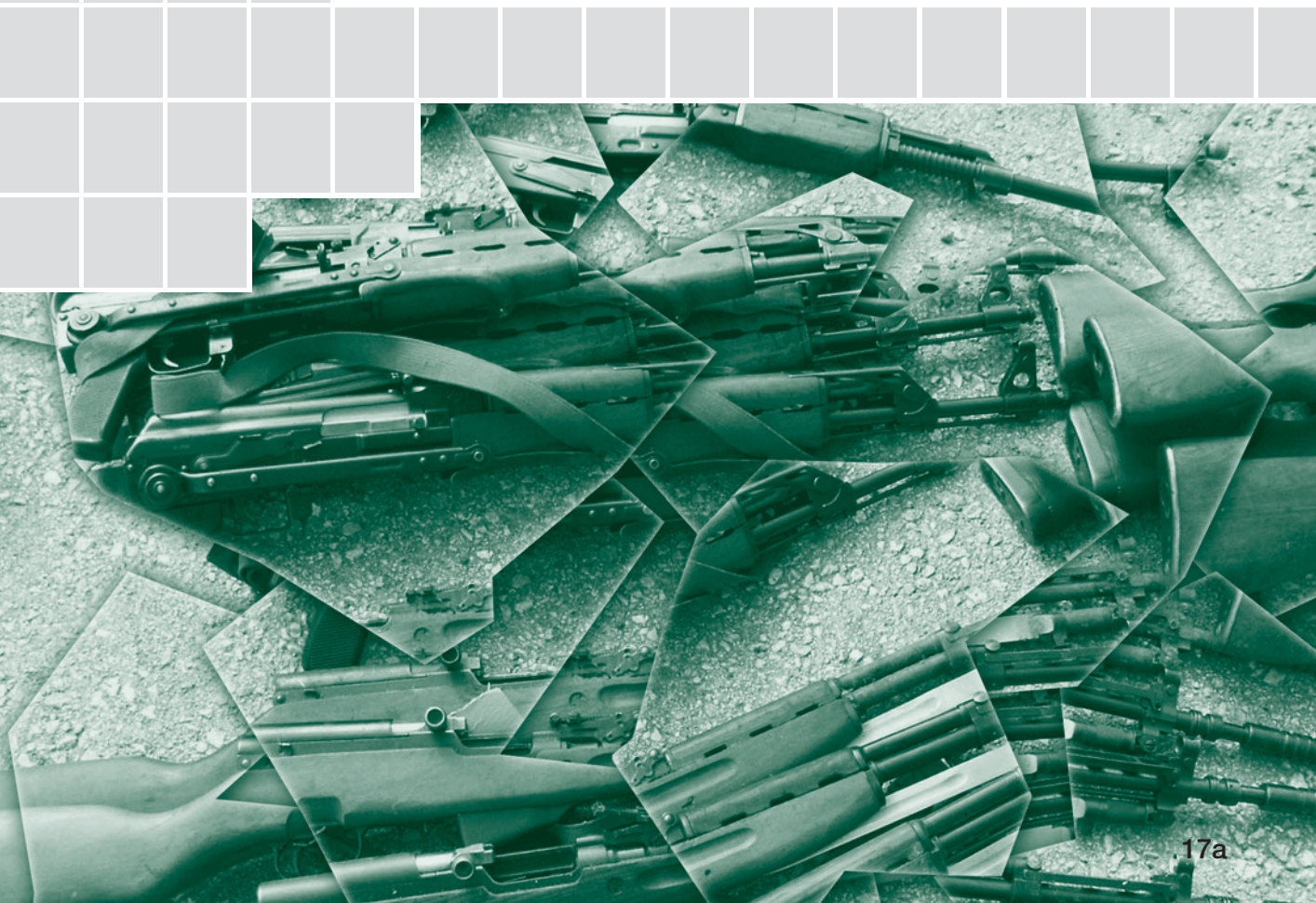


# Best Practice Guide on National Procedures for Stockpile Management and Security

## **Annex C: Man-Portable Air Defence Systems (MANPADS)**



This annex was drafted by the governments of Germany, United States of America, Canada, France, United Kingdom, Italy, Russian Federation, Sweden, and Turkey.

