

CIVIL AERONAUTICS BOARD  
ACCIDENT INVESTIGATION REPORT

Adopted: July 1, 1948

Released: July 6, 1948

INDIANAPOLIS, INDIANA - JANUARY 11, 1946

A propeller failure on takeoff resulted in an aircraft accident at the Indianapolis, Indiana Municipal Airport about 1823<sup>\*</sup>, January 11, 1946. The Douglas DC-2, NC 39165, a war surplus aircraft owned by D. A. Fowlie but leased and operated by the R. M. Hollingshead Corporation, was extensively damaged. Pilot Thomas H. Taylor, Copilot Michael F. Keller, and 13 nonrevenue passengers escaped injury. Taylor was a certificated pilot with airline transport, 0-7200 h.p. single and multi-engine ratings. He had flown approximately 3400 hours, including about 1000 in the type aircraft involved.

After an engine runup, Pilot Taylor obtained radio clearance and took off from Runway No. 4 at the Indianapolis Municipal Airport. He stated that the takeoff run was made at 34 $\frac{1}{2}$ " manifold pressure and 1950 rpm; that after becoming airborne power was reduced to 30" manifold pressure and 1800 rpm. At an altitude of about 75 feet and an indicated air speed of 90 mph, one blade of the right propeller failed through the shank at the outer end of the blade gear sleeve and slapping surface. The engine, propeller, and their components left the nacelle in flight. Pilot Taylor landed the aircraft on the airport, under partial control and without injury to anyone.

Metallurgical examination of the broken propeller blade showed that it had failed from a fatigue fracture which originated at the surface of the shank even with the end of the hub sleeve in line with the trailing edge of the blade. There was no evidence of defective material.

The propeller involved was a Curtiss Electric C-532-D-F22. Its complete

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All times referred to herein are Central Standard and based on the 24-hour clock.

history could not be traced but evidence indicated that at some time it had been subjected to overstressing. Curtiss records showed that the hub involved was one of a group shipped by Curtiss with other blades for use as spares on P-38 aircraft in 1942. The blade was one of a group shipped in 1943 for similar military use. This hub-blade combination was installed in NC 39165 in 1945. In November 1945, subsequent to purchase of the aircraft from the Government, the propellers were overhauled at Dallas, Texas, following a flight from the East Coast with the propeller governors inoperable. The fatigue fracture was not discovered during this overhaul.

Upon the basis of available evidence the Board finds that the probable cause of this accident was a fatigue failure of the propeller during takeoff. This fatigue fracture was apparently initiated by overstressing.

BY THE CIVIL AERONAUTICS BOARD:

/s/ JOSEPH J. O'CONNELL, JR.

/s/ OSWALD RYAN

/s/ JOSH LEE

/s/ RUSSELL B. ADAMS

Jones, Member, did not participate.