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AIR UNIVERSITY

NEW TOOL OF TERRORISM -- AIRLINERS

by

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A Research Report Submitted to the Faculty

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Preface

Like the whole world, I was shocked about the horrible terrorist attack on the World Trade Center in New York, and on the Pentagon in Washington, DC. I have faced the terrifying fact, that a hijacked airliner can be turned into a very dangerous weapon in a terrorist's hands. I could never imagine that a civilian airliner is able to cause such a big catastrophe, killing so many innocent people. But after this shocking event I am afraid that it can cause an even bigger danger, as terrorists proved that they are very fanatic and well organized.

My opinion is that we can protect ourselves from this kind of attack; however, it isn't going to be an easy battle. My focus in this paper is to find out how we can protect ourselves from hijackings, get rid of the mistakes that have been made in the past, and to make sure we prevent the terrorists' next try.

I couldn't have written this research paper, if I hadn't received so much help. Since English is my second language, I have difficulties in expressing myself correctly. I received the most help from my research advisor, Lieutenant Colonel Mary Willmon, who provided guidance and helped me to focus and put each thought into the correct form. I also thank Major Tom Glardon for his help on research training, and Ms. Diane Simpson and the Air University Library staff for their help on finding the necessary sources.

Abstract

Since last September terrorism has become our most dangerous enemy. The suicidal criminals have discovered a unique way of getting the world's attention. In this research paper I analyze the new tool of terrorism, hijacking airliners and using them as guided missiles. This paper presents the background and the reason for terrorist hijacks of commercial airplanes, and assesses possible terrorists' motivation for such actions. I analyze the mistakes made in the last decade, which enabled the terrorists to complete their mission in the horrible method they used on September 11, 2001.

I believe that we can eliminate this kind of catastrophe by putting more emphasis on improving intelligence and gathering more information about terrorist groups. We also need to rethink and work out a new security system, and change many rules both in airport security and flying security for commercial airliners. In this paper I make some proposals concerning security issues, and explain where we should place more emphasis to protect ourselves and decrease the threat.

Chapter 1

Introduction

On September 11th terrorists attacked New York and Washington, DC, murdering thousands of innocent people -- Americans and people from dozens of countries and all races and religions -- in cold blood.

— Secretary of Defense Donald H. Rumsfeld

On September 11, 2001, the world's biggest terrorist attack occurred against the USA. Four American commercial airliners were hijacked at the same time. Two of them flew into the twin towers of the World Trade Center in New York, one hit the Pentagon building in Washington, and the fourth one crashed before it could reach its target, which was probably the White House. In this horrible attack more than 5000 people were killed and many more injured. It was the most horrifying terrorist attack in history, with the most innocent casualties, and the biggest loss of material.

Must we be so defenseless? Is there anything we can do to avoid or eliminate this kind of attack? Since the terrorists live among us, and we can hardly recognize them, it is a very tough job to separate and render them harmless. It is a long-term fight against them, which requires international cooperation to make sure they are alone in society, and without support. Of course there are no guarantees that this kind of attack won't occur again. I believe, however, that if we prepare for it and if we learn from previous mistakes, then we can minimize the threat of such a horrible catastrophe like that which occurred on September 11th. For this we have to focus on the possible preventive

measures, and we have to make many new regulations for keeping civilian commercial flights safe. A lot of new rules have come into force since the terrorist attack, but there are other improvements that still need to be done.

In this paper I focus on the possible solutions to how we can protect ourselves from commercial airliner hijackings. I will start this work by looking at the background of the hijackings and at the changes it went through. In the third chapter I attempt to find out what the terrorists' motivation could be and what kind of problem they are trying to "solve." In the next section I analyze the mistakes that were made in the last decades and the signals that were ignored. After this, in chapter five, I make some proposals concerning both airport and flying security issues. Finally, I conclude the paper by telling about lessons learned, and what I believe is the most important mission to focus on.

Chapter 2

Background: Terror in the Air

The first known and recorded hijacking took place on a domestic flight in Peru in February 1931.