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# I. Introduction

## 1. Aim

Man-Portable Air Defence Systems (MANPADS) require special attention and consideration in view of the devastating loss of life and potential effect on the civil aviation industry that a single MANPADS attack could cause. The aim of this best practice guide is to provide best practice guidance on stockpile management and security for MANPADS including:

- a) surface-to-air missile systems designed to be man-portable and carried and fired by a single individual; and
- b) other surface-to-air missile systems designed to be operated and fired by more than one individual acting as a crew and portable by several individuals.

## 2. Scope

This best practice guide covers rules and procedures applying to MANPADS, encompassing both the complete MANPADS systems, light weapons elements (i.e. grip-stock, etc) and ammunition elements (i.e. missiles). They are recommended for complete MANPADS explosive rounds, MANPADS systems in a ready-to-fire configuration, and for jointly stored or transported MANPADS launcher tubes and/or grip stocks and the explosive round, though not in a ready-to-fire configuration. These best practices are also broadly applicable to other man-portable missile and rocket systems in similar configurations as outlined above, such as man-portable anti-tank missile systems.

## 3. References

A list of references can be found at the end of this document.

## II. Procedures

### 1. Physical Security Measures for MANPADS stockpiling

#### a) The appropriate characteristics of stockpile location

Where the design of MANPADS permits, missiles and firing mechanisms (gripstocks) should be stored in separate storehouses and in locations sufficiently separate so that a penetration of the security of one site will not place the second site at risk.

MANPADS should be stored in the most secure accommodation, providing the highest standards of physical security. MANPADS missiles should be stored in permanent structures, preferably in concrete ammunition storehouses equipped with adequate security doors, secured with at least two separate locks at each door (key control see below). Firing mechanisms should be stored under physical security measures, which meet at least the requirements for SALW.

The perimeter of MANPADS storage sites should have clear zones, fences and internal and external lighting. Windows and other openings or access points should be kept to a minimum. All structures should be checked by facility security personnel at prescribed intervals, and random checks should also be conducted, including during off-duty hours. In cases where two or more units share a facility, one unit should be designated as responsible for the security of the entire facility.

In addition to outer perimeter fencing, the inner (actual) MANPADS storage area should either be continuously monitored (either by personnel or video surveillance) or have its own inner fencing. The inner fencing should be situated in relation to the structure so that a breach of the fence with an explosive device would not also breach the storage structure. Unless continuously guarded, any

fence gates should be kept locked. Drainage structures, water passages or other objects penetrating the fence should be small enough to prevent any possible passage. A recommended minimum height of fences for MANPADS storage sites is 2 meters (or 6.5 feet).

Locks should be certified and tested to delay unauthorized intruders attempting to gain access using battery powered tools by at least 10 minutes in order to permit security forces to respond before weapons can be removed.

Exterior building and door lighting should be provided for all structures storing MANPADS. The lighting should be of sufficient brightness to allow easy observation of unauthorized activity. Switches for exterior lights shall be installed in such a manner that they are accessible only to authorized individuals.

Additional security measures could include use of a combination of high security fencing, extra detection devices, CCTV, improved security lighting, biometric security devices, increased patrolling or the introduction of guard dogs.

#### b) Surveillance

MANPADS storage sites should be placed under armed guards, and subject to continuous (24-hour per day) surveillance that will immediately detect any breach of security. The sites should therefore generally be equipped with an automatically operating, electronic intruder detection alert system. Implementation of electronic security measures to prevent simultaneous access to separately stored missiles and firing mechanisms should be considered.

MANPADS storage facility sites should incorporate an intrusion detection system with the physical security measures. The facility intrusion detection system should

include point sensors on doors and other apertures allowing access by intruders, and interior motion or vibration sensors. All alarm signals should sound at a central control or monitoring station from which a response force can be dispatched. When a MANPADS storage facility is located outside a military installation, arrangements should be made to connect to local law enforcement or commercial security services from which immediate response to activated alarms can be directed. Alarm transmission lines should either have line security (electronically monitored to detect evidence of tampering or attempted compromise) or include two independent means of alarm signal transmission. Any visible lines should be regularly inspected for tampering. Alarm systems should also be tested regularly.

The intrusion detection alarm system, facility physical security measures and first responder security forces should be integrated so that, if an intrusion is detected and the alarm is transmitted, the physical security measures would delay any intruders and prevent access to stored MANPADS long enough for security forces to respond to the intrusion.

