

# AIRCRAFT ACCIDENT REPORT

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EASTERN AIR LINES, INC., DOUGLAS DC-7B, N 824D,  
WASHINGTON NATIONAL AIRPORT, WASHINGTON, D. C., MAY 6, 1959

## SYNOPSIS

At 1809, May 6, 1959, during final approach for landing on runway 18 at the Washington National Airport, Washington, D. C., Eastern Air Lines Flight 609 struck the localizer shack with the main landing gear. The impact badly damaged the right main gear. A short distance down the runway the right wheel assembly and strut piston separated. The aircraft then rolled on the left main and nose gears and slid on the remaining portion of the right gear. It gradually moved off the runway to the right and before it stopped the remaining portion of the right main gear collapsed. None of the 6 crew members or 63 passengers received serious injury. The aircraft, a DC-7B, N 824D, received major damage.

This accident, which occurred in nearly perfect weather conditions, was caused by Captain Smith's faulty judgment of altitude during final approach just prior to landing. It is the Board's opinion that the misjudgment resulted from a lack of the attention and concentration required to judge height accurately during a critical phase of flight. Captain Smith, a veteran pilot, stated there were no extenuating circumstances and the Board found none.

As corrective measures, the Board recommends that the company re-emphasize that the highest degree of concentration is necessary to produce the most accurate sensory responses. The company should also warn its operational personnel against apathy which can be engendered unknowingly in an ideal and nonstimulating flight environment.

## Investigation

At 1657, <sup>1/</sup> following routine preparations, Eastern Air Lines Flight 609 originated at Newark, New Jersey, as scheduled. Its destination was Jacksonville, Florida, with three intermediate stops, one of which was Washington, D. C. A flight crew of six, under the command of Captain C. J. Smith, and 63 passengers were aboard the DC-7B, N 824D.

Captain Smith, in the left seat, flew the entire flight segment to Washington. The flight operated at 10,000 feet in clear weather and in accordance with an IFR (Instrument Flight Rules) flight plan and clearance. Approaching Washington, the flight was assisted by radar vectoring and was advised that Georgetown approaches were in effect for landing on runway 18. The weather

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<sup>1/</sup> All times herein are eastern standard based on the 24-hour clock.

conditions at the airport were also clear and the reported surface wind was south at five knots. The speed brake was used to facilitate descent and before reaching the Georgetown beacon the before-landing checklist was completed.

Captain Smith said that he followed the Potomac River to the right turn for the final approach. The turn was made about 500 feet above the river at 120 knots and with approach flap extended. Following the turn, runway alignment was established and landing flap was extended.

Captain Smith said that approaching the shoreline of the river at approximately 115-120 knots indicated airspeed the copilot said, "Smuffy, it looks a little low." Recognizing this, and seeing the ILS (Instrument Landing System) localizer shack just ahead, Captain Smith applied nose-up control pressure. Almost simultaneously the main gear tore through the shack. Captain Smith said he felt the impact and as the right side of the aircraft settled he held it off as long as possible. When airspeed dissipated the aircraft settled and slid to a stop. The occupants then left the aircraft quickly and in an orderly manner.

The localizer shack is located on the extended runway centerline about 175 feet from the runway threshold. Its roof is about 10 feet above the ground and runway elevation. The shack houses the localizer antenna and its location is necessary to the efficient function of this portion of the ILS.

The main gear tore through the roof of the shack about eight feet above the ground and then contacted the ground about 80 feet short of the runway. The aircraft then skipped, touching the runway 105 feet past the threshold. At this location the right main gear was already badly damaged as shown by castering tire marks on the runway. Shortly thereafter the right wheel assembly and strut piston came off and bounced to the right side of the runway. About 1,600 feet from the runway threshold the right side of the aircraft settled on the strut cylinder and collar which formed a "ski-like" platform. The aircraft gradually veered off the runway to the right, slid across a grass area onto taxiway 2-2A, and stopped on the taxiway about 3,400 feet from the threshold. During the final 250 feet the right strut collapsed.

