

# Civil Aviation Remains Vulnerable to Terrorism

*The Western world once applauded the political hijacks that preceded present-day terrorism. Today, ruthless violence is meted out by various terrorist groups often rooted in the Middle East. With no single banner to wave, they strike out at various targets to cause fear, destruction and death. Unfortunately, civil aviation continues to be a frequent target.*

by

C. J. Visser

Most people are likely to give the same answer, if asked: “What is an airport?” “What is an aircraft?” They would differ, however, if asked to define terrorism; defining terrorism is not easy.

A report on terrorism, published in February 1987 by a working group of the North Atlantic Assembly, adopted a definition (offered by Paul Wilkinson), that describes terrorism as “. . . the systematic use of murder and destruction, and the threat of murder and destruction to terrorize individuals, groups, communities or governments into conceding to the terrorists’ political aims.”

## Terrorism Isn’t Easily Defined

One definitional criterion is that the issue to be defined must not be used in the definition itself. Yet, the definition adopted by the assembly states in fact, that terrorism means being terrorized by terrorists. A second objection to this definition is that it applies to several forms of political violence, from guerrilla warfare to outright international war, that also systematically threaten, or use, murder and destruction to terrorize individuals, groups, communities and governments.

Another definition, offered by French sociologist Alain Touraine, attempts to differentiate between a freedom fight and terrorism. “Political violence”, he states, “is not terrorism if it engenders social and national mobilisation. If, on the contrary, the acts of violence enlarge the distance between a violent vanguard and the people, they degrade into a destructive terrorism.”

For Touraine the distinction is apparently a matter of constituency. There is, however, a problem. A terrorist organization does not know beforehand whether its violent activities will find growing and ample support, or if it will be immediately and completely rejected. The proof of the pudding is in the eating, and those who eat may grant them-

selves considerable time before deciding about the taste of the pudding.

Also, many terrorist organizations make a distinction between what they call objective support and subjective support. Objective support is invisible and virtually non-existent, but based on the belief that the people or the nation, once endowed with the “correct” political conscience, will embrace terrorists’ violence as a lofty means to a lofty end. So, from the terrorists’ point of view they are always freedom fighters.

Personally, I prefer a phenomenological description. Terrorism is a method of perpetrating violence for political motives, largely dependent on clandestine organization. Those who practice it are forced underground because they are surrounded by a society that usually is overwhelmingly hostile to their plans or activities.

Clandestinity has its effect on the organization. It must be small and divided into separate compartments, in order to reduce treason and infiltration. Clandestinity also determines the size of the weapons (small, in order to avoid detection) and the type of violent activities (which must only require a few persons). Therefore, the range of activities has remained almost unaltered: bombings, sabotage, arson, maiming, killing, kidnapping and hijacking. Civil aviation is only one of many terrorist targets.

## Terrorists Cause Hundreds of Civil Aviation Deaths in 1985

1985 was a particularly bad year for civil aviation, in terms of the number of terrorist attacks and the number of casualties. In June there were three hijackings and two aircraft bombings. Explosives were planted and detonated at two airports, and two attacks were made on airline agencies. Casualties were high and the worst incidents included 329

passengers who died in the Air India airliner crash; 60 persons who died during the rescue attempt of a hijacked Egyptian aircraft; and 19 persons who lost their lives during simultaneous terrorist attacks at Rome Airport and Vienna Airport.

In 1986 the death toll was less heavy, but there was little reason for optimism. On April 2, a bomb blasted three passengers out of a TWA airliner. On May 3, an Air Lanka airliner was blown up and 22 persons died. On September 5, 18 persons died while trying to escape from a hijacked Pan Am aircraft, and on December 25, 65 persons lost their lives when an Iraqi aircraft crashed after a fight between hijackers and security agents.

I want to make it clear that I do not possess technological expertise of any kind. You must not expect me to offer new ideas or methods to control and detect weapons and explosives at airports, or the means to identify the carriers of those objects. I ask for the clemency of those who are knowledgeable in that area. I must confess also to a fundamental inability to look into the future.

The past can provide us with some clues about what can be expected in the years to come. To start with, the past provides numbers. These numbers tell us, among other things, that the total aircraft hijackings from 1945 until now has reached about 800. Those aircraft were forcibly diverted from their original destinations for a variety of reasons; terrorists were not always responsible.

## **Political Refugees Birthed Hijacks**

The first wave of hijackings was perpetrated mainly by political refugees, who tried to escape from East European countries to the West. This wave lasted until about 1956, but never quite stopped. In those Cold War years the East European hijackers were widely applauded, even when innocent persons became victims.

The next short wave of hijacks, from 1957 until 1961, involved Cubans who fled Cuba to avoid the Batista dictatorship. Most of these hijacked aircraft were flown to the United States.

After the victory of Fidel Castro, which, according to his fans, gave birth to "The New Man," a wave of hijacked aircraft started to fly in the opposite direction, mostly from the U. S., but also from several Latin American countries. This wave reached its peak in the years 1968-1972 and contributed significantly to the quantitative increase of the phenomenon.

From 1947-1969, a period of 22 years, 113 hijackings took place. Most of them were politically motivated hijackings, but they had little to do with terrorism. The hijackers tried to use the aircraft for their own purposes. Frequently they

acted on their own and their goal was personal—they wanted to be recognized as political refugees—and their scenarios did not include taking hostages or demanding the release of imprisoned comrades. They did not mean to humiliate states other than their own, and therefore did not cause a threat to any other particular state or airline. That is not to say that they were harmless. Sometimes they did endanger the lives of the crew and the other passengers. Some of these hijackings resulted in aircraft crashes with no survivors. But in their self-centered activity, no third party was actively involved.

However, they set an example for others. These 113 hijackings were followed by an additional 680 hijackings during the next eighteen years. The Cuban sympathizers got competition, mostly Americans, who hijacked aircraft for ransom money. And terrorist groups from the Middle East later moved in.

