

International Measures for Addressing MANPADS Threats

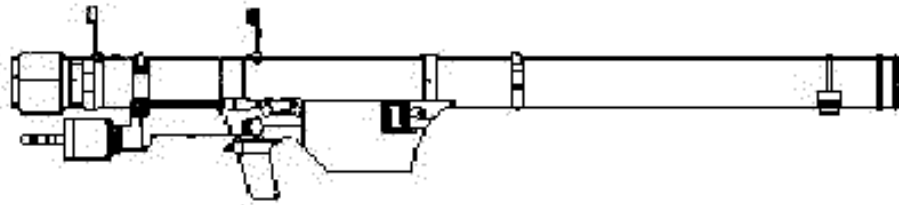
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Introduction

- The Threat of MANPADS
 - Measures for the Nonproliferation of MANPADS
 - Technical and Other Approaches
 - Conclusions
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Example of one type of MANPADS

SA-7 - The first generation of Soviet man portable surface-to-air missiles



Source: Global Security.org

SA-7

Parameter / Version	SA-7A	SA-7B
Max. effective range	3200 m	4200 m
Max. effective ceiling	2000 m	2300 m
Min. altitude	50 m	30-50 m
Min. effective range	800 m	800 m
Max. speed of the target	220 m/s	260 m/s
Max. speed	385 m/s	580 m/s
Total weight of the system	14,5 kg	15 kg
Weight of the missile	9,2 kg	9,85 kg
Weight of the warhead	1,15 kg	1,8 kg
Length of the missile	1,42 m	1,44 m
Diameter of the missile	0,072 mm	0,072 mm
Length of the launcher	1,49 m	1,49 m
Diameter of the launcher	0,1 m	0,1 m
Into-action time	max. 6 s	
Reaction time	max. 5 s	

(Source: Global Security.org)

MANPADS Threat

- Estimated 42 attacks on aircraft since 1972; 29 of those aircraft crashed
 - 2002 attack in Mombassa, Kenya occurred away from any combat zone
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Threat

- Easy to transport and conceal compared to other weapons
 - Relatively Inexpensive (\$1,000 - \$100,000)
 - Some training necessary
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Threat

- 500,000 to 750,000 throughout the world
 - Manufactured in 20 countries; almost every country in the world in possession
 - Different types and capabilities of missiles; new versions being developed
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Threat

- Determining the actual threat of MANPADS extremely difficult
 - Effective lifetime of the systems uncertain
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Nonproliferation Measures

Necessary to

- Thoroughly control the export, import, transfer, re-transfer and storage of MANPADS
 - At the same time strengthen measures to prevent proliferation by destroying surplus MANPADS
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Nonproliferation

Important to

- Expand measures of the Wassenaar Arrangement and the United Nations, as well as ICAO, G8 and APEC throughout the international community
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Nonproliferation

Wassenaar Arrangement

“Elements for Export Controls of MANPADS”

(Dec 03)

- Originally developed in 2000, strengthened export controls of MANPADS
 - At the same time added a category of small arms and light weapons that includes MANPADS
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Nonproliferation

United Nations

“The illicit trade in small arms and light weapons”
resolution (Dec 03)

- Establishes a working group to negotiate necessary international agreements to identify and trace illicit small arms and light weapons

“Transparency in armaments” resolution (Dec 03)

- Expands the scope of the UN Register on Conventional Arms to include MANPADS
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Nonproliferation

ICAO

- Assembly Resolution 32-23 requests all Contracting States to reduce the threat of MANPADS to civil aviation, and also to implement responsible export control policies
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Nonproliferation

G8

2003 Evian Summit --

“Enhance Transport Security and Control of MANPADS - A G8 Action Plan”

2004 Sea Island Summit --

- Further measures in “Secure and Facilitated International Travel Initiative” (SAFTI)

SAFTI --

- **Accelerate efforts to destroy surplus and/or obsolete MANPADS**
 - **Expedited adoption of the updated 2003 Wassenaar “Elements for Export Controls on MANPADS” as international standard**
 - **Further strengthen controls on transfer of MANPADS production technology**
 - **Best practices document**
 - **Assessment of airport vulnerability and effective countermeasures**
 - **Improve MANPADS identification techniques and smuggling countermeasures**
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Nonproliferation

APEC

*“Bangkok Declaration on a Partnership
Toward the Future”* (Oct 03)

- Strict domestic export controls on MANPADS
 - Secure stockpiles
 - Regulate MANPADS production, transfer, and brokering
 - Ban transfers to non-state end-users
 - Exchange information in support of these efforts
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Technical and Other Approaches

ICAO

- “Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference” Appendix 16 contains technical recommendations and procedures for minimizing the risk of MANPADS threats
 - AVSEC aviation security panel is currently considering a revision of guidance material
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Technical

Types:

1. Anti-missile equipment on board civil aircraft
 2. Development of in-flight procedures /air traffic system procedures
 3. Development of ground procedures
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Technical

Anti-missile equipment on board civil aircraft

U.S. Dept. of Homeland Security DIRCM
(Directed Infrared Countermeasure) project
(jamming technology)

- Problems in the development process of the technology for civilian aircraft application (high false alarm rate, etc.)
 - Potential high cost of installation, operation and maintenance
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Directed Infrared Countermeasure : DIRCM



Northrop Grumman



BAE Systems

(Source: Northrop Grumman)

Technical

Development of In-flight Procedures/Air Traffic System Procedures

Operational and other procedures for moving an aircraft out of the way of danger

- Changing the call sign, rerouting the aircraft, others
 - Safety concerns (congested airports, etc.)
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Technical

Ground Procedures

Airports and surrounding areas

- Assessing airport vulnerability; surveilling areas that may serve as potential launching sites; patrolling potentially dangerous areas
 - Some costs of increasing law enforcement personnel and other resources
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Conclusions

- Strengthen nonproliferation measures
 - Keep in mind the varied threat level by region
 - safety and cost aspects of supplementary nonproliferation countermeasures
 - cost effective measures that will also ensure safety
 - Cooperate internationally on both a global and regional level
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