At the time of this accident Captain Smith had flown nearly 14,000 accident-free hours, of which about 1,000 were in the DC-7B. He had been employed by Eastern Air Lines since 1942 and was captain for the past 14 years. His training record was entirely satisfactory and he was currently certificated for his position according to regulatory requirements. His latest physical examination, including one shortly after the accident, showed he was in good condition and his eyes were normal in every respect. He was off duty 50 hours before the flight.

Captain Smith stated that he intended to land on the first portion of the runway and had misjudged the altitude of the aircraft during the last portion of the final approach. He said he knew the aircraft was low but felt it would adequately clear the localizer shack which he saw ahead. Captain Smith indicated that weather, traffic, and operation of the aircraft were not factors. He said there were no extenuating circumstances and the investigation found none.

Analysis and Conclusions

Examination of the right gear conclusively showed that the damage to it was the direct result of the inflight contact with the ILS localizer shack and subsequent landing on the damaged gear. All other damage to the aircraft such as to the flaps, right wing and stabilizer surfaces, and propeller blades was the result of the wheel assembly separation and final collapse of the remaining portion of the strut assembly.

It is the Board's analysis and conclusion that Captain Smith misjudged the altitude of the aircraft just prior to a landing which was intended on the first portion of the runway. It is believed that his misconception of altitude was the result of a lack of attention and concentration necessary to produce the most accurate sensory responses required during the phase of flight just before landing.

As corrective measures the Board has recommended that the company periodically re-emphasize to its pilots that the highest degree of concentration is necessary to produce the most accurate sensory responses; also, that it caution its operational personnel against apathy which can occur unconsciously from an ideal and nonstimulating flight environment.

Probable Cause

The Board determines that the probable cause of this accident was the captain's misjudgment of altitude during final approach.

BY THE CIVIL AERONAUTICS BOARD:

/s/ JAMES R. DURFEE  
/s/ CHAN GURNEY  
/s/ HARMAR D. DENNY  
/s/ G. JOSEPH MINETTI  
/s/ LOUIS J. HECTOR

## S U P P L E M E N T A L   D A T A

### Investigation

The Civil Aeronautics Board was notified of this accident shortly after it occurred. An investigation was made in accordance with the provisions of Section 701 (a) (2) of the Federal Aviation Act of 1958 and the Board's regular investigation procedures.

### Air Carrier

Eastern Air Lines, Inc., is a Delaware corporation with corporate offices in New York City. The air carrier is engaged in the transportation of persons, property, and mail by virtue of current certificates of public convenience and necessity issued by the Civil Aeronautics Board. It possesses an air carrier operating certificate issued by the Federal Aviation Agency for various routes including the one involved.

### Flight Personnel

Captain C. J. Smith, age 44, was employed by Eastern Air Lines March 16, 1942, and was promoted to captain September 20, 1945. He had flown 13,972 hours, exclusive of military time, and about 1,000 hours in the DC-7. He held a currently valid airman certificate with airline transport, Martin 202/404, and Douglas DC-3, 4, 6, and 7 ratings. He had satisfactory physical examinations prior to the accident and immediately after it.

Pilot R. W. Sidletski, age 32, was employed by the company on May 2, 1955. He had flown 6,603 hours, exclusive of military time, and 779 hours in the equipment involved. The pilot was currently certificated and trained for his flight crew position.

Flight Engineer R. H. Headland, age 36, was employed by Eastern Air Lines December 7, 1953. He had flown 5,366 hours, of which 1,415 were in DC-7B equipment. The flight engineer was currently certificated and trained for his flight crew position.

Flight Attendants Victor Quinones, Rosemary McBorley, and Sally Richard were currently qualified for their positions.

### The Aircraft

Douglas DC-7B, N 824D, at the time of the accident had accumulated 4,938 hours since new. It was equipped with Curtiss-Wright engines and Hamilton Standard propellers.