—Thomas M. Ashwood
Author of *Terror in the Skies*

First Steps

The development of civil passenger aviation started after WWI. The first commercial, scheduled passenger air transport service began in 1919 between London and Paris.¹ The evolution of commercial passenger air transport was one of the biggest successes in the 20th century. It significantly improved after the Second World War, and has become more and more popular. With the popularity of air travel, people started to discover another possible purpose for using an aircraft--hijacking it (or other terminology is air piracy) to gain different goals.

The first recorded attack against a civil airplane occurred in 1931 in Peru.² Revolutionaries hijacked the mail aircraft and used it to drop propaganda leaflets. Apart from this kind of purpose, the next significant reason for hijacking a plane was to flee to freedom. Political dissidents were using this method to escape from the communist controlled Eastern European countries to the Western states. The main motivation was at that time to seek political refugee; the hijackers requested political asylum in their target

countries. The problem was that these actions weren't considered as crimes. Usually the West regarded the dissidents as heroes, and did not punish these actions for political reasons, even if pilots or aircrews were killed in the process.

In the late 50s, the Cuban-American relationship became hostile. Many Cuban revolutionaries sought political asylum fleeing from Cuba to the States. Apart from the political purposes, the Cubans came to the US because they had been charged with a crime in Cuba and they wanted to flee from the law.

More Violence

The end of the 60s brought more violence in aviation terrorism. The number of hijackings increased dramatically; many acts of sabotage took place on board the airplane or against aviation facilities. One of the reasons for the increased hijacking was that criminals tried to escape from the law. The other reason is that Palestinians wanted to publicize their cause and avenge the Arab defeat in the Six-day War that took place in 1967.³ Palestinians (PFLP) committed about thirty terrorist acts by 1972. Hijacking was a weapon for achieving political objectives without military confrontation, and drawing worldwide public attention. Terrorists started to use explosives in the 80s for in-flight bombing and for attacks against aviation facilities, which greatly increased the number of deaths and injuries.

The war against air piracy started with the 1958 Geneva Convention, where air piracy was defined and declared as illegal violence. The Federal Aviation Administration (FAA), the Central Intelligence Agency (CIA), and the Federal Bureau of Investigation (FBI) were actively involved in the hijack war. The FAA through the International Civil Aviation Organization (ICAO) started security programs after the Tokyo (1969), the

Hague (1970), and the Montreal Conventions (1971).⁴ The FAA studied the hijackers, developed a passenger screening system, and initiated the secret sky-marshal program in the early 60s, which was terminated in 1972. The civil aviation industry strongly opposed it, because of the possible danger to passengers in case of an in-flight shooting. In 1973 the American President signed a hijack treaty with Cuba. Between 1974 and 1978 there were relatively few attacks, but from the beginning of the 80s the threat and the number of casualties significantly increased.

Notes

¹ Jin-Tai Choi, *Aviation Terrorism. Historical Survey, Perspectives and Responses* (New York: St. Martin's Press, Inc., 1994), p. 1

² Captain Thomas M. Ashwood, *Terror in the Skies* (New York: Stain and Day Publishers, 1987), p. 23

³ Jin-Tai Choi, *Aviation Terrorism*, p. 13

⁴ Peter St. John, *Air Piracy, Airport Security, and International Terrorism, Winning the War against Hijackers* (Westport, CT: Quorum Books, 1991), p. 29

Chapter 3

What Motivates the Terrorists?

Any enemy of my enemy is my friend, and any friend of my enemy is my enemy

—Old Arabic saying

Each definition of terrorism includes the same elements. First the method, which is force and violence; then the target, like government and civilian population; and finally the purpose, which is to cause fear and to bring political or social changes.

Terrorism is a repeated violent action, employed by individual, group, or state actors, for idiosyncratic, criminal, or political reasons. Victims of violence are generally chosen randomly or selectively (representative or symbolic targets) from population, and serve as message generators. Violence-based communication processes between terrorist, victims, and main target (audience), turning it into a target of terror, a target of demands, or a target of attention, depending on whether intimidation, coercion, or propaganda is primarily sought.¹

As I have mentioned in the previous chapter, the first purpose for hijacking was to drop propaganda leaflets, then to flee to western countries to “freedom,” and to request political asylum. Later on the reasons became more complex, as hijacking spread around the world, and more and more countries became involved. Generally, an aviation terrorist is a dropout from everyday life, a political or religion fanatic, a common criminal, or a mentally deranged individual. Nevertheless, they come from varied backgrounds; “they don’t feel any sense of shame or guilt. Terrorists always believe that they are engaged in war.”² Some people used this tool to escape from the law--from

punishment. Hijacking became popular, because it is a kind of easy and safe way of gaining demands, and achieving political objectives without immediate reaction of police or military forces.

