

REPORT OF THE CIVIL AERONAUTICS BOARD  
on the  
Investigation of an Accident Involving Aircraft on  
an Instrument Instruction Flight

Instructor Roy Norman Thumm and three War Training Service students, Perry Edison Draper, Richard Ellsworth Parish, and Fred Eugene Bellows, were seriously injured in an accident which occurred adjacent to the Municipal Airport, Burlington, Vermont, at approximately 8:50 a.m. on March 6, 1943. Thumm held a commercial pilot certificate with single-engine land, 0-480 h.p., flight instructor and instrument ratings. He had accumulated about 815 hours of flying time, around 575 of which were in the type of aircraft involved. Draper held a private pilot certificate with a single-engine land, 0-80 h.p. rating. He had flown approximately 180 hours. Parish held a private pilot certificate with a single-engine land, 0-80 h.p. rating. His current flying time was not ascertained. Bellows held a commercial pilot certificate with single-engine land, 0-330 h.p. and flight instructor ratings. He had flown about 450 hours. The aircraft, a Stinson SR-9B, NC 17146, powered by a Lycoming 245 h.p. engine, was demolished. It was owned and operated by Northeast Airlines, Inc.

Instructor Thumm secured clearance for an instrument instruction flight and took off from the Burlington Airport at 8:04 a.m. with three students, as part of a flight officers' training course. Thumm occupied the pilot's seat and Draper the copilot's seat, while Bellows and Parish occupied the rear seats. After taking off, Instructor Thumm changed seats with Student Draper, who was to practice instrument flying under the hood. After a satisfactory instrument approach and let-down to the airport at an altitude of 1200 feet, Thumm instructed Draper to apply power and climb back to 3000 feet. When Draper opened the throttle, the engine failed to respond and the instructor told Draper to lower the hood and change seats with him, which was done. Draper then called the Airport Control Tower and reported that they were making an emergency landing. The aircraft was observed gliding in a southerly direction, after which it entered a steep turn of about 180° to the left. Immediately after straightening out to land toward the north on the north-south runway, the airplane settled and crashed nose-first into an embankment approximately 50 feet from the south end, and about 6 feet below the level of the runway.

Examination of the wreckage revealed that the engine, while badly damaged, rotated freely and none of the cylinders was broken from the crankcase; the carburetor heat control was in the "cold" position, which may have resulted from impact; the mixture control was in the full "rich" position; the switch was on left magneto; the throttle was bent about one-quarter open; the flap valve and flaps were in the "down" position; and the fuel valve was in the "both on" position. The dural rod connecting the hot and cold air valves was broken. Failure of this rod could result in choking off air to the carburetor if the carburetor heat control were in the "cold" position. The instructor, however, stated that carburetor heat was used during the flight. Due to the manner in which the rod was broken, it could not be determined whether this failure occurred prior to, or upon impact. Failures of these link rods have been known to occur and in many cases steel rods have been substituted.

The weather was suitable for flying. The official Weather Bureau observation for 8:30 a.m. was: Ceiling estimated 5000 feet, overcast,

visibility 9 miles, temperature 13°, dew point 5°, wind east-northeast 6 m.p.h. Three pilots in the air at the time, flying Lycoming-powered Stinsons, stated that they had experienced no carburetor icing and had operated their engines with the carburetor heat control in the "cold" position.

Instructor Thumm stated that he had noticed no roughness, unusual noises, or malfunctioning of the engine or instruments prior to the time the engine stopped; that he recalled heading south along the west side of the field and making a sharp turn over the gully adjacent to the airport but found himself too low to land on the runway after straightening out; that he then lowered the flaps and attempted to pull up onto the runway. He stated that his exchanging seats with Student Draper after the engine failed was in conformity with a company rule that the instructor land the airplane from the left side. However, there was apparently some misunderstanding in this respect insofar as Instructor Thumm was concerned, as Northeast Airlines' chief flight instructor stated that the company had no such rule.

With the engine failing at 1200 feet over the airport, there was very little time left in which to lower the hood, change seats, buckle safety belts, and make a 180° turn and approach for a landing. Evidence indicated that the aircraft was overloaded by approximately 175 pounds. It is possible that a safe landing might have been effected had it not been for this overload, as less altitude would have been lost in the glide and turn.

**PROBABLE CAUSE:** Poor judgment of the instructor in changing seats with a student during an emergency landing following engine failure.

**CONTRIBUTING FACTORS:**

1. Engine failure, possibly caused by failure of dural control link between carburetor air heat control valves.
2. Overload of aircraft.

BY THE BOARD

/s/ Fred A. Toombs  
Secretary