

Brief of Accident

Adopted 01/15/2013

ERA11FA391 File No. 30727	07/09/2011	Demopolis, AL	Aircraft Reg No. N692TT	Time (Local): 17:40 CDT
Make/Model: Cessna / 421C	Engine Make/Model: Cont Motor / GTSIO-520-L	Aircraft Damage: Substantial	Crew 1	Fatal 1 Pass 6
Number of Engines: 2	Operating Certificate(s): None	Type of Flight Operation: Personal	Pass 0	Serious 0 Minor/None 0
Reg. Flight Conducted Under: Part 91: General Aviation				
Last Depart. Point: St. Louis, MO	Destination: Destin, FL	Airport Proximity: Off Airport/Airstrip	Condition of Light: Day	Weather Info Src: Weather Observation Facility
			Basic Weather:	Lowest Ceiling: None
			Visibility: 10.00 SM	Wind Dir/Speed: 270 / 006 Kts
			Temperature (°C): 34	Precip/Obscuration: No Obscuration; No Precipitation

Pilot-in-Command	Age: 42	Flight Time (Hours)
Certificate(s)/Rating(s) Private; Multi-engine Land; Single-engine Land		Total All Aircraft: 1000 Last 90 Days: Unk/Nr Total Make/Model: 340
Instrument Ratings Airplane		Total Instrument Time: UnK/Nr

*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***

The multi-engine airplane was in cruise flight at flight level 210 when the pilot declared an emergency due to a rough-running right engine and diverted to a non-towered airport about 10 miles from the airplane's position. About 4 minutes later, the pilot reported that he had shut down the right engine. The pilot orbited around the diversion airport during the descent and reported to an air traffic controller that he did not believe he would require any assistance after landing. The airplane initially approached the airport while descending through about 17,000 feet mean sea level (msl) and circled above the airport before entering a left traffic pattern approach for runway 22. About 7,000 feet msl, the airplane was about 2.5 miles northeast of the airport. The airplane descended through 2,300 feet msl when it was abeam the runway threshold on the downwind leg of the traffic pattern. According to the airplane information manual, procedures for landing with an inoperative engine call for "excessive altitude;" however, the airplane's last radar return showed the airplane at an altitude of 700 feet msl (about 600 feet above ground level) and about 3 miles from the approach end of the runway.

The airplane was configured for a single-engine landing and was likely on or turning to the final approach course when it rolled and impacted trees. The airplane came to rest in a wooded area about 0.8 miles north of the runway threshold, inverted, in a flat attitude with no longitudinal deformation. A majority of the airplane, including the cockpit, main cabin, and left wing, were consumed by a postcrash fire. Search operations located the airplane about 6 hours after its expected arrival time. Due to the severