

The United Airlines Flight 173

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Flight 173, Mechanical Failure, and Accident Context

The United [Airlines Flight 173 flight](#) was organized to depart from John F. Kennedy International Airport to Portland International Airport with one stopover at Stapleton International Airport, Denver, Colorado. The flight took place on 28th December 1978, when it was scheduled to reach its destination at 17: 13 hours. The plane had 181 passengers and eight crew members on board. Unfortunately, the plane ran out of fuel and crashed a few miles away from Portland. Two crew members and eight passengers died in the plane crash, while 24 people were injured, with 179 survivors. (Editor, 2012)

It is reported that the plane crash occurred due to a lack of crew resource management and a maintenance error with the landing gear. The plane was piloted by a well-experienced pilot, Malburn McBroom, and he was assisted by other crew members, including Roderick Beebe, with Forrest Mendenhall as their flight engineer. In reference to the flight monitoring system, the total amount of fuel that was needed for the entire flight was 31,900 lbs. However, the crew had 46,700 lbs on board, implying a surplus. As the plane approached Portland International Airport, the captain lowered the landing gear, which produced an abnormal vibration, and the indicator light failed to show up. This implied that the gear had a fault and that the effort to lower it for safe landing had failed.

After noticing a problem with the landing gear, the crew responsible requested the captain to hold on as they examined the problem. For about an hour, they tried to find out the fault with the gear and perhaps find a way in which they could have a safe landing, sort out the issue, and probably enable the passengers to board another plane. As the crew examined the landing gear, they failed to monitor the level of fuel and the rate at which it was being consumed. With the lowered gear and a one-hour holding, burn in fuel, and just as the crew was planning to do a safe landing, the fuel burned out before time, and two engines flamed out. That is when the plane crashed at a place around six miles from the airport.

The National Transportation Safety Board (NTSB) reported that the landing gear had corroded, and it affected the micro-switch, leading to an incomplete connection to the cockpit green light that enables the pilot to know that the gear is low. According to the report, the captain had to hold on from landing until the problem with the plane had been established and, instead, make an emergency landing. As much as it was safe to opt for an emergency landing, the accident resulted from the crew getting so much engrossed in identifying the fault on the gear that they forgot to monitor the amount of fuel and the time it could sustain them on air. Furthermore, the board directed the blame on the crew for poor

management and teamwork during crises. They also reported that the crew had failed to organize themselves in such a manner that there could be one individual keeping track of the distance that they had remaining and the amount of fuel available so that they could not overstay checking on the gear.

NTSB Findings and Crew Resource Recommendations

The NTSB report said that the captain could have avoided such a state of events. They gave recommendations on what the aviator could have done to prevent the accident from occurring. They recommended that captains should ensure that the crew team with which they work has been educated on the principles that should be followed in handling situations in times of malfunctions in the aircraft. The crew members should learn the importance of cooperation and participation in management during problems. They should undergo training to divide the duties in a wise manner that could help avoid accidents.

A recommendation was also given on proper coordination of the crew members on how they should handle situations. The errors that occur in an aircraft should be well understood by the crew members and handled in the wisest manner possible. A Crew Resource Management was launched to bring all the airline experts so that they can harmonize on how they need to carry out their work. The aspect of training will help reduce such mistakes that lead to accidents. This CRB is used worldwide to train all personnel following the United 173 accident.

It was also recommended that the different instruments used to measure fuel should be well-mastered by the personnel involved in providing fuel for aircraft. Misinterpretation of readings should be avoided, and proper amounts of fuel should be allocated depending on the distance expected to be taken by a particular plane.

Captain McBroom and Comparable Fuel-Related Accidents

Captain McBroom lost his licence as a result of the mismanagement that occurred in the United Airlines Flight 178 Aircraft, after which he retired. He later died, and the family members reported that he had been broken from the role that he played in the accident. Some of the causes that are alleged to have led to that accident entailed the captain's failure to monitor the amount of fuel that was remaining and taking a wise step that could have prevented fuel exhaustion.

Similar accidents have been recorded in the past. One took place in 1963 when Aeroflot Tu-124 crashed into Neva River because of inadequate fuel. However, all the people survived the accident.

Another accident occurred in 1969 when the Scandinavian Airlines System Flight 933 crashed into an ocean on its way to Los Angeles International Airport. In this plane crash, the green light also failed to show. Similarly, the crew also concentrated on the fault in the aircraft, and they forgot to slow down their landing speed, as it crashed just close to the runway.

Human Error, Communication, and Pilot Impairment

Some of the human hazards that cause such accidents include misleading information or lack of information on the state of an aircraft. If the captain is given wrong information by fellow crew members, they may end up taking the wrong action, which can lead to an accident. The captain can also be given wrong information in the manual or maps and wrong signals from the landing destination, which can also cause accidents.

Another human factor that leads to dangers in plane crashes is pilot fatigue. This entails the aviator getting mentally and physically tired as a result of a lack of rest, a heavy workload or insufficient sleep. Fatigue takes away the sobriety of the captain, which can cause them to make grave mistakes that could lead to accidents. The mistakes can be avoided by limiting the number of hours that pilots work and providing enough crew members to assist each other in cases of long flights.

Accidents may also be a result of the aviator piloting a plane while intoxicated. Pilots should never be allowed to make flights while drunk. Previously, accidents have been reported as a result of drunkenness, such as the Aero Flight 311 plane crash of 1961 that led to the loss of 25 lives. Some other human factors that can lead to accidents include failure to close doors properly and to put aircraft fittings in a firm way.

Runway Hazards and Deliberate Crew Actions

Another human danger that should be avoided is runway mistakes. These include the presence of an object or person on the runway. Runways should always be kept clear before landing. Another runway mistake made is confusion on which runway to land. This is a most common mistake with pilots who fail to identify their respective runways. In addition, the aircraft may fail to stop before the end of the runway, leading to an accident.

Despite the fact that most mistakes occur accidentally, some cases have been reported in which the aircrews took deliberate suicidal action. An example is that of the Egypt Air Flight 990, in which the first officer crashed into an ocean knowingly in the absence of the captain. These deliberate actions can be done by persons who are mentally ill as well as by people who are sober. This calls for proper medical diagnosis of all plane crews before they take flights to ensure that no mentally ill individual is involved in handling aircraft issues during flights.

Conclusion

Air transport is one of the most critical forms of transport, and it is delicate, and one single mistake can lead to a fatal accident. Plane crashes are one of the events that lead to huge losses of loved ones as well as property. Therefore, great care should always be taken in every detail while organizing flights. Airlines should employ well-equipped personnel to do their work. Workers in airlines should undergo thorough training, and an emphasis on the effective management skills of the crew taught. The importance of cooperating when a problem arises in the midst of a flight should be emphasized. With such measures, many accidents could be avoided.

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