

DEPARTMENT OF COMMERCE
BUREAU OF AIR COMMERCE
Washington

STATEMENT OF PROBABLE CAUSE CONCERNING AN ACCIDENT WHICH OCCURRED
TO AN AIRCRAFT OF TRANSCONTINENTAL & WESTERN AIR, INCORPORATED,
AT CHICAGO, ILLINOIS, ON MAY 31, 1936

To the Secretary of Commerce

On May 31, 1936, at approximately 9:04 P.M., Central Standard Time, at a point about one-half mile east of the Chicago Municipal Airport, an airplane of United States registry, owned and operated by Transcontinental and Western Air, Incorporated, and while being flown in scheduled interstate operation carrying passengers, mail and express, met with an accident resulting in major injuries to four persons on board, minor injuries to the remaining eleven persons and the complete destruction of the aircraft.

Those persons receiving major injuries were

D. Mahoney	Co-pilot George Houle
Marie Ziolkowski	Stewardess Grace Davidson

Those persons receiving minor injuries were

M. Ades	V. W. Markel
W. S. Clark	Wm. A. Shakman
M. Haas	G. Sparks
H. W. Jordan	C. E. Stahl
R. W. Marshall	Mrs. Art Van Utt
Pilot W. L. Smith	

The airplane, a Douglas, model DC-2, bore Federal license number NC-14979. It was last inspected and approved as airworthy on May 12, 1936. The pilot, Wesley L. Smith, held a Federal transport pilot's license and a scheduled air transport rating. His latest physical examination, taken on February 26, 1936, showed him to be in good physical condition. The co-pilot, George Houle, held a Federal transport pilot's license. He had satisfactorily passed a physical examination on January 9, 1936. The third member of the crew was Miss Grace Davidson, stewardess.

This trip, known as Flight Nine, was properly dispatched out of Newark, New Jersey, for Chicago, Illinois, at 4:30 P.M. The weather was favorable and the flight was cleared non-stop subject to a further clearance from Columbus, Ohio, while in flight in the Cleveland area.

While in this area, the pilot was released, subject to his discretion, for arrival in Chicago, thus making the flight authorization for a non-stop trip, according to the pre-arranged flight plan.

Difficulty was first encountered in the vicinity of Goshen, Indiana, approximately 100 miles from Chicago, when the oil pressure on the left engine raised to 90 lbs. and then gradually dropped to below 50 lbs. As the altitude at this time was about 3000 feet, the pilot climbed to 4000 feet on both engines and throttled the left engine back. He continued to climb on up to 4700 feet using the right engine alone. He advised Columbus of his trouble and was given the

option of landing at South Bend, Indiana. He elected to proceed on to Chicago, his reasons for this being that direct radio communication with the South Bend airport was impossible and the lighting there was not as good as at Chicago.

The flight continued until within the vicinity of Chicago Municipal Airport, with the right propeller in high pitch, the left engine stopped and the left gasoline valve shut off to save fuel. At this time, Pilot Smith requested and obtained clearance from the control tower to come into the field. He was granted the right of way over other aircraft. The surface wind over the airport was eight miles per hour. However, due to a recent thunderstorm, it was gusty and at an altitude of 2000 feet, increased to a velocity of 34 miles per hour.

In approaching the airport at an elevation of about 2000 feet, using the right engine only, the wing flaps and undercarriage were lowered and the air-speed was reduced to about 80 miles per hour in preparation for landing. The winds above the airport were much stronger than the pilot had anticipated and it soon became apparent that the airplane was losing altitude too fast to reach the airport. The pilot attempted to correct this situation by use of the one engine. The effect was to turn the airplane to the left and, due to the reduced air-speed, full control movement proved ineffective against it. Before the speed of the airplane could be increased by getting the flaps and undercarriage raised and the left engine started, it became evident that it would be impossible to reach the airport and the pilot attempted to head due south and land in an open area. The right wing struck a tree, causing the airplane to collide with a house and then strike the ground.

Inasmuch as no difficulty was experienced with the functioning of the right engine, the major attention was directed to the left. An inspection of the left power plant disclosed that the oil outlet hose connection at the bottom of the left oil tank had broken off as a result of the accident. Less than a pint of oil remained in the tank and the small surface area of ground covered with oil suggests that there was very little oil in the left tank at the time of the accident. However, the nature of the ground at this point was such that any estimate of the amount of oil which had spilled out as a result of the broken connection was questionable and, therefore, any opinion as to whether or not there was sufficient oil in this tank prior to the accident is questionable.

Disassembly of the left engine failed to disclose anything which would cause a drop in the oil pressure. All parts were found to be well lubricated, none showed any signs of excessive wear, and no dirt could be found in the oil system. The left oil gage functioned normally when tested after the accident. However, trouble had been experienced with it in a ground check at Newark and although apparently corrected at the time, it is possible that the trouble developed again in flight as neither the pilot nor co-pilot noticed any increase in the oil temperature, which would normally be expected had there been an actual drop in the oil pressure or insufficient oil in the tank.

This airplane was equipped with a special type aileron which differed slightly from the standard. Subsequent tests proved that the two types were equally efficient, and that the failure of the airplane to properly respond to the controls just prior to the accident was due to insufficient air speed for single engine performance.

It is the opinion of the Bureau of Air Commerce that the probable cause of this accident was poor judgment on the part of the pilot for not having started the left engine prior to his approach for a landing so that it could have been used in case of emergency and also for reducing the air-speed of the airplane below a safe minimum for single engine performance.

Contributory causes were the indicated drop in oil pressure, cause undetermined, and the unexpected strong winds of unknown velocity to the pilot, which he encountered while landing.

Respectfully submitted,

Eugene L. Vidal
Director of Air Commerce