## **Middle Eastern Terrorism Erupted in 1968**

On July 23, 1968, members of the Popular Front for the Liberation of Palestine (PFLP) forced an El Al airliner, on its way from Rome to Tel Aviv, to change course and land in Algeria. The Israeli crew and passengers were set free only after Israel spent five weeks bargaining with the hijackers, and released 16 Palestinians imprisoned in Israel. Israel conceded to the demand, and made the operation a success for the hijackers. It became obvious that except for the terrorists (one of whom was able to replace the wounded pilot) and possibly the Algerian Government, everyone involved had been completely unprepared for this kind of action. No one had noticed the weapons, no one in the aircraft had been able to see what was happening, and the Israeli government saw no way to free its citizens, other than to give in to the terrorists' demand.

It took more than a year before a Palestinian group hijacked a TWA aircraft on its way from Rome to Athens, forcing the pilot to land at Damascus Airport. Government involvement became apparent when the Syrian regime used the occasion to exchange two Israeli passengers for 13 Syrian prisoners held in Israel. After three months the deal was made. Again, Rome Airport had failed to trace the hardware, and again, Israel paid the ransom.

But then, who was prepared in those days? In September 1970, two terrorist groups of the PFLP went on board two aircraft at Amsterdam Airport. Another group mounted an aircraft at Zurich, and a fourth group did the same at Frankfurt Airport. An El Al aircraft escaped destruction because of the presence of Israeli security personnel on board; the other three aircraft were destroyed on the ground. This time no demands were made. The operation seemed more like a declaration of war against airlines and airports, especially Western ones.

## Hijacks and Threats Pay Off

This low intensity war still goes on. In fact it has increased, in quantity and in quality. Terrorist groups discovered that hijackings do pay off in terms of ransom money. For immediate attacks not connected with demands they determined that a hijacking was not always necessary. They could threaten, intimidate and damage the enemy without resorting to a difficult and risky hijacking, that could end in failure and result in a loss of face for the terrorist group involved.

Surface to air missiles were fired at aircraft. Suicide commandos were trained and drugged for attacks on airline desks and passengers. Recall the suicidal actions in December 1985, by two groups of men (from the Fatah Revolutionary Council), who attacked the El Al and TWA desks at Rome and Vienna Airports, respectively.

Another method of attack is to smuggle a bomb on board an aircraft, or have it unknowingly smuggled aboard by an innocent person. An Air India flight was exploded in midair by a bomb in June 1985. A second bomb went off at Tokyo Airport, probably meant for another Air India aircraft, but transported by a Canadian airline. Both aircraft had come from Canadian Airports, Montreal and Vancouver respectively, and the explosions were alleged to be the work of Sikh extremists.

An unfortunate example of having a bomb smuggled aboard by someone who does not know what he or she is carrying was the Nezar Hindawi case at London Airport in April 1986. A pregnant woman with a bomb in her baggage attempted to board an El Al flight. Her fiance had put the bomb in her luggage without the woman's knowledge. Fortunately Israeli security agents discovered the bomb during a pre-boarding check.

Sabotage offers another method of low-risk attack; in 1986, several aircraft at Madrid Airport were discovered to have been sabotaged.

So, a variety of ways exist in which civil aviation has been, and can be, harmed. Each method demands special preventive measures, and the measures taken, so experience teaches us, remain short of guaranteeing the total safety of civil aviation, i.e. guaranteeing the safety of passengers at airports and during flights.

## Israel Considered Unique

There are exceptions. El Al has built itself a reputation of being nearly immune to hijackings, as a result of very effective precautionary procedures. Security agents at Ben Gurion Airport probably are among the most inquisitive and exhaustive interviewers in the world. Passengers boarding El Al aircraft elsewhere frequently meet with special scrutiny of identity papers and luggage. Surely the presence of

security personnel at El Al flights acts as a deterrent against hijackers. Yet, the Hindawi incident demonstrates that excellent security doesn't guarantee immunity from bombing attempts.

Israel, however, is considered a special case. No other country has known so many terrorist attacks from outside its borders with such striking regularity. Israel has been forced to barricade itself as effectively as possible against every possible terrorist activity. So effective is Israel's barricade, that its enemies have moved the battlefield elsewhere. I believe that Jewish institutions and people are at risk all over Western Europe and elsewhere, because they are paying for Israel's strong security at home against terrorism.

Synagogues, like those in Paris, Vienna, Antwerp and Istanbul; Jewish restaurants like the one in Paris; El Al travel agencies like the one in Amsterdam; El Al passenger desks like the ones in Rome and Vienna; and diplomats like those in Ankara, Paris and London have been targets of terrorist vengeance. The sad conclusion, that we have to live with terrorism, certainly applies to Israel.

No other country, with the possible exception of the U.S. presence in other countries, has comparable experience with such an on-going attack. Other countries, unaccustomed to terrorism, often lack the necessary alertness when they are suddenly confronted with a terrorist problem.

## Civil Aviation Exposes Itself

A Dutch reporter, inspired by alarming rumors in 1986 about a possible terrorist attack on Amsterdam Airport, actually strolled around the airport, visiting places where visitors were not supposed to be permitted. The average citizen can ask himself, "What would prevent terrorists from taking the same stroll?"

I suggest that in spite of the growth of security measures from the 1970s, flying remains a somewhat hazardous method of traveling. Of course, one can respond that other means of transport have also been the target of terrorist activities. Trains have been hijacked in the Netherlands, in 1975 and 1977. Trains in France have been targets of explosives in 1982 and 1983, and in Italy in 1974, 1976 and 1984. Railway stations have been targeted, as the one in Bologna in August 1980. Even a large ship has been hijacked; the Achille Lauro was taken over in November 1985 by members of the Palestine Liberation Front of Abul Abbas.

The numbers speak for themselves, and they indicate that aircraft and airports are perceived by terrorists as the most attractive targets. There are ample reasons for this attractiveness. The seemingly chaotic mobility of luggage-carrying passengers, visitors and employees in airports offers terrorists an anonymity that allows them to enter airports without arousing suspicion. A modern airport also provides the opportunity to single out particular groups of people to be

targeted; passenger check-in at a specific airline desk is easily viewed from a safe distance.

## **Fear Impacts Economics**

From the terrorist perspective, attacking airports is profitable in several areas. After the December 1985 raids on the Rome and Vienna Airports, tens of thousands of anxious Americans cancelled their holiday trips to Europe, thereby damaging not only the European tourist industry, but also American airline companies that were supposed to carry them. Because of extensive media coverage, which reported the attacks as random killings, many Europeans became frightened too.

