

Adopted: July 31, 1942  
File No. 4483-41

REPORT OF THE CIVIL AERONAUTICS BOARD  
of the  
Investigation of an Accident Involving Aircraft in Air  
Carrier Operation.

A Douglas DC-3 aircraft, NC 28340, owned and operated by Delta Air Corporation, was extensively damaged in an accident which occurred at Dallas, Texas, at about 3:15 p.m. on September 30, 1941. The crew consisted of Captain Murrell Don Dice and First Officer Leon B. Reynolds, both of whom were properly certificated and appropriately rated, and the stewardess, Martha A. Morris. Fourteen revenue passengers and five company employees, who were riding as non-revenue passengers, were aboard. Among the non-revenue passengers were Captain W. L. McBride and First Officer R. L. McKee. There were no injuries to either the passengers or the crew.

The flight, designated by the air carrier as Trip No. 1, of September 30, 1941, departed from Atlanta, Georgia, for Fort Worth, Texas. Intermediate stops were scheduled at Birmingham, Alabama; Jackson, Mississippi; Shreveport, Louisiana; and Dallas, Texas. The flight was dispatched and proceeded uneventfully until arrival over Love Field, Dallas at approximately 1:45 p.m. In compliance with the captain's instructions, the first officer attempted to lower the landing gear, but the left wheel remained in the retracted position. The crew tried to lower the gear by applying excessive pressure to the hydraulic system with the hand pump, but the left wheel could not be lowered. The captain also zoomed the ship, pulling it up suddenly in an effort to dislodge the left wheel, but without success. During this time the captain was in radio contact with the company's ground station at Fort Worth, which in turn was in telephone communication with the operations and maintenance personnel of Delta Air Corporation stationed at Atlanta. When it became apparent that it would be impossible to lower the left wheel, landing on Love Field with the wheels up was authorized by the Chief Flight Superintendent of Delta Air Corporation. Captain Dice continued to circle the field for about an hour in order to use up as much fuel as possible and thereby reduce the fire hazard; during this time preparations for an emergency landing were made at Love Field. In accordance with the suggestion of the Chief Flight Superintendent, Captain McBride came forward and assumed the duties of First Officer Reynolds, while the latter stationed himself at the exit door. Proper precautions were taken by the stewardess to see that all the passengers' safety belts were securely fastened. First Officer R. L. McKee went forward and occupied the jump seat in order to be of any possible assistance to the crew. The captain was informed by the control tower at Dallas that preparations had been completed for the landing, and that the wind was south-southeast 7. Ceiling and visibility were unlimited. Captain Dice elected to land toward the south on the sod-covered ground adjacent to the north-south runway, intending to make contact with the ground immediately after passing over the northwest-southeast runway. However, he slightly undershot his intended point and first contacted the ground on the northwest-southeast runway. The tips of both propellers struck first and were followed almost immediately by the retracted landing gear wheels. The plane rolled straight ahead for about 825 feet before it stopped.

Examination of the landing gear revealed that the right wheel could be extended normally but that the left wheel could not be lowered. Inspection showed that when last retracted, the axle of the left wheel had missed the stop provided in the wheel-well and had gone further into the well than its normal position. The wheel was so tightly wedged into the wheel-well that only after removing approximately one inch of the stop casting by use of a hack-saw could the gear be lowered.

It was also noted that the left wheel shock struts were not fully extended but were approximately half deflected, or about in the same position as when the airplane is on the ground. With the struts in this position the wheel axle did not retract against the stop in the wheel-well but passed in front of it. This resulted in the wedged position of the left side of the landing gear.

Disassembly of the left shock struts revealed that the inboard strut was free and operating normally, but that the outboard strut was seized. During disassembly it was found exceedingly difficult to remove the packing nut. An examination of this strut indicated that at some previous time the packing nut had been adjusted too tightly, as a result of which the shock strut remained in a deflected position after take-off from Shreveport, Louisiana.

Investigation disclosed that the stop provided in the wheel-well is not of sufficient length to perform its function unless the shock strut is fully extended, and the Safety Bureau of the Civil Aeronautics Board has brought this fact to the attention of the staff of the Civil Aeronautics Administration. It was suggested that consideration be given to the advisability of extending the stops in the wheel-wells two inches forward on this particular model aircraft to prevent the locking of the landing gear in the event of failure of the shock absorbers to extend fully prior to retraction of the land gear. Following the investigation, the manufacturer took prompt steps to correct this defect, and the necessary alterations were approved by the Administrator of Civil Aeronautics. The maintenance problem, as reflected by the badly adjusted packing nut, also was brought to the attention of the Civil Aeronautics Administration.

PROBABLE CAUSE: Jamming of the left landing wheel in retracted position due to improperly adjusted packing nut.

BY THE BOARD

/s/ Darwin Charles Brown  
Secretary