



**INTER-AMERICAN COMMITTEE AGAINST TERRORISM (CICTE)**

FIFTH REGULAR SESSION

February 16-18, 2005

Port-of-Spain, Trinidad and Tobago

**MANPADS: A THREAT TO CIVIL AVIATION**

(Presented by the Delegation of the United States  
at the Third Meeting of National Points of Contact of CICTE)

## MANPADS: A THREAT TO CIVIL AVIATION

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Terrorists have long understood the importance and vulnerability of commercial aviation and have therefore made it a prime target. MANPADS (Man-Portable Air Defense Systems) in the hands of terrorists pose a direct threat to civil aviation in the Western Hemisphere. As highlighted by the recent arrest and confiscation of MANPADS in Nicaragua, the potential for terrorists to acquire MANPADS is a reality today.

MANPADS are a threat to commercial aircraft for several reasons:

- **MANPADS are widely available.** International experts estimate that thousands of MANPADS worldwide may not be under the control of government authorities. Thousands more under government controls may be vulnerable to theft and possible transfer to terrorist groups through illicit arms markets because the MANPADS are not subject to sufficiently stringent national export standards nor are they adequately secured.
- **MANPADS characteristics make them attractive to terrorists.** The small size and lightweight of MANPADS makes them easy to transport and conceal. Moreover, a single missile fired by an individual is capable of shooting down a passenger aircraft at 15,000 feet in altitude.
- **MANPADS have been successfully used to attack and damage commercial aircraft.**

### What are MANPADS?

MANPADS are shoulder-fired surface-to-air weapons. They typically use supersonic missiles that target the heat signature of an aircraft. All are capable of being carried and fired by an individual, although operational requirements usually entail a two-person crew. An individual rests the weapon on his or her shoulder, looks through a sight, and pulls a trigger. MANPADS typically have a “fire-and-forget” design that does not require the operator to remain in place to help guide the missile to its target.

While these systems are not difficult to operate a certain amount of training is necessary for effective use. MANPADS’ small size—about 5 feet long and a few inches in diameter and less than 35 pounds—make them easy to transport and to conceal.

MANPADS are attractive to terrorists for acquisition and use against civilian aircraft because they are lethal; easy to use, transport, and conceal; and, they are relatively inexpensive. MANPADS can strike aircraft flying at altitudes up to approximately 15,000 feet in altitude at a range of up to 3 miles. While aircraft are generally safe from MANPADS when flying at cruising altitude (30,000 feet), they are especially vulnerable during take off and landing.

## **How easy is it to get them?**

Since the 1950s, 20 countries have developed or produced at least 30 different types of MANPADS, with a total production of more than a million missiles. The majority of MANPADS is located within military arsenals; have been expended in live-fire exercises, wars, insurgencies, or other conflicts; or have been destroyed. Estimates of the global inventory of MANPADS range from 500,000 to 750,000 weapons, with approximately 1 percent outside of government control. The exact numbers of MANPADS in the global inventory are difficult to estimate, however, because destruction of MANPADS systems is not always publicized and the system's shelf life depends heavily on how they are stored and maintained.

The black markets cost of MANPADS varies significantly, but generally is relatively low. Estimates of the typical black market cost of MANPADS range between \$5,000 and \$30,000 apiece. Some estimates suggest that MANPADS have on occasion sold for less than \$1,000 and as much as \$100,000 apiece, depending on the type of system being sold.

Black markets aside, terrorists could also obtain MANPADS via theft, international organized crime, arms dealers, and transfers from states willing to supply the missiles to terrorists. Recent events in Central America highlight how real this threat is in the Hemisphere.

The International Civil Aviation Organization (ICAO), the United Nations, and other international and regional organizations have recognized this threat and encouraged steps to reduce the number of MANPADS that could be available on the black market.

## **Have MANPADS been used?**

In 2003, the U.S. Department of State estimated that more than 40 aircraft had been attacked by MANPADS since the 1970s, causing at least 24 crashes and more than 600 deaths worldwide. Thus far, these attacks have largely been conducted in active war zones, but they clearly demonstrate the threat posed by MANPADS to civilian aircraft outside war zones as well. According to a November 2003 U.S. Congressional Research Service report, there have been 35 attempted MANPADS attacks on commercial aircraft overseas since 1978, 24 of which successfully took down the aircraft. Of these 35 attacks, 6 occurred against large, multi-engine jet aircraft, according to the State Department. Five of these jet aircraft survived with minor damage; one attack was catastrophic. No such attack has yet occurred in the Western Hemisphere.

- 1994 - A Falcon-50 executive jet carrying the Presidents of Rwanda and Burundi is shot down, igniting massive ethnic violence.
- 1997 - Rebels shoot down a Yugoslav government transport, killing five.
- 1998 - A Congo Airlines 727 airliner is shot down by rebels, killing all 40 aboard
- 1999 - Rebels in Angola shoot down a United Nations C-130 transport, killing 14.
- 2001 - Rebels in Angola hit, but fail to destroy, a United Nations 727 cargo aircraft.
- 2002 - Two missiles are fired at an Israeli chartered 757 with 271 on board as it takes off from Mombasa, Kenya.

- 2002 - A young man openly carrying a fully functional late-model Russian shoulder-fired anti-aircraft missile is arrested on a street in St. Petersburg. He had found the missile on a shooting range and was taking it home to show his friends.
- 2003 - Three arms dealers are arrested in a sting in New Jersey for attempting to sell the first of 200 Russian SA-18 missiles to an apparent Sudanese terrorist explicitly for use against American airliners. Fortunately apparent supplier of the missile was a Russian counterterrorist agent, the missile was intentionally inoperable, the apparent Sudanese terrorist buyer was an FBI agent, and the arms dealers are now in custody and awaiting trial.

### **What would be the impact of a MANPADS attack?**

Although no attack has yet been launched in the Western Hemisphere, recent events in Central America demonstrate the ease with which MANPADS could fall into the wrong hands in the Americas. One successful airliner shoot-down could potentially have devastating psychological and economic impacts on the entire Western Hemisphere. A MANPADS attack would possibly lead insurers to sharply increase their projections of the risk of commercial flight. Hull and liability insurance could become unavailable or prohibitively expensive. Passenger ticket sales could fall catastrophically because of fear, and combined with increased insurance and other costs, could lead to a sharp increase in ticket prices -- further damaging the airline industries. The survival of air carriers, aircraft manufacturers, and their supporting industries could potentially be endangered, as would those industries whose operations depend on air transportation. The overall impact on trade and tourism could be devastating.