

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF AIRCRAFT EXAMINATION

-- CEN22FA176 --

A. ACCIDENT

Location: Twin Lakes, Colorado
Date: April 13, 2022
Time: 0704 mountain daylight time
Aircraft: Cirrus Design, N122TR

B. PARTICIPANTS

Timothy Sorensen
Senior Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

Kevin Otterstrom
Air Safety Investigator
National Transportation Safety Board
Denver, Colorado

Brad Miller
Manager, Air Safety
Cirrus Aircraft
Duluth, Minnesota

C. ACCIDENT SUMMARY

On April 13, 2022, at 0704 mountain daylight time, a Cirrus Design SR22 airplane, N112TR, was substantially damaged when it was involved in an accident near Twin Lakes, Colorado. The pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF AIRCRAFT EXAMINATION

Post-accident airframe and engine examinations were conducted on August 17, 2022, at Beegles Aircraft (Greeley, Colorado). Cirrus Aircraft provided technical support as a party to the investigation. The NTSB did not respond to the site at the time of the accident.

Summary of Aircraft Examination

E. DESCRIPTION OF ACCIDENT SITE

The airplane came to rest upright in a mountain valley. The accident site consisted of rocky terrain with low brush.

F. SUMMARY OF AIRCRAFT EXAMINATION¹

Airframe – Cirrus SR22 (s/n 3669)

The fuselage exhibited localized skin delamination due the CAPS deployment. Otherwise, it appeared to be intact. The wing assembly had been removed to facilitate recovery from the accident site. The outboard left wing sustained damage at the pitot tube attachment point. The left inboard wing was damaged at the landing gear mounting point.

The Hobbs meter indicated 2483.8 hours, and the Flight meter indicated 2073.2 hours at the time of the exam.

Engine – Continental IO-550N (s/n 1001689)

The engine remained secured to the engine mount. The engine crankcase and cylinders appeared intact and undamaged. The oil sump was crushed upward; however, the sump was not compromised. The engine oil sump drain was open (engaged) consistent with a vertical impact. The drain appeared intact and returned to the closed position when disengaged by hand. The oil dip stick/cap were securely installed. No oil was visible on the dip stick.

The induction ducting was secure and undamaged. The induction air filter was secure, intact and unobstructed. Partial disassembly of the intake ducting revealed no evidence of an obstruction. The alternate air door was intact and secure. It remained closed when magnetically latched and opened when hand/finger pressure was applied. The exhaust ducting was secure and undamaged with exception of the aft end of the exhaust which was crushed consistent with impact.

Both turbocharger assemblies were secure. The left turbocharger inlet vanes were curled with corresponding scraping damage to the housing inlet consistent with contact while the vanes were rotating. The outlet vanes appeared intact with no scraping damage noted. The inlet and outlet vanes rotated freely; however, the shaft exhibited a slight amount of axial play. The right turbocharger inlet vanes appeared intact. The housing inlet exhibited minor scraping damage consistent with contact from the inlet vanes. The outlet vanes appeared intact with no scraping damage observed. The inlet and outlet vanes rotated freely.

Internal engine, valve train, and accessory section continuity were confirmed via crankshaft rotation. Compression and suction were obtained at all cylinders. Compression test values ranged from 80/38 to 80/68 consistent with a cold engine. No anomalies were identified.

¹ Directions related to accident site placement and component damage/deformation are with respect to an intact airframe unless otherwise noted.

Summary of Aircraft Examination

F. SUMMARY OF AIRCRAFT EXAMINATIONS *(continued)*

Both magnetos were secured to the engine and appeared undamaged. Each provide a spark on all leads when rotated. The spark plugs were intact. The electrodes displayed minor soot deposits but

Fuel lines, including the fuel injector lines, appeared intact and secure. The fuel flow distributor (spider) valve was intact. No anomalies were observed on disassembly. The gascolator was intact and contained a clear, blue-tinted fluid consistent in appearance and odor to 100LL aviation fuel. Testing with water paste was negative – no water was detected in the sample. The engine driven fuel pump was secure and undamaged. The drive coupling was intact. The pump turned freely and pumped fuel when rotated. The electric fuel pump operated at both low and high speeds when energized.

Engine control continuity (throttle, mixture, propeller governor) was confirmed. At the time of the examination, the fuel selector was positioned to the right tank. The mixture was at idle/cutoff, and the fuel pump switch was set to high boost/prime.

Propeller – Hartzell PHC-J3Y1F-1N/N7605B (s/n NJ305B)

The three-bladed propeller assembly remained secured to the engine propeller flange. All three blades were retained at the hub. Two blades appeared intact and undamaged. The third blade was bent aft near mid-span. It was delaminated along the training edge consistent with the blade deformation. The hub appeared intact and undamaged.

----- *end of summary* -----