Hijackings also have enormous impact on public opinion, especially when they stretch over several days or weeks. Hijackers who have a keen sense for publicity allow television cameramen and newspaper photographers to record images at the scene. The interview with the captain of the TWA aircraft that was hijacked in June 1985 was not memorable because of its verbal content, but because of the visual image of an obviously exhausted man, answering questions with a gun at the back of his head.

Bombing or sabotaging an aircraft has special advantages. In a successful bombing, which means indiscriminate killing of passengers and crew, it is not likely that an investigator will be able to identify the perpetrators. If Hindawi had succeeded in having his bomb taken into the El Al airliner, who would have suspected one of the victims, let alone a pregnant woman, to be the carrier of the explosive and the cause of the disaster. A similar ploy could have been used to plant the bomb in the TWA aircraft in 1986. A Lebanese woman, who had flown the aircraft's previous flight leg before debarking, was suspected of having a hand in the disaster.

## **Technology and Politics Offer Safeguards**

What is worse—being taken hostage by a couple of terrorists aboard an airliner, or being rescued from that situation by Egyptian or Pakistani Commandos? Is it safe to board an airliner that just flew in from Athens, or does it matter whether the aircraft came from Athens or Rome or Cairo? All three airports blamed each other in 1986 for the explosion that blew a hole in a TWA aircraft and killed three passengers.

The question for the future of civil aviation is: How do we reduce the number of terrorist attacks against airports, aircraft and travel agencies?

I can't answer questions about the quality and use of detection technology, about the screening of personnel, about the control of passengers and luggage, about logistics and train-

ing needed for safeguarding airports and storming hijacked aircraft, and about the necessity of sky-marshalls; I leave those answers to specialists. Surely additional security measures can be put into practice and existing measures may be improved or spread further throughout the world.

I question whether U.S. flight crews, following recommended procedures (according to reliable sources I can't name here), should be encouraged to leave a hijacked aircraft as soon as possible, as was done in 1986 by a Pan Am crew at Karachi Airport. My objection then, was that it is one thing to ask a captain to leave last, it is quite another thing to see him leave first.

I suggest that we keep track of political developments, in order to foresee potential dangers, and to develop profiles of terrorist organizations that have earned themselves notoriety in civil aviation history, or are likely to do so. Airlines and airports represent countries or states within countries. Some states anger extremist circles more than others. This means that some national airports and airlines are more at risk than others, or are going to be more at risk than other ones. The terrorist front is quite mobile. Friends of today can become the enemies of tomorrow; where political quiet has been the rule, unrest may follow.

Organizations which once specialized in hijacks—Dr. George Habbash's Popular Front for the Liberation of Palestine and the PFL General Command of Achmed Jibril—lost interest in hijackings and dedicated themselves to other terrorist activities. Other terrorist organizations with a hijacking past, like the group of Wadi Haddad, faded away after the death of their leader. Yet, other organizations filled in the gaps and increased their violence against civil aviation, like Fatah Revolutionary Council of Abu Nidal, or the 15th of May movement led by Abu Ibrahim. The problem is not so much which country may be a target, but which country may be the target of what organization for what purpose.

## **Some Groups Avoid Civil Aviation Targets**

Some terrorist organizations can be ruled out as perpetrators of violence against civil aviation. For instance, during a period of fifteen years the Red Brigades aimed, as they themselves stated, at the heart of the Italian capitalist state, but they didn't resort to violence against Italian airports or Alitalia aircraft because it did not fit their ideology. The same goes for nationalist extremist, leftist extremist and rightist extremist groups in Western Europe. The Red Army Faction in the Federal Republic of Germany, Direct Action in France and the Combatant Communist Cells in Belgium chose the so-called "military industrial complex" as a target for their violence, and they left civil aviation alone.

The only West European leftist terrorist group that was involved in a hijack was the West German Second June

Movement, now defunct. Two members participated in the 1976 hijacking that ended in Entebbe, Uganda. But this hijacking was a Palestinian affair aimed at Israel, and the participation of the two Germans was probably due to the fact that their organization figured on a Palestinian payroll. Another hijacking in 1977 that began in the Federal Republic of Germany ended in Mogadishu, Somalia. This hijacking was committed only by Palestinians, members of the Wadi Haddad organization. In those days it had good relations with West German terrorist groups and therefore demanded, among other things, the release of several imprisoned members of those groups.

The West European leftist terrorist organizations only ventured to attack civil aviation in concert with other groups. Since relations between imprisoned terrorists and the members of other groups that they had operated in concert with have been severed recently (as is the case in West Germany and Italy), the imprisoned terrorist's groups are unlikely to act on their own against civil aviation. The same applies to the more bloodthirsty West European nationalist extremist organizations. The provisional Irish Republic Army never endangered British civil aviation. Of the Basque separatist movement, the political military wing once planted a bomb at Madrid Airport in 1978, but this act of violence was not directed against Spanish civil aviation facilities; it was aimed at an anti-Spanish tourist industry campaign.

I do not want to create the impression that I categorically exclude the possibility that West European terrorists ever attack civil aviation, but the threat has hardly come from them. Outside Europe, however, leftist and nationalist extremists have indeed targeted national airlines and airports, first and foremost in Asia.

### **Other Groups Aim at Civil Aviation**

The Japanese Red Army hijacked three aircraft, one in 1970 that was flown to North Korea; one in 1973 in concert with Palestinians; and one in 1974 for the release of comrades and ransom money. The group also became notorious because of the 1972 attack by some members at LOD Airport, when 25 persons were massacred. The Japanese Red Army, however, has been out of the terrorist business for several years, the remaining members scattered in several Palestinian training camps.

Of the nationalist extremist movements in Asia, I already mentioned the Sikh terrorists. But Tamil Separatists must also be mentioned, since they destroyed an Air Lanka aircraft in 1986. They are likely to limit their terrorist attacks against civil aviation to the companies and airports of the country they live in, which means that Air Lanka and Air India should take extra precautionary measures, or have them taken, to prevent similar attacks in the future. Other countries that harbor large groups of citizens of Sikh and Tamil origin, such as the U.S., Canada and Great Britain, should pay more than attention to the flights of these airlines.