Storage areas should have a primary and backup means of communications that permit notification of emergency conditions. The backup system should be different from the primary. The communication system should be tested daily. Radio could be one of the modes of communication.

Storehouses not being under permanent technical surveillance should alternatively be permanently guarded. Ammunition storehouses, which have a defective intruder detection system or none at all, should be checked by guards at irregular intervals not exceeding 60 minutes. Additionally, quick-reaction forces should permanently be kept on standby, to be dispatched to any ammunition storehouse in order to establish the cause of an alert.

### c) Storage

MANPADS should normally be stored in original containers, banded, and sealed with tamper detection seals to reflect the integrity of the contents. Generally containers weighing less than 225 kilograms (or 500 pounds) should be fastened to the structure, or fastened together in groups, which have a total weight exceeding 500 pounds with bolts or chains secured with padlocks unless such fastening would impede facility operations. Recommended additional security measures include the use of internal locking devices and two person key control procedures. Hinge pins to doors should be welded or otherwise secured and windows and other openings kept to a minimum.

Unit-level stored stocks should typically be housed in a building used to store ammunition on a rifle range, or a military police/security force operations room. They should be stored in a secured arms room, vault, or a secured weapons storage container with minimum standards for their structural integrity and access doors or points. If secured in combat vehicles, aircraft, ships, trailers, or in other configurations required by operational or training requirements, constant surveillance of the items should be established and maintained.

### d) Review

The existing physical security measures for MANPADS stockpiling should regularly be reviewed and - if necessary - be adjusted.

## 2. Access Control Measures

### a) Personal Security

Access to MANPADS and parts thereof and any related classified material and information should be limited to military and official personnel that meet the following requirements:

- with proper security clearance and an established need to know the information in order to perform their duties;
- and
- with access granted through a list of names issued by the head of the relevant storage facility.

Safeguards could be established under which entry to storage sites requires the presence of at least two authorised persons. All entries to MANPADS storage sites should be recorded in an access log, which should be kept as a record for a minimum period of at least one year. The quantity of MANPADS to be removed should be as small as possible to support specific missions or projects.

### b) Lock-and-key handling and security

Keys to MANPADS storage areas should be stored separately from keys and devices for other conventional storage areas. Only personnel with authorised access to MANPADS should have access to keys.

Any authorised person should be authorised to receive only one key, ensuring that access to MANPADS storehouses is generally subject to a “two-person principle.”

Whenever a key is issued or returned, the following items of information should be recorded in writing:

- the date and time when the key is issued or returned;
- the key's serial number;
- the signature of the person issuing or returning the key;
- the name and signature of the recipient.

All documents in which the issuance and return of keys is recorded should be kept for a period of at least one year after the last entry has been made.

At prescribed intervals, typically every six months, the responsible officer of the storage facility concerned should check if the keys to the MANPADS storehouses are still complete. The date and result of this check should be recorded in a security logbook, which should periodically be examined by the superior agency.

As soon as it becomes known or there is suspicion that a key has been lost or a duplicate key has been produced, the lock concerned should urgently be replaced.

## 3. Handling and Transport

### a) Secure handling

Where applicable, principal components – typically the missile in a launch tube and the gripstock – should only be brought together and assembled:

- in the event of hostilities or imminent hostilities;
- for firing as part of regularly scheduled training, or for lot testing, for which only those rounds intended to be fired should be withdrawn from storage and assembled; and
- when systems are deployed as part of the point defences of high priority installations or sites.

Anyone handling or having direct access to these classified MANPADS assemblies, components or pertinent documents (e.g. user manuals) should be required to undergo a security clearance check.

### b) Procedures aimed at maximising transport security

MANPADS should be transported in a manner that provides for the highest standards and practices for safeguarding sensitive munitions in transit.

Where the design of MANPADS permits, missiles and firing mechanisms should always be transported and transhipped separately, wherever possible in separate vehicles and at different times. MANPADS missiles and launch and control equipment should not be loaded into the same freight container. When missiles or firing mechanisms are transported or transhipped on public roads or inside civilian/military facilities, security should be provided by armed military transportation escort detachments. Transshipments should be conducted only by cleared and authorised personnel. In the event that transportation is halted, the transport vehicles should be guarded permanently. Whenever possible rests or technical halts during a MANPADS transport should always be conducted in military facilities and placed under constant guard.

