



# 1979-1994: The Threat

Since the 1960's, terrorists have used a variety of different tools and tactics to target aviation. The artifacts described here reveal the various components that were used in the creation of some of history's most notable improvised explosive devices. Simulated mechanisms such as these are used by explosives operations specialists to learn about past threats and develop new aviation security policies and procedures. No matter how young our agency may be, our history teaches us valuable lessons. Where we come from, the successes we have achieved as well as the setbacks we have faced, it all shapes our future. Our history drives us to be better, it inspires us with valuable lessons about leaders who have come before us and their sacrifices. Our history helps us understand who we are and to do our jobs better and accomplish our larger mission of protecting our homeland from future attacks.

## November 15, 1979

### UNABOMBER Attempts to Destroy American Airlines Flight 444 From Chicago to Washington

Ted Kaczynski, also known as the UNABOMBER, attempted to destroy American Airlines Flight 444, a Boeing 727 flying from Chicago to Washington, DC.

Kaczynski's improvised explosive device (IED) consisted of a detonator made from triacetone triperoxide (TATP) and a main charge using ammonium nitrate. The device was contained within a small wooden crate, covered by cardboard and brown paper; a 7.5 inch by 4-inch diameter metal can, four "C" cell batteries, a barometric pressure switch, and a "loop" switch. The bomb failed to detonate because it contained barium nitrate, a powder often used to create green smoke in fireworks, not explosive powder. The device burned in the cargo compartment causing the aircraft to make an emergency landing at Dulles International Airport outside Washington, D.C. due to dense, green, smoke.

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## August 1982

### Terrorist Group Carries Out Multiple Aircraft Attacks on Pan American Flights

Multiple attacks were carried out by Abu Ibrahim and the 15 May Organization, a terrorist group associated with the Popular Front for the Liberation of Palestine – General Command. These attacks targeted various aircraft, using commercial blasting caps as detonators, consisting of homemade Pentaerythritol tetranitrate (PETN), pressed into thin sheets and placed under passenger seats. Additionally, these devices used e-cell solid state timers, AAA batteries, homemade pressure switches, and sub-miniature audio jacks for safe arming. The first attack occurred on August 11, 1982 aboard Pan American Flight 830, a Boeing 747. Mohammed Rashed planted a bomb under a seat cushion. The plane was just beginning its descent when the device exploded, killing one passenger and injuring 15 others. A few days later, on August 25, 1982, another device was found between the seat cushion on Pan American Flight 441, also a Boeing 747. The bomb's triggering mechanism was an electric timer, a barometric sensor, and two AA batteries. The explosive was a 4 by 10-inch sheet of 1/8-inch thick plastic explosive. These attacks were later linked to a series of attacks using checked suitcases and shoulder bags targeting commercial aircrafts in the 1980s.

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## April 17, 1986

### Under the Direction of the Syrian Government, a Bomb was Attempted on El Al Airlines Flight 106



Nezar Hindawi, working on behalf of Syrian intelligence services, planned to secretly place a bomb in the bottom of a suitcase carried by his fiancée, Anne Marie Murphy, on El Al Airlines Flight 016, a Boeing 747 scheduled to fly from London Heathrow to Tel Aviv. The bomb consisted of an IED contained within a Commodore scientific calculator in the checked

baggage with approximately three pounds of plastic explosives charge hidden below a false bottom in the suitcase. Airport security discovered the device prior to loading it onto the aircraft. The 1980's became known for a series of IEDs hidden in suitcases which prompted the United States to develop explosives detection systems (EDS) similar to those currently in use at airports across America.

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## November 29, 1987

### Under the Direction of North Korea, an Attack was Carried Out on Korean Airlines Flight 858 Flying From Baghdad to Seoul