Turkish and Pakistani airlines and airports could also be at risk. Turkish aviation may be at risk because of attacks in the past on Ankara Airport by the Armenian Marxist-Leninist Group (ASALA) and the mounting belligerency of its Kurdish minority. Pakistan should be wary because violent opposition groups have already proved their appetite for hijackings. Again the rest of the world should take notice and protect these countries' airlines.

It seems that the prevention of violence against civil aviation might be rendered more effective by paying closer attention to particular developments, rather than by attempting to formulate general rules of conduct.

## **Danger Remains Uneven Across Nations**

Some countries are more in danger than others. This thesis relates especially to the primary source of the problem; terrorism that has its roots in the Middle East. This terrorism has many faces. It may be nationalistically inspired and/or motivated by religious fanaticism. It may have Christian, Islamic or Marxist-Leninist undertones. It may act as part of the struggle for a Palestinian state. It may be used in the name of a greater Syria to spread the Iranian Shiite Fundamentalist Revolution, or to secure the power of individual regimes.

Whatever the underlying motives, the targets of Middle East terrorist aggression are somewhat predictable. Virtually all the Middle Eastern terrorist groups consider Israel to be their archenemy and the U.S. government to be a satanic regime. Because some of these groups have chosen civil aviation as one of their main targets, the airlines of both countries are therefore permanently and considerably at risk, as demonstrated in 1986. They will remain at risk in the foreseeable future.

Airlines become potential targets when countries that they belong to, or are associated with become terrorist targets, become potential, but temporary terrorist targets. For instance, until December 1983 Kuwaiti Airlines did not attract terrorist attention. After the Kuwaiti government had 17 members of the Hezbollah Movement sentenced and jailed, because they had bombed the U.S. Embassy and the French Consulate, the airline became a target. And in December 1984, a Kuwaiti Airbus on its way to Karachi was hijacked and forced to land at Teheran Airport. According to a passenger, the hijackers were waived through the Dubai preflight checkpoint, while other passengers were searched.

Because Middle East terrorist groups have vowed to liberate their imprisoned comrades, some countries and their respective airlines may be courting trouble. The Federal Republic of Germany, France, Spain, Italy and Great Britain have people in prison because of terrorist activities they committed as members of Middle East organizations which boast a

nasty hijacking reputation. This means that Lufthansa, Air France, Iberia, Alitalia and British Airways are more likely to be harassed by terrorists than other West European Airlines.

In an intercepted letter written to a relative by Nezar Hindawi, the man who used his fiancée as a bomb carrier, Italian law enforcement agents learned that Hindawi begged his cousin to organize some sort of hostage-taking that might foster his release. Italy finds itself in an awkward position nowadays, because several members of the Fatah Revolutionary Council and the Palestinian Liberation Front are in its prisons. Of all the Middle East terrorist groups, these two should be watched as closely as possible because of their notorious reputation for ruthlessness.

## **Terrorists Strike Each Other, “Zionists” and “Imperialists”**

The leader of the Fatah Revolutionary Council, Sabri Khalil El Banna alias Abu Nidal, describes himself during an interview with the West German weekly publication *Die Spiegel* in October 1985, as “. . . this evil spirit that only haunts at night.” It has proven to be an accurate description; Abu Nidal likes to blow out even the smallest candle that is lit to solve the Middle East quagmire. Attempts to bring peace to this troubled region has been tainted with bullets and murders by his group. In February 1985 for instance, an agreement was signed by the Jordanian Government and the Palestine Liberation Organization of Yassir Arafat. The next month Abu Nidal’s group attacked Jordanian Airline offices in Rome, Athens and Nicosia. In April anti-tank rockets were fired at the Jordanian Embassy in Rome and at a Jordanian airliner in Athens. In July these activities were followed by a grenade attack on the Jordanian airline office in Madrid and by the assassination of a Jordanian diplomat in Ankara. Finally, in September one of Arafat’s assistants was murdered in Athens. By then the Jordanian-PLO agreement had already lost much of its value.

One of the reasons that prompted Abu Nidal to organize the massacres at Rome and Vienna Airports in December 1985 undoubtedly had to do with the lenient attitude the Italian and Austrian governments directed to the PLO, with which Abu Nidal considers himself at war.

According to the interview, he is also at war with Zionism and Imperialism; Prime Minister Thatcher, President Reagan, King Hussein and President Mubarak are among his favorite targets. One of the terrorist survivors who participated in the attack at Rome Airport, told an Italian judge that Abu Nidal proudly predicts himself to be the initiator of World War III. His followers are totally dedicated to him and are prepared to sacrifice their own lives, as evidenced by their attacks on airports, as well as the synagogue in Istanbul.

The members of the Fatah Revolutionary Council, who hijacked an Egyptian airliner in November 1985, sang and danced while they began to kill the passengers. According to some sources, they had been ordered to fly the aircraft to Tel Aviv and crash it into the city.

With such dedicated suicidal members and their leader’s knack for airtight secrecy and clandestinity, Abu Nidal’s Fatah Revolutionary Council is by far the most dangerous terrorist group in the Middle East. Abul Abbas’ Palestine Liberation Front is a sloppier organization, but the ambition of its leader, to be recognized worldwide as one of the staunchest and most daring fighters for a free Palestine, make its activities rather predictable for focusing attention on his group. Abul Abbas once used hang gliders and hot air balloons to transport his terrorist followers across the Israeli border. The Achille Lauro affair was another example of his effort to garner publicity, but it also demonstrated the group’s lack of organization. He has threatened in recent times that the West must prepare itself for a new round of violent actions by his PLF.

## **Goals, Groups and Means Vary**

“What did we overlook?” was the question recently asked in an article on hijackings. The author noted that in spite of additional precautions, terrorist actions have increased. In my opinion what could have been overlooked is the development of the terrorist landscape. The aim to get worldwide attention for the Palestinian problem, as was the case in the early 1970s, has been abandoned. That aim put some restrictions on terrorist violence because the quest for a Palestinian homeland had to earn a certain credibility and respectability. The aims are different now—a greater Syria, the spread of the Iranian Islamic Revolution, the undermining of moderate Arab states and the fight against imperialism.

The PLO, once recognized as the one and only representative Palestinian organization, has fallen apart and only recently has been glued together again. Groups have acted on their own, and frequently have competed with each other in perpetrating terrorist acts. It is still not clear what authority has been left to Arafat, and what kind of status he will be given by terrorist sponsor states—Syria, Libya, Iran, Algeria—which, until a few months ago, supported the groups that were hostile to him.