MANPADS should be transported in sealed and locked containers. When feasible, MANPADS shipments should be provided with a security vehicle escort. Positive control should be maintained over MANPADS transport as much as is possible. Clandestine transport, as detailed on page 8 of the OSCE Best Practice Guide on National Procedures for Stockpile Management and Security, is not recommended for MANPADS transport under normal circumstances.

Shipments should be tracked and monitored via satellite tracking devices and/or with escorts in contact with a command and control center to ensure additional response should the shipment come under attack or require additional assistance.

Serial number accountability should be maintained at all times from shipper to consignee. Shipping should be direct to the intended final destination, with no delays or stop-overs in transit locations. Items moved by a unit or organization transportation should be placed in the custody of a commissioned officer, warrant officer, senior noncommissioned officer, or civilian of equivalent rank.

A minimum of two personnel should be required if access to the MANPADS is necessary during transport. Each container should be checked, tamper-detectable sealed, and locked by two agents of the shipper (in each other's presence) before delivery to the carrier. This two-person integrity should be required at each transshipment point and terminal whenever the shipment loses its original identity (e.g., when two or more shipments are consolidated into another container for further movement or if repacking is required).

In the case of MANPADS shipments over water, prior to the voyage a written stow plan should be provided to the ship's captain detailing the location of the arms, ammunition, and explosives aboard ship and its protection requirements. MANPADS should be stowed in separate, locked containers, inaccessible to unauthorized personnel during ocean transit. MANPADS shipments should be direct-voyage to destination. If the cargo must be offloaded en route, it should be provided constant surveillance by government personnel, if available, or by national crew-members pending reloading.

## 4. Inventory management and accounting control procedures

### a) Management and system

A strong system of positive controls and accountability, from the lowest to the highest level should be put into place. Written verification should be provided on the receipt of MANPADS. Diligent record keeping is required for securing stockpiles, ensuring control, and providing safety surveillance. Training and staffing should be carefully managed to ensure dependable funding and personnel support to ensure accountability.

Inventory should be by serial number of firing mechanisms and missiles, with written records including serial numbers maintained. Procedures should be put into place that ensure regular reporting of missiles and rockets issued for training; missiles and rockets returned unexpended from training; and expended residue, as applicable. Procedures should be established for appropriate MANPADS inventory managers to verify requisition of MANPADS. These requisition verification procedures should include positive steps for rejecting excess and unauthorized requisitions. Any procurement plans or contracts should provide for individual item serialization.

Complete physical inventory of all MANPADS should be compiled at least once a month at the unit level, semi-annually at the installation level and annually at the depot level. A centralised national inventory should be maintained. Controls would include reconciliation of accounting documents against existing stockpiles. Such regular inspection ensures that any discrepancies are reported promptly. A complete count of the contents of any box should be undertaken if there is any evidence of tampering

MANPADS components expended or damaged during peacetime should be accounted for by serial number. Obsolete MANPADS, MANPADS components or items beyond economical repair should be destroyed in a timely manner and in such a way as to avoid subsequent

repair and re-use, with destruction accounted for by serial number. Responsibility for destruction rests with the country owning the MANPADS. However, the original producing country should provide technical advice and assistance on destruction procedures when requested. All confirmed thefts, losses, and recoveries of MANPADS should be promptly reported to the appropriate national law enforcement. All records of MANPADS turnover should be kept indefinitely.

As far as the issuance and return of classified and/or sensitive equipment, components, documents etc. relating to MANPADS are concerned, it should be ensured that the whereabouts of the issued materiel are traceable physically and to the responsible person(s) at any time.

MANPADS producing and / or exporting countries could supplement controls further by the introduction of invisible marking procedures into the missile and firing mechanism (gripstock) technology process.

## References

OSCE Strategy to Address Threats to Security and Stability in the 21st Century (interalia, paragraphs 9, 15, 29, 31, 46, 47, 48 and 54) MC(11)JOUR/2.

FSC Decision on MAN-Portable Air Defence Systems **FSC.DEC/7/03**.

FSC Decision on OSCE Principles for Export Controls of MANPADS **FSC.DEC/3/04**.