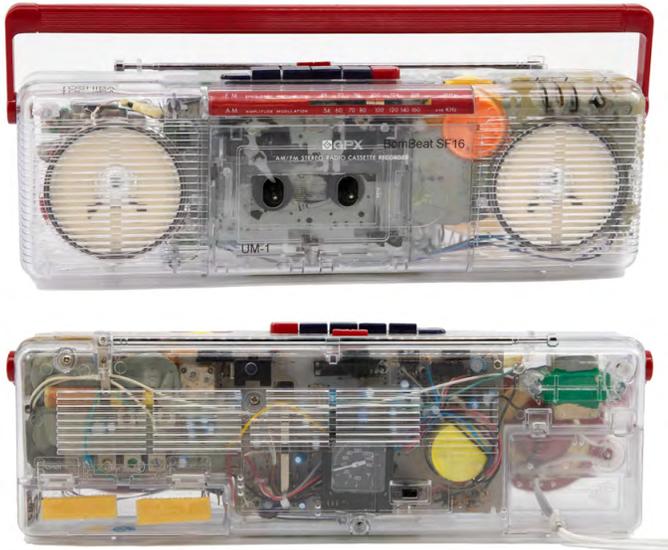
Kim Seung-il and Kim Hyon Hui (under the direction of North Korean President Kim Il-Sung) perpetrated an attack on Korean Airlines Flight 858, a Boeing 707, during a flight

from Baghdad to Seoul. The North

Korean agents used an IED consisting of a Panasonic transistor radio containing the initiating explosive and an external whiskey bottle filled with a liquid explosive. A carton of cigarettes held the components together in a duty free bag. The resulting explosion caused the airplane to crash into the sea off the west coast of Thailand, resulting in the loss of all 115 persons on board. Kim Seung-il swallowed a cyanide capsule hidden in a cigarette and died when he was apprehended, but Kim Hyon Hui failed to commit suicide, and was captured and sentenced to death. However, South Korean president, Roh Tae-woo pardoned her, saying Kim was merely a brainwashed victim of the North Korean government.

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## December 21, 1988

### Lockerbie Bombing: A Terrorist Bombs Pan American Flight 103 Flying From London To New York

Libyan government agent Abdel Basset Ali al-Megrahi placed a bomb on an Air Malta flight that was subsequently transferred to Pan American Airlines Flight 103, a Boeing 747-100 flying from London to New York City. The IED consisted of a modified Toshiba stereo radio cassette recorder, Model Bombeat SF16, containing an explosive charge, an altimeter arming mechanism, an electronic time delay, and a commercial detonator, all placed inside a Samsonite suitcase that was processed as a checked bag. The resulting explosion caused the aircraft to break apart in flight falling over an 848 square mile area. The plane's wings, along with tanks carrying 100 tons of jet fuel, plummeted into Lockerbie, Scotland, creating an inferno and a crater more than 150 feet deep that registered miles away as a seismic event. The explosion resulted in the loss of 270 lives (259 passengers and crew of Pan Am Flight 103 and 11 citizens of Lockerbie).

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responsibility that included the Chicago, Cleveland, and Indianapolis Civil Aviation Security Field Units and a post of duty in Columbus, Ohio. The Federal Aviation Act of 1958 was signed by President Dwight D. Eisenhower on August 23, 1958, which created the Federal Aviation Agency, later renamed FAA. The act empowered the FAA to oversee and regulate aviation safety. In the 1960s, the United States experienced a hijacking epidemic which thrust the FAA into the business of civil aviation security. The FAA Aviation Explosives Security Program, which became the TSA's Explosives Operations Division, began in the summer of 1970 when FAA hired its first full-time Explosives Specialist. In March 1972, the Aviation Explosives Security Program created the FAA Canine Program which is now the TSA Explosives Detection Canine Program. On September 11, 2001, the FAA immediately halted all traffic for the first time in U.S. aviation history.

## December 11, 1994

### Bombing of Philippine Airlines Flight 434: A Test Run for Operation Bojinka

Ramzi Yousef placed a device on board Philippine Airlines Flight 434, a Boeing 747 flying from Cebu, Philippines to Tokyo, Japan. The device consisted of a Casio DB-61 Databank wrist watch timer, a contact lens solution bottle filled with a homemade explosive main charge, two 9 volt batteries, and a pilot lamp wrapped with guncotton within a small cardboard tube made from an airline ticket to create a TATP detonator. The device exploded in-flight killing one passenger and injuring



six others. This was a test run for attacks planned for January 1995 to destroy twelve trans-Pacific U.S. flagged airline flights in a 24-hour period. The plot was discovered and disrupted in Manila, Philippines. The terrorists referred to this plot as "Operation Bojinka." Yousef was the nephew of Khalid Sheikh Mohammad, the mastermind of the 9/11 attacks on the World Trade Center and the Richard Reid shoe bomb attack. Reproduction provided by The Explosives Operations Branch.



## FAA Plaque 1991

The Federal Aviation Administration (FAA) had nine domestic regions. This plaque is from the Chicago Civil Aviation Security Field Office and had an area of