And the terrorists’ methods have changed too, with the appearance of the suicidal activist. If an individual does not value his own life, then usually he values the lives of others even less. Heroic death has been substituted for whatever political shrewdness was available in former days. With groups like these still on the move, it is impossible to assure a peaceful future for civil aviation.

## Internal Disarray Suggests Hope

On the other hand, the future is not entirely black. The terrorist front is far from stable. In March 1987 the spiritual leader of the Shiite Hezbollah, the Jihad Islamica, and the Organization of Revolutionary Justice, Sheik Mohammad Hussein Fadlallah, suddenly announced that henceforward it was inadmissible to kill innocent persons because of the wrongdoings of their states. At the time of his statement Sheik Fadlallah had in mind the killing of hostages in Lebanon, but he also could have meant that hijacking airliners and killing the passengers must be stopped too. If this proves to be the case, and the Shiite fundamentalist organizations obey his orders, it would be good news indeed for civil aviation.

Another aspect that should be watched closely, is the development of the PLO after its reconciliation with the radicals of Dr. Habash's PFLP and Nayef Hawatneh's Democratic Front for the Liberation of Palestine. This reconciliation may imply a radicalization of the PLO, but it could also mean that the organizations that stayed outside the PLO, like the Fatah Revolutionary Council, will lose political importance and consequently political support.

Some countries in the Middle East, like Syria and Libya, cannot ignore the PLO any longer, and they have attempted to normalize their relations with Arafat. Because of their tarnished international reputations as terrorist-sponsor states, these countries seem less willing to continue their

support of radicals like Abu Nidal, and it is likely that they want to get rid of him.

The political radicalization of the PLO could paradoxically mean a moderation of the terrorist front as a whole. Such a development would also be beneficial for civil aviation. Although millions of flights start and end safely worldwide every year, one more hijacking will always be one too many, because it flags the vulnerability of air transport, rather than its relative safety. So the smaller the number of hijack-prone organizations, the more reason for cautious optimism for the future. ♦

(This article came from the author's presentation in May 1987 to the Flight Safety Foundation's International Advisory Committee Workshop at Amsterdam. Ed.)

### *About the Author*

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# Reports Received At FSF

AC 21.17-1. *Type Certification - Airships*. FAA Advisory Circular. 30 September 1987. Contact AWS-110, FAA Hq., Washington, DC 20591 U.S.

Summary: This describes two acceptable criteria for the type certification of airships that may be used by an applicant in showing compliance with new section 21.17(b) of the FAR, Part 21. General guidance relative to airship type certification is also provided. The AC describes the original airship design criteria, and the development of FAA airship criteria. Included in the AC is discussion of application of FAR 33, FAR 35, FAR 36, FAR 21.5, FAR 45 (subpart C), and FAR 91.33. FAA airship design criteria are contained in FAA document FAA P-8110-2, *Airship Design Criteria (ADC)*. U.S. Department of Transportation, Utilization and Storage Section M-443.2, Room 2314, Nassif Building, Washington, DC 20590 U.S.

AC 150/5200-27B. *The National Fire Protection Association's Standard for Professional Qualifications for Airport Firefighters* (NFPA 1003-1987). FAA Advisory Circular. 1 September 1987. Contact AAS-100, FAA Hq., Washington, DC 20591 U.S..

Summary: This advisory circular explains the nature of the NFPA standard and tells how it can be used as an airport firefighter training program guide. It can be ordered from NFPA, Publications Sales Division, Batterymarch Park, Quincy, MA 02269 U.S.. Price is \$10.50 (U.S.) per copy. Telephone enquiries may be directed to 1-800-344-3555.

DOT/FAA/AM-87/6. *Private Pilot Judgment Training in Flight School Settings*, by Diehl, A.E., and Lester, L.F., May 1987. Office of Aviation Medicine, FAA Hq., Washington, DC 20591 U.S.

Summary: Pilot judgment errors have long been recognized as an important factor in aviation accidents. Previous studies demonstrated that specialized training procedures can significantly reduce the number of decision errors made by newly certified private pilots during in-flight tests. However, the subjects in these studies were all college-age students enrolled in full-time aviation training programs that were taught by highly motivated instructors. The present study examined the utility of revised judgment training materials with typical private pilot applicants in conventional flight school settings at ten fixed base operations within the FAA's Eastern Region. The performance of a sample of subjects who received judgment training was compared with that of a control group drawn from these same FBOs. The behavioral test of judgment was in the form of an observation flight administered by observers who were uninformed of the details of the experiment's design. Students and instructors also completed a critique of the program materials. The results of the study suggest that improvements in pilot decision making skills can be achieved in the less formal instructional climate that characterizes many conventional flight school programs. The revised judgment training program and instructional materials are acceptable to the user community, and most participants found them to be very useful.



# Effectiveness of Worldwide Civil Aviation Security Program and Flight Safety

by

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In calendar year 1987, there were 13 hijacking incidents involving worldwide scheduled airline aircraft, accounting for two fatalities. The 13 incidents occurred worldwide with the exception of Asia: four in North America; two each in Eastern Europe, the Mid-East, and the Caribbean; one each in Western Europe, Africa and Oceania. Although the hijackings in 1987 were less violent than those in previous

years, one passenger was murdered by the hijacker in one incident. A hijacker in another incident was killed by security personnel. Hijackers in three separate incidents surrendered peacefully. Hijackers in all other incidents were overpowered either by in-flight security personnel, crew members, passengers or airport police. Details of the 13 hijacking incidents are shown in Table One:

**Table One — Worldwide Airline Hijacking Incident Summaries  
Calendar Year 1987**

Date	Airline	Number Aboard	Boarding Point	Destination/ Objective	Remarks
1/5/87	Delta	N/A	Dallas, Texas	Egypt	Held 10-year-boy hostage. Surrendered.
1/10/87	New York Air	55	Newark, N.J., U.S.	Talk With Black Muslim Leader	Mentally incompetent. Surrendered to FBI.
3/7/87	Alaska Airlines	109	Seattle, Wash., U.S.	Cuba	Overpowered flight crew.
3/10/87	Cubana Aviacion	48	Havana, Cuba	United States	Hijacker killed by policeman on board.
5/5/87	Iran Air	Unk	Shiraz, Iran	Unk	Hijacker arrested by in-flight security.
5/15/87	N/A	N/A	Attempted at Warsaw, Poland	To be flown to West	Held bus passengers hostage. Arrested at airport.
5/19/87	Air New Zealand	129	Nadi, Fiji	Prisoner release	Hijacker was employee. Overpowered by crew.
6/5/87	Virgin Island Seaplanes	19	St. Thomas, Virgin Islands	Cuba	Surrendered to FBI.
7/2/87	Air Afrique	164	Bangui, Central African Republic	MiddleEast	Overpowered by crew after he murdered a passenger.