The terrorists' goal is to gain attention for themselves or for their ideas using the most surprising or harmful way possible. Most of the hijackers have an image of themselves as belonging to an elite class of people. Their targets are common places, where there are a lot of innocent people. They want to cause as many casualties and damage as possible, or gain as much attention as possible. The media is always involved. It can be a bridge between the criminals and their victims (audience) or the authorities. There were many cases when Middle Eastern terrorists held passengers hostage, and demanded the release of their imprisoned colleagues, or tried to obtain financial gain. Apart from the fear of losing innocent people's lives, the cost of a plane was also a significant factor, when terrorists threatened to destroy them.

As a political reason the main starting problem was the Palestinian question. Because of their defeat by Israel and subsequent anger against Israel, their attacks concentrated on Israeli airlines and aviation facilities, trying to deter Europeans from accepting Israeli planes. Furthermore the PFLP demanded the release of fellow Arabs that were held in Israel. After many PFLP attacks against Israel, the Israelis successfully improved their security. Middle Eastern and Islamic fundamentalists moved their attacks toward the west, and so many American planes became targets. American airports were "easy" targets. They were and still are the most vulnerable targets, because of the heavy air traffic there. "More than 40% of the acts of violence against civil aviation around the world have involved US aircraft."³

The possible reason for this high number of attacks against US airliners, and the tragedy on September 11th, can be found in the terrorists' reflection on their hate for America. It can be explained by political reasons because of the Americans' intervention to the Middle East policy, or because of the US-Israel relationship. The terrorist motivation can be a revenge for any previous action as well, or the will to prove that a superpower can be harmful too, that they are not perfect either. As Dr. Silke believes, the planners of the September attack may have gotten inspiration from the 1994 hijacking, where the Albanian attackers failed to blow up the plane over Paris. Probably Bin Laden's group, al-Qaida, wanted to show a frighteningly high degree of coordination and preparation.⁴ They could demonstrate that the US could be reached "easily," even in its heart. Another reason could be their envy of the American prosperity, at the American's higher standard of living. For Islamic fundamentalists, or extremists from Islamic Jihad, probably it is a "holy war" to defend their religion.

The revolution of technology and information provides very "good" support for terrorism. Unfortunately, the support infrastructure of these terrorists is constantly upgraded. The proliferation of using the World Wide Web helps the terrorists a lot, because it is an effective tool for propaganda. They can deliver their message quickly, clearly, and anonymously, and last, but not least, there is a huge amount of information available on the Internet. They can get access to important details for planning such actions.⁵

Notes

¹ Harwey W. Kushner, *Terrorism in America: A Structured Approach to Understanding the terrorist Threat* (Springfield, IL: Charles C Thomas, 1988), p. 3

Notes

² Amy Cameron, *Another Word for Terrorist? Not Psychopath.* (Maclean's, 9/24/2001, Vol. 114 Issue 39) p. 2

³ Jin-Tai Choi, *Aviation Terrorism*, p. 22

⁴ Amy Cameron, *Another Word for Terrorist? Not Psychopath.* p. 2

⁵ Harwey W. Kushner, *The Future of Terrorism: Violence in the New Millennium.* (London: Sage Publications, 1998.), p. 210

Chapter 4

Mistakes and Problems Concerning Security Issues

We have gone up a quantum leap where people have foiled sloppy airport security with huge losses of life.

—Peter St John
Professor of Manitoba University

The whole security system both at airports and during flying is as strong as the weakest link in the chain. There were several gaps in the security system, which let terrorists prepare and organize such a horrible attack as the one on September 11th. Of course it took everybody by surprise, because such a kamikaze mission was not in any scenario. The purpose of this chapter is to focus on the mistakes that must be corrected as soon as possible. I'd like to analyze the mistakes by dividing them into two separate fields.

