

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR23LA351

WRECKAGE EXAMINATION REPORT

April 4, 2025

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A. ACCIDENT

Location: Arlington, Washington
Date: September 22, 2023
Time: 1446 Pacific daylight time
Airplane: Golden Circle Tbird II, Unregistered

B. PARTICIPANTS

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National Transportation Safety Board
Federal Way, Washington

Investigator Stephen Stein
National Transportation Safety Board
Federal Way, Washington

C. SUMMARY

The airplane came to rest inverted in a grass area about 275 ft west of the runway 16 numbers. Several structural tubes were positioned between the main wreckage and separated left wing, which came to rest about 400 ft northeast of the main wreckage. Propeller blade fragments were located around the left wing. The right wing cloth was torn and the wing structural tubes were all bent. The vertical stabilizer was crushed while rudder, horizontal stabilizer, and elevator remained undamaged. The engine remained attached to the fuselage and the propeller blades were attached to the crankshaft through the propeller hub.



Figure 1: Main wreckage

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

1.1 Wings

The forward and aft wings spars remained attached to the root tube assembly with all the securing hardware in place. The right wing spars exhibited signatures consistent with overload failure at the wing root. The forward left wing spar had been previously repaired as the spar tube was spliced and a sleeve was installed to couple the separated sections spar. The sleeve exhibited fracture signatures consistent with overload failure. The aft left wing spar also fractured in overload.

1.2 Flight Control System

The right and left ailerons were traced from the left control yoke to each aileron through multiple separations, each consistent with overload separation. Elevator control authority was traced from the cockpit to elevator through a separation in the push tube. The rudder remained attached to the rudder bellcrank and the right rudder control cable was continuous from the bellcrank to the rudder pedals. The left rudder cable was traced from the bellcrank to the cockpit through a separation in the cable that was made by recovery personnel.

Add left aileron bellcrank hardware remained attached and push tube remained attached to aileron, but separated from bellcrank at rod bng. Add same for right aileron (if applies). And add elevator control)

1.3 Fuel System

The 12 gallon fuel tank was breached and the fuel manifold contained about 1 oz of fuel that had an odor consistent with automotive fuel. The manifold screen was free of any debris or obstructions.

The carburetor springs were both intact and exhibited normal travel from stop to stop. The fuel bowls were both void of fuel and the floats appeared normal and unremarkable. The main jets of both carburetors were unobstructed and the pistons exhibited normal resistance when actuated by hand.

2.0 Engine

Engine Manufacturer: Rotax

Engine Model Number: 582

The engine remained attached to the engine mounts and exhibited no evidence of internal catastrophic damage. The throttle and mixture cables were cut by recovery personnel and had separated from the carburetors, which had both separated from the engine. Both cables exhibited broomstrawing consistent with overload separation. The crankcase was intact, with no openings observed. The crankshaft could not be rotated by hand, but mechanical continuity was achieved by visual inspection of the connecting rods and pistons, which were unremarkable. The exhaust manifold was secure, but missing bolts. The engine did not exhibit any evidence of oil exhaustion. All three propeller blades remained attached to the engine via the propeller flange with varying degrees of blade damage. Two blades displayed fractures at the blade tips and the third blade also exhibited a blade tip fracture, but had split in half from the top to about midspan with the blade face separated.

Submitted by:

Stephen Stein

Senior Aviation Accident Investigator