Date	Airline	Number Aboard	Boarding Point	Destination/Objective	Remarks
9/8/87	LOT	Unk	Warsaw, Poland	Unknown	Overpowered by passenger.
11/6/87	Air Canada	2 Crew	San Francisco, Calif., U.S.	Dublin, Ireland or London, England	Surrendered to police.
12/23/87	KLM	97	Amsterdam, Holland	New York/Extortion	Hijacker was 15 years-old. Overpowered by police in Rome.
12/28/87	Iran Air	Unk	Tehran	Unknown	Overpowered by in-flight security.

The 13 hijackings in 1987 equals those of 1986. This is the lowest level for the last 10 years. The trend of worldwide hijackings for the past 10 years is shown in Table Two. Note that the four hijackings involving U.S. air carrier aircraft is the third consecutive year that hijackings remained at the lowest level since the 1970s. The downward trend and relative low number of hijacking incidents in recent years, compared to those of previous years, is a positive indication that heightened security awareness and tightened security measures have played a key role in deterring hijackings.

In 1981, 600 million persons were screened at U.S. airports. But in 1987, the number of persons screened exceeded 1.1 billion. As a result, 3,252 firearms and 14 explosive devices were detected, and a total of 1,581 persons were arrested. The passenger screening results at U.S. airports since 1981 are shown in Table Three.

Although it is impossible to determine exactly how many hijacking incidents or other kinds of violence would have been carried out in the absence of such security measures, it is certain that airline safety has been improved by these measures.

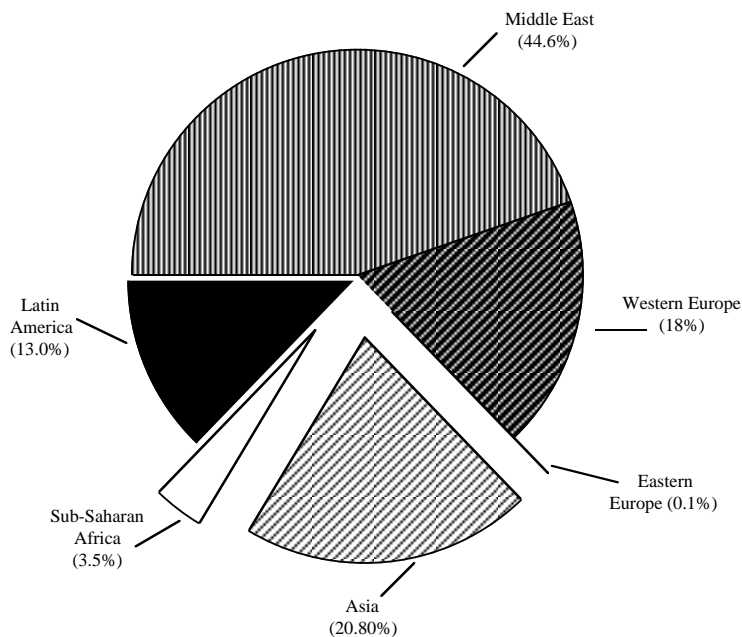
**Table Three — U.S. Airline Passenger Screening Results At U.S. Airports  
1981 - 1987**

	1981	1982	1983	1984	1985	1986	1987
<b>Persons Screened</b> (Millions)	598.5	602.2	709.1	775.6	929.9	1055.3	1095.6
<b>Weapons Detected</b>							
Firearms	2,255	2,676	2,784	2,957	2,987	3,241	3,252
Handguns	2,124	2,559	2,634	2,766	2,823	2,981	3,012
Long guns	44	57	67	100	90	146	99
Other	87	60	83	91	74	114	141
Explosives	11	1	4	6	12	11	14
<b>Persons Arrested</b> (for carriage of weapons only)							
	1,187	1,314	1,282	1,285	1,310	1,415	1,581

In addition to aircraft hijacking, terrorists threaten individuals. Individual interests continue to be targeted by terrorist organizations and those countries supporting international

terrorist activities. In 1987, a total of 832 international terrorist incidents were reported. Table Four shows the geographic distribution of such incidents for the year.

**Table Four — Geographic Distribution of  
International Terrorist Incidents 1987**



# Accident/Incident Briefs



## Turbine Trouble

**France - March**

FH-227: Aircraft destroyed, fatal injuries to all aboard.

On a flight from Nancy, the aircraft hit a powerline during the approach to Paris Orly in a driving snowstorm. The pilot had reported to the control tower that he was having trouble with an engine. The aircraft crashed into a field and all aboard received fatal injuries.

## Mountain Storm

**Columbia - March**

B-727: Aircraft destroyed, fatal injuries to 137.

Minutes after takeoff from Cucuta for a flight to Baranquilla, the aircraft clipped the tops of trees before flying into a mountain. The aircraft, carrying 131 passengers and six crewmembers, immediately burst into flames; there were no survivors.

Although the aircraft took off in good weather, it hit mist-shrouded La Cuchilla peak 40 miles from the airport. The impact site was 8,500 feet high in the western range of the Andean Mountains, and the force of the crash caused a landslide that buried part of the airplane. To reach the wreckage, searchers had to hack up steep slopes through 15 miles of dense rain forest.

## Autopilot Aberration

**Denmark - February**

DC-10: No damage, minor injuries to 10.

En route from Anchorage to Copenhagen at 30,500 feet, the pilot switched from one autopilot to another. Immediately,

the aircraft began to dive and, before the crew could regain control, it lost 200 feet.