Governments' and Authorities' Concern

The first problem was a security issue, where many years went by before hijacking was declared a criminal offense. International agreements against terrorism were born slowly, only from the early 60s. Furthermore, the ratification of the first convention (Tokyo) was postponed until 1969, plus, the international cooperation was not effective enough in antiterrorism. Some countries did not ratify the conventions, and what's more, the terrorists received training and some support from Syria, Libya, and Iran. A network

of terrorist training camps has spread throughout the Middle East.¹ Even today Iran uses terrorism as an element of state policy. “The regimes of Syria, Sudan, and Afghanistan (prior to Sep. 11th) provide funding, refuge, training bases, and weapons to terrorists.”² The international cooperation must be improved and become more effective in stopping terrorism. Using more economic boycotts against supporters is one good method the international community can use to degrade the capability of terrorist organizations.

In the US another short-term effort was the Federal Air Marshals (FAM) program in the 60s. Unfortunately it failed, because the civilian aviation industry strongly opposed it. They argued that the passengers could be in great danger, when in-flight shooting occurs. However, FAA announced several new security measures, but the screening and checking systems were not effective enough. One of the possible reasons is that there are too many illegal people in the US, and they can work even at the airports. More than four million people reside illegally in the country, coming with valid visa, or coming as students, and then overstaying.

The next problem is that the airports and airlines are too profit oriented. They don’t want to spend too much money on security, just the minimum necessary. For the same reason they don’t hire the best-trained personnel. FAA fined many American airports in the last years for violating security rules.

Additionally there were some problems with intelligence. “The FBI, which is responsible for investigating terrorism in the US, also suffers from bureaucratic and cultural obstacles to obtaining terrorism information.”³ Both the FBI and the National Security Agency (NSA), which collects terrorism information, are losing their ability to follow the terrorists’ technological improvement, and to warn of possible attacks. The

Counterterrorist Center (CTC) in the CIA also lacks adequate resources. All agencies face a shortage of linguists to translate data into information. To tell the truth the information is not always shared and distributed to the appropriate forum.

Airliners' Responsibilities

Critics claim that the airline safety net has broken down in every aspect of policy, personnel, and technology. The most serious problem is that the airliners are not security oriented, but profit oriented instead. They don't intend to be lax, but security isn't their business. As Charles Slepian criticized the FAA: "You can not declare war against terrorists and then ask Continental Airlines to fight the battle for you."⁴ It takes a lot of money to upgrade the screening and checking equipment--metal detectors, X-rays, electronics and computers. Also the doors on the planes are not bulletproof, but an even bigger mistake is that "one key opens all cockpit doors in Boeing aircraft."⁵ It isn't a problem to get a key. In addition, there is a huge problem with the security personnel.

I believe the biggest problem with airline security personnel is that the employees aren't required to have their background or criminal records checked. In practice, a large numbers of workers are seasonal, some even undocumented, and only a few have been through a background investigation. In addition, the security staff's income is not proportionate with their responsibility and the importance of their job. The screeners are usually underpaid, earning about six dollars an hour, which causes a very high turnover rate. It moves between 200 and 400 percent annually. The worst case was St Louis airport, where the entire screening staff changed every three months.⁶ Most of the screeners and security workers are under trained and not always familiar with the required procedures. There are several cases when they didn't follow proper procedures,

didn't notice the violations or unusual behavior, or let unauthorized individuals into the secure areas.

One month after the horrible attack on 11 September, a joint team of Office of Inspector General (OIG) and FAA specialists checked if Federal security requirements were being enforced. There were many problems with the employees' background checks and training records. They found cases where employees were not able to pass a skill test, had criminal records that disqualified them from such jobs, or were foreign nationals not authorized to work in the US.⁷ So we can see that many new regulations have to be enforced, and a lot of security measures have to be taken immediately.

Notes

¹ Captain Thomas M. Ashwood, *Terror in the Skies* (New York: Stain and Day Publishers, 1987), p. 12

² Internet source: *The International Terrorism Threat is Changing*. <http://www.fas.org/irp/threat/commission.html> p. 1

³ Ibid.

