

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA24LA191

AIRPLANE WRECKAGE EXAM

April 24, 2024

A. ACCIDENT

Location: Raleigh, North Carolina
Date: April 24, 2024
Time: 1010 EDT
1410 UTC
Airplane: N228CH

B. AIRPLANE WRECKAGE EXAM

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C. SUMMARY

On April 24, 2024, about 1010 eastern daylight time, a Socata TBM 850, N228CH, was substantially damaged when it was involved in an accident near Raleigh, North Carolina. The airline transport pilot was seriously injured, and the passenger received minor injuries. The airplane was operated by Medical Air, Inc. as a Title 14 *Code of Federal Regulations* Part 91 business flight.

EXAMINATION

The airplane was recovered and taken to Anglin's Aircraft in Clayton, Delaware.

Engine:

The PWC engine and engine compartment displayed significant impact damage. The four-bladed propeller was separated from the engine and the leading edges of each of the four blades displayed gouging and chordwise scratching near the tips. All four blade tips were equally ground down about a 1/4-inch at the tip.

The engine was not examined at this time.

Airframe:

- The fuselage is fractured at C8, almost on the entire fuselage

circumference.

- The front luggage compartment, between C2 & C3 is fractured and has shifted upward, post impact.
- All wing-attaching hardware is still present on each respective carry-through.
- The nose Landing gear is separated from its mount. The sliding chrome tube shows a sever bent upward.
- The A14 landing gear control panel lever is found in the DOWN position.
- The center pedestal lever position does not reflect the actual flight controls position, likely moved post-impact by the emergency crew to extract the pilot. The flap selector shows the TO position, but all the flap tracks confirm that the flaps were in the LANDING position.
- Fuel selector selected to Left fuel tank.
- Shadin calculator was found:
- Post-production, this aircraft was fitted with two GNS530 WAAS and one GMX200. As per Garmin, no non-volatile memory that could have kept flight data is present on these units.
- The overhead panel switches show the crash bar pulled down.
- The De-icing control panel switches (PL16) were not disturbed by impact (gated switches). The switches are set as follows (from left to Right):
Airframe De-Ice OFF
Ice Light OFF
Propeller De-Ice OFF
L/H Windshield De-Ice OFF
R/H Windshield De-Ice OFF
Pitot 1 Heater ON
Pitot 2 & Stall Heater ON
Inertial Separator ON
- The cabin interior is in its original configuration beside the left middle seat which has been removed.
- The cabin door can still be operated.
- Inside the fuselage, all flight control continuity is confirmed.

Stabilizers:

- The horizontal Stabilizer assembly is separated from the airframe at Frame 21, with Frame 21 still attached to the fuselage section.
- The Trim tabs are still attached at each respective location. To be noted, all 4 trim actuators are also in place.
- On both surfaces, the trim position is symmetrical and shows a position close to the NEUTRAL position.
- All the de-ice boots are present and remain attached to their respective supports.

Right Wing

Both wing spars are fractured at the fuselage attach point.

- The aileron is attached to the wing structure.
- The spoiler is attached to the wing structure.
- The wingtip is attached to the wing structure.
- The De-Ice boot leading edge is present on the entire length of the wing.
- The landing gear is present and retracted inside the wheel well.
- The back side of the wheel axle shows scrapping marks.
- The AFT lower edge face of the landing gear door is also showing scraping marks.
- Flap and aileron continuity is confirmed.

Left Wing

- This wing is fractured into 3 large pieces, post-impact.
- The flap is detached from the wing and fractured into 2 pieces.
- The upper and lower skins are detached from their respective spars.
- The landing gear is separated from the wing with its actuator.
- Due to the extent of the wing damage, flap and aileron continuity were not confirmed.

Postaccident examination of the airplane revealed no premishap deficiencies that would have precluded normal operation