The abrupt altitude loss occurred two hours out of Anchorage and six hours before landing at its destination. The incident caused injuries to 10 of the 231 people on board. After arrival in Copenhagen, they were taken to city hospitals but were released in a few hours.

## Emergency Landing

**United States - February**

Airbus A-300: Engine damage, no injuries.

Immediately after takeoff from Miami International Airport en route to Newark, N.J., the pilot had indications of trouble in one engine and shut it down. Parts of turbine blades had separated, some landing on airport property and on an airport parking lot, and others fell outside of airport property, igniting a small fire in a wooded area.

The twin-engine airplane returned to the airport safely within 10 minutes of the incident and landed without further problems. There were no injuries in the aircraft or on the ground.

## Fickle Crosswind

**United Kingdom - No date**

Douglas C-47 Dakota: Minor damage, no injuries to two.

The nonscheduled cargo flight had landed at Liverpool Airport on runway 27 with wind from 190 degrees at 34 kts. While taxiing, the airplane weathercocked to the left and departed the runway onto soft ground. During the attempt to taxi back to the hard surface, the aircraft nosed over and sustained damage to propeller tips and pitot heads. The two-man crew was not injured.

The last wind check passed to the airplane was 190 degrees at 25 kts., and an earlier report stated 180 degrees at 22-36 kts. The aircraft operations manual listed the maximum crosswind component at 20 kts.

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Accident/incident briefs are based upon preliminary information from government agencies, aviation organizations, press information and other sources. The information may not be accurate.

## **A Bump In The Night**

### **Dubai - January**

B-747: No damage, one serious injury, 163 persons aboard.

After departing Dubai at night, the aircraft was approximately 80 nm west passing through FL 240. No weather returns were shown on the aircraft's radar.

A short burst of moderate turbulence was experienced during which a passenger walking down the aisle fell against a seat and was seriously injured. The seat belt signs were not illuminated because there was no apparent weather in the area.

The aircraft returned after dumping fuel, and off-loaded the casualty and his wife. During the return, a bank of cumulus clouds was seen against the lights of the city and later showed as a return on the airplane's radar. It was believed that the turbulence had been caused by flight through the top of a cumulus cloud.



## **Struck Volcano**

### **Chile - February**

Piper Seneca II: Aircraft destroyed, fatal injuries to seven.

After taking off on a flight from Temuco, the aircraft was reported missing and presumed lost over the Andes Mountains. On board were the president and another official of a Santiago-based bank and the son of a Chilean diplomat.

The next day, rescue helicopters located the site of the crash at the 6,800-foot level of the Villarica volcano, southwest of Santiago. All seven aboard had received fatal injuries.

## **Possible Suicide**

### **South Africa - March**

Embraer EMB-110: Aircraft destroyed, fatal injuries to 17.

A mineworker with marital and financial problems, who recently had taken out a large insurance policy on his life, was suspected in the explosion onboard the commuter air-

craft during a landing approach to Jan Smuts Airport in Johannesburg. The suspect and 16 others were killed in the explosion that was reported to have blown the aircraft apart.

The mineworker's wife told authorities that their marriage had been in difficulty and that he had threatened to kill himself. He was suspected of carrying commercial explosives aboard the aircraft.

## **Trouble On Climbout**

### **United States - February**

SA-227 Metro: Aircraft destroyed, fatal injuries to 12.

Seconds after takeoff from Raleigh-Durham Airport, N.C., the aircraft made a right turn and crashed into a wooded area adjacent to a reservoir. It came to rest in several pieces 3,000 feet from the runway. There were no survivors. After the airplane took off from runway 23, local ATC requested the crew to make a right turn to a 290-degree heading. The direction was acknowledged by the pilot. This was the last transmission from the aircraft.

At the time of the accident, there was light drizzle and fog, but conditions were above FAA minimums for takeoff. The point of impact was said to be slightly lower than the runway elevation. Both propellers were turning at the time of the crash and the landing gear was retracted.

The flight, which carried 10 passengers and two crewmembers, was en route to Richmond, Va.

## **Final Approach In Fog**

### **United States - February**

Piper PA-31 Navajo: Aircraft destroyed, fatal injuries to three.

The aircraft had taken off from Norwood, Mass., with one passenger and a crew of two en route to Atlantic City, N.J. After being cleared for an ILS approach to Pomona-Atlantic City International Airport, the aircraft disappeared from radar and crashed in rain and fog about a mile and a half from the airport.

The airplane was found in a wooded area. All aboard had received fatal injuries. The pilot had not reported any difficulties during the flight.



## **Balky Nose Gear**

**United Kingdom - March**

BEECH 76: Minor damage, no injuries to one.

The pilot made an ILS approach in VMC after which he was to go-around and make a normal traffic pattern for landing. The gear cycled properly during the approach and the go-around. However, when established on the downwind leg and the gear down selector was activated, only the two main gear down lights illuminated. The in-transit light remained lit and the gear warning horn sounded.

The pilot recycled the gear twice, but ATC confirmed that the nose gear doors remained closed. He returned to Manston and tried several more gear recyclings, emergency gear activation, plus pitch and yaw movements without success.

After 45 minutes and one practice approach, the pilot landed on the main gear on a grass runway. The nose touched down between 40 kts. and 50 kts. and the airplane came to a quick stop. Examination found that the retraction fork on the nose gear door mechanism was positioned improperly, causing the door closing linkage to move too far up and to the rear into an overcentered position, effectively locking the gear up.

## **Balky Main Gear**

**United Kingdom - March**

Piper PA-34: Substantial damage, no injuries to one.

On takeoff for a flight to Guernsey, the red “unsafe” light remained on when the gear was raised. The pilot selected gear down to recycle the system but the light remained on.

The pilot advised the control tower of the problem and made a low pass to have the lowered gear checked visually. The controller reported to the pilot that the gear appeared to be fully extended. The pilot opted to land, and during the run-out the right main gear collapsed, resulting in substantial damage but no injuries. The aircraft suffered damage to the right main landing gear, right engine and propeller, right aileron and skin.

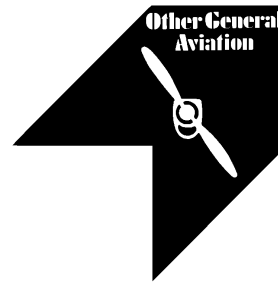
After recovery, the airplane was jacked up for inspection. The gear selector was put into the down position and the master switch turned on, but the hydraulic power unit had failed and the gear activating pump did not work. When the emergency gear extension system was operated, the right main gear extended and locked.