⁴ Daniel Eisenberg, *How Safe can we get?* (Time Atlantic, 9/24/2001, Vol.158.) p. 3

⁵ Alexandra Marks, *Cockpits Safety Emerges as Central Concern*. (Christian Science Monitor, 9/19/2001, Vol. 93.), p. 1

⁶ Daniel Eisenberg, *How Safe can we get?* p. 5

⁷, Kenneth M. Mead, *Airline Security*. (FDCH Congressional Testimony, 11/14/2001. November 19.) found on <http://ehostvgw10.epnet.com> p. 8

Chapter 5

Proposals

One, two, and three of what we need to increase security is better intelligence, and four is better screening.

—Aaron Gellman

Aviation expert, Northwestern University's Transportation Center

Political Tools

The only way to fight against terrorism is to enhance international cooperation, harmonize international laws, share information, and provide early warning. We have to use all kinds of diplomatic instruments to eliminate terrorism or any kind of support to terrorism. We must declare clearly, that neither support, nor hiding of terrorists can be acceptable. There is no toleration of these violent acts. The terrorism supporter countries must be isolated. Countries can use embargoes against them, and apply pressure on them through the use of economic sanctions. We should encourage cutting all funding and logistical networks, stopping state and non-state sources of support to countries like Iran and Syria who are active supporters of terrorism. Unfortunately, there are some countries that are not willing to cooperate against terrorism. In 1996 the American President designated some countries as “not cooperating fully,” and also designated certain groups as Foreign Terrorist Organizations (FTO).¹

The most important tool to use against terrorism is good intelligence. “Provide resources and capabilities to exploit fully information on terrorists.”² It’s necessary to eliminate all barriers from collection of information, to gather more information, to take them more seriously, and to update technology continuously. Furthermore, to eliminate the shortage of specialists in the FBI, CIA, and other organizations, must recruit human intelligence sources. In addition, the flow of information to the proper level should be promoted.

The other effective way of protection could be to put airport security under federal control. With this change the airlines’ disinterest would be eliminated. Because of new precautions, all hijacked aircraft has to be intercepted, directed towards a safe area, and forced to land as soon as possible. In the event that it appears the aircraft will be used as a weapon to strike any important object such as a skyscraper or nuclear power station, then the hijacked and not responding aircraft has to be destroyed. Pilot training also requires more selective screening and better background checks. We must stop letting anyone get training. For example, a 17-year-old boy flew into a high building with his light plane some weeks ago in Tampa, Florida.

Necessary Checking System Changes in Airports

The laxity of a security system can be terminated in many ways. For this the airports have to intensify passenger and carry on baggage screening by using top technology bulk explosives detection machines, X-rays, metal detectors, sniffing dogs, etc., and can’t neglect physical searches. Each security or screener employee has to go through more rigorous training, and has to follow and reinforce all rules. It’s inevitable that airport workers must be paid more to keep them for a longer time, to effectively reduce the rate

of turnover. The companies are required to conduct criminal history checks or background investigation for all aviation employees including current ones. It's useful to revalidate or reissue employees' identification, which is required to access secured areas, and of course to strengthen control at these areas to prevent access by unauthorized individuals.³

The people and the buildings can be secured by limiting curbside parking at the terminals. Only the passengers with valid and checked in tickets should have access behind the checkpoints. It can be a good filter to compare the passengers' names with the FBI's watch list during check in procedures.⁴ Everybody, even passengers, must be suspicious about all unusual things they see. For example, report and secure all unattended luggage. It's very important to check all planes before boarding and to search crews as well.

Security Changes in Airliners

The first measure should be to reestablish the FAM program. The secret air marshal's presence on both domestic and international flights can deter hijackers, or prevent them from taking over the aircraft's control. They have to be armed and undercover, and very well trained to solve crisis situations. From my point of view, the crew has to possess some kind of defense weapon too. It's essential to strengthen and secure the cockpit doors, avoiding the access to the cockpit even for flight attendance. The door must be bullet proof, and closed, but mustn't affect safety. If the aircraft were equipped with small cameras in and outside of the cockpit, it would be easier for the crew to see the activity in the cabin. These pictures could be recorded, and transferred to the ground as well, allowing them to know about a possible emergency on board.⁵

The next method of protection could be to equip the aircraft with two completely separated and secure air-conditioning systems for the cockpit and cabin. In case of a serious terrorism threat the pilots could let some kind of knockout gas into the cabin to disable the terrorists. The pilots' job is to protect the cockpit at any costs, even with depressurizing the cabin, or making drastic maneuvers to put hijackers off balance.⁶ The staff must look around with attention all the time, because they can easily notice anything out of place. To increase the safety, the travelers should keep themselves alert, and report all anomalies. It will be necessary to limit more of the carry-on items, if not cease them completely, to prohibit all kinds of stinging or cutting equipment, sprays, electric items, ropes, etc., from going on board. All these actions mentioned above should be taken immediately.

Notes

¹ Internet source: *The International Terrorism Threat is Changing*. <http://www.fas.org/irp/threat/commission.html> p. 18

For example Greece is very passive in fight against terrorism, giving assistance and refuge to PKK terrorists. It's the weakest link in Europe

² Ibid. p. 19

³ Kenneth M. Mead, *Airline Security*. (FDCH Congressional Testimony, 11/14/2001. November 19.) found on <http://ehostvgw10.epnet.com> p. 4

⁴ Ibid., p. 6

⁵ Internet source: *Suggestions for Reducing Security Related Threats*. <http://www.airsafe.com/events/war/moresafe.htm> p. 2

⁶ Daniel Eisenberg, *How Safe can we get?* (Time Atlantic, 9/24/2001, Vol.158.) p. 4

Chapter 6

Conclusion

Obtaining information about identity, goals, plans, and vulnerabilities of terrorists is extremely difficult. Yet, no other single policy effort is more important for preventing, preempting, and responding to attacks.

Report of the National Commission on Terrorism
Ambassador L. Paul Bremer, Chairman

The people's feeling about security has changed a lot since the tragic terrorist attack on September 11th. Everybody had to understand, that there is no nation on the earth any more who can be absolutely safe. Our common goals are both to prevent and punish terrorism. It is not enough to talk and talk, we should act immediately. First, the nations have to cooperate with each other in harmonizing international laws, sharing information, and providing early warning. Rodney Wallis' (from IATA) motto is: "We must be on our toes at all times to stay ahead of the terrorist. Preempting him or her is our best chance of saving lives."¹

Second, but no less important, is the need to improve intelligence, to gather more information, and to promote the flow of it to the appropriate people. The CIA and the FBI have key roles in this activity together with other international organizations. All individuals must be on alert all the time, eyeing everyone suspiciously, and constantly observing. For most people, it would be useful to start an education program on terrorism and security matters. At the airports we should maximize the effectiveness of

the security system to include the screening and checking methods. Unfortunately, as the September 11th example showed us, we mustn't let anyone take the control of the aircraft away from the pilots at any cost.

I can not emphasize enough that the world can fight against terrorism only with common efforts, in cooperation, and being in higher alert, because the most treacherous enemy is terrorism. Its representatives are hidden, they are unknown, and they usually don't use conventional weapons. Moreover, in the future we have to be aware of the possibility that terrorists will use chemical, biological, radiological, or nuclear (CBRN) materials. In building a new security system we can take examples from Israel, because their system is effective and works well. For example, they put at least one armed sky marshal on all their flights. They use reinforced steel doors on their planes, which remains locked during flying. Israelis interrogate passengers by young agents asking many questions. Some positive experiences about averting hijack attempts reflect their success in security.² The bottom line is with more effort we can protect ourselves against terrorism, we can live more safe. "The battle to protect civil aviation passengers and crews can only be won if the liberal democracies have the will and courage to win the broader struggle against the scourge of international terrorism. Our freedom of airways is ultimately dependent on our ability to preserve the freedom of society as a whole."³

Notes

¹ Peter St. John, *Air Piracy, Airport Security, and International Terrorism, Winning the War against Hijackers* (Westport, CT: Quorum Books, 1991), p.187

² Daniel Eisenberg, *How Safe can we get?* (Time Atlantic, 9/24/2001, Vol.158.) p. 10