## **Gear Collapse**

**United Kingdom - March**

Piper PA-30 Twin Comanche: Substantial damage, no serious injuries to four.

The aircraft was landing at Humberside. After touchdown, the right main gear collapsed, followed by the collapse of the rest of the landing gear. Substantial damage occurred to the gear assemblies and to the underside of the fuselage.



## **Photo Flight Gone Awry**

**France - February**

Dassault M.D. 315 (restored WWII bomber): Aircraft destroyed, fatal injuries to six.

A short time after takeoff, the aircraft circled low over Pouilloux Aerodrome near Montceau Les Mines so a group of photographers could take pictures of the restored WWII bomber. The pilot was reported to have lost control and the airplane crashed on the airstrip, killing three aboard and three amateur photographers on the ground. All six were members of a flying club that five years earlier had restored the airplane.

## **Not Topped Off**

**United Kingdom - March**

Cessna 150: Substantial damage, no injuries to two.

During preflight, the pilot checked the fuel level with a dipstick and determined that the seven U.S. gallons it indicated were enough for two hours of flight. Since his flight was projected to take one hour, he took off from Southend Airport.

During return from a local practice flight when he had descended to 1,300 feet to remain clear of clouds, the pilot added power to begin a climb when the engine lost power, surged and quit completely. The pilot called Mayday and reported he was going to make an emergency landing. The passenger noticed that the fuel gauges read between 1/8 and 1/4 full.

The pilot rejected the first of two selected forced landing fields because there were sheep on it and stretched the glide, using no flaps, and landed on the second. When the brakes were applied, the nose gear dug into soft ground and collapsed. When the nose dug in, the main gear rose and the right wing hit the ground. The two aboard were unhurt, but the aircraft received damage to the engine frame, propeller, nose gear, right wing and fuselage. A helicopter recovered the occupants less than an hour after the pilot's distress call.

When the airplane was recovered, the fuel tanks were found to be empty.

## **Engine Failure**

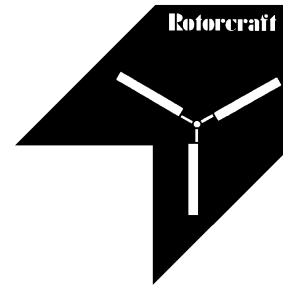
### **United Kingdom - No date**

DH-B2 Tiger Moth: Substantial damage, one serious injury and one minor injury.

The aircraft, which had not flown for four months, was fueled from cans of autogas using a filter. The engine was run for five minutes and a normal run-up was accomplished.

After takeoff from the private grass runway, which had a significant down slope, the engine quit at 100 feet above the ground. The pilot checked ignition and fuel but the engine remained dead. While he was trying to turn the fuel off, the pilot saw a house directly ahead and began a gentle turn to the right to avoid it. The airplane stalled and turned 180 degrees to the right. It crashed in a steep nose-down attitude. The front of the aircraft was substantially damaged, and the passenger suffered serious facial cuts and was knocked unconscious. The pilot received minor cuts on his face. There was no fire, but a broken line poured fuel over the passenger who was removed by the pilot and onlookers.

The cause of the engine failure could not be determined, the fuel having drained out and the magnetos too heavily damaged for analysis. An airworthiness notice stipulates that autogas may be used for this engine if it is to specification and is supplied by an approved airport installation.



## **Military Maneuvers**

### **United States - February**

CH-47 Chinook: Aircraft destroyed, fatal injuries to nine, serious injuries to nine.

The Army helicopter picked up soldiers from Fort Hood, Texas, and was taking them to Fort Sill, Okla., for training exercises. When it was about 50 miles northwest of Dallas, Texas, witnesses said they saw it descending with smoke coming from the aircraft. It crashed in a field, igniting a grass fire that covered 60 acres, adding second-degree and third-degree burns to the impact injuries of the occupants.

Six soldiers were pronounced dead at the site, three more died in a hospital, and five of nine others being treated were reported in critical condition.

## **Loss Of Power**

### **United States - February**

Bell 206A: Substantial damage, serious injuries to two.

While hovering at an altitude of 200 feet the aircraft experienced a power loss. The pilot entered autorotation and landed very heavily, causing substantial damage to the helicopter. The pilot and one passenger received serious injuries.

## **Crossed Signals**

### **United States - No date**

Hiller 12-D: Substantial damage, serious injury to one.

The helicopter had completed a seeding operation and was being positioned on its transport trailer. A ground handler installed the left rear hold-down pin without the pilot being aware of it, and went to secure the right front skid. However, the aircraft was not aligned properly and the pilot, attempted to lift the helicopter to realign it.

The left rear hold-down pin caused the aircraft to pitch up and back. The tail rotor hit the ground and the helicopter began to enter gyroscopic rotations. It landed inverted behind the trailer. The aircraft was destroyed and the pilot

received serious injuries.

## **Fuel Warning Light**

**United States - No date**

Bell 204B: Aircraft destroyed, serious injuries to one.

During logging operations, the aircraft completed one sling load and was returning to the refueling location. A power loss forced the pilot to execute a forced landing. He autorotated through trees into a swamp, coming to rest in the water. The helicopter was destroyed and the pilot received serious injuries.

The pilot later reported that he had flown about 10 minutes after the 20-minute low fuel warning light had illuminated.

## **Cracked Crankcase**

**United States - January**

Hiller UH-12E: Substantial damage, no injuries.

While in cruising flight, the pilot noticed a drop in manifold pressure and a loss of power. When the chip detector light went on, he entered autorotation. During the descent, the pilot heard a loud bang.

On touchdown, the main rotor severed the tail boom. The pilot reported that later inspection showed the engine had a cracked crank case.

## **Rotor Water Strike**

**United States - February**

Bell 47: Substantial damage, no injuries.

The pilot was attempting to land on a gravel riverbank. After what apparently was a tail rotor strike with the water, the tail rotor short shaft separated. The helicopter spun around several times, landed heavily and rolled into the water. It landed on its side and was substantially damaged. The pilot was not injured.