³ Jin-Tai Choi, *Aviation Terrorism*, p. 189

Appendix A

Foreign Terrorist Organizations as of October 8, 1999

Abu Nidal Organization (ANO)
Abu Sayyaf Group (ASG)
Armed Islamic Group (GIA)
Aum Shinrikyo
Basque Fatherland and Liberty (ETA)
HAMAS (Islamic Resistance Movement)
Harakat ul-Mujahidin (HUM)
Hizballah (Party of God)
Gama'a al-Islamiyya (Islamic Group, IG)
Japanese Red Army (JRA)
Al-Jihad
Kach
Kahane Chai
Kurdistan Workers' Party (PKK)
Liberation Tigers of Tamil Elam (LTTE)
Mujahedin-e Khalq Organization (MEK, MKO, NCR, and many others)
National Liberation Army (ELN)
Palestine Islamic Jihad-Shaqaqi Faction (PIJ)
Palestine Liberation Front-Abu Abbas Faction (PLF)
Popular Front for the Liberation of Palestine (PFLP)
Popular Front for the Liberation of Palestine-General Command (PFLP-GC)
Al-Qa'ida
Revolutionary Armed Forces of Colombia (FARC)
Revolutionary Organization 17 November (17 November)
Revolutionary People's Liberation Army/Front (DHKP/C)
Revolutionary People's Struggle (ELA)
Shining Path (Sendero Luminoso, SL)
Tupac Amaru Revolutionary Movement (MRTA)¹

Notes

¹ Internet source: *The International Terrorism Threat is Changing*.
<http://www.fas.org/irp/threat/commission.html> p. 19

Appendix B

Aircraft Hijackings Worldwide (1931-90)

Year	No. of incidents	Year	No. of incidents
1931	2	1969	85
1932-46	0	1970	74
1947	1	1971	55
1948	7	1972	57
1949	6	1973	22
1950	4	1974	20
1951	1	1975	18
1952	2	1976	15
1953	1	1977	31
1954-55	0	1978	25
1956	1	1979	23
1957	0	1980	38
1958	8	1981	29
1959	6	1982	30
1960	9	1983	33
1961	11	1984	26
1962	3	1985	26
1963	1	1986	13
1964	2	1987	13
1965	5	1988	15
1966	4	1989	16
1967	6	1990	43
1968	35		
		Total	822¹

Notes

¹ Jin-Tai Choi, *Aviation Terrorism. Historical Survey, Perspectives and Responses* (New York: St. Martin's Press, Inc., 1994), p. 6

Appendix C

The Sabotage Bombing of Airborne Aircraft (1949-90)

<u>Year</u>	<u>No. of incidents</u>	<u>No. of killed</u>
1949	2	36
1950-54	2	0
1955	2	60
1956	1	0
1957	2	1
1958	0	0
1959	1	1
1960	2	47
1961	0	0
1962	1	45
1963	0	0
1964	1	15
1965	1	52
1966	1	28
1967	4	66
1968	1	0
1969	4	33
1970	9	84
1971	2	25
1972	7	114
1973	5	92
1974	5	161
1975	4	1
1976	5	168
1977	1	0
1978	3	5
1979	2	0
1980	1	0
1981	3	2
1982	2	1
1983	2	112
1984	2	0
<u>Year</u>	<u>No. of incidents</u>	<u>No. of killed</u>
1985	7	390

1986	3	20
1987	1	115
1988	2	287
1989	2	278
1990	0	0
Total	93	2239¹

Notes

¹ Jin-Tai Choi, *Aviation Terrorism. Historical Survey, Perspectives and Responses* (New York: St. Martin's Press, Inc., 1994), p. 8

Appendix D

Hijack Escapes from Communist World (1968-88)

	Escapes
Poland	26
Cuba	74
Czechoslovakia	12
USSR	13
Bulgaria	4
Romania	3
DDR	1
Hungary	1
Total	134¹

Notes

¹ Peter St. John, *Air Piracy, Airport Security, and International Terrorism, Winning the War against Hijackers* (Westport, CT: Quorum Books, 1991), Appendix 10

Glossary

CBRN	chemical, biological, radiological, or nuclear (materials)
CIA	Central Intelligence Agency
CTC	Counterterrorist Center
DOT	Department of Transportation
EDS	Explosives Detection Equipment
FAA	Federal Aviation Administration
FAM	Federal Air Marshals
FBI	Federal Bureau of Investigation
FTO	Foreign Terrorist Organizations
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Airline Pilots Association
NSA	National Security Agency
NTSB	National Transportation Safety Board
OIG	Office of Inspector General
PFLP	Popular Front for the Liberation of Palestine
PKK	Kurdish Workers Party
R&D	Research and Development
WMD	Weapon of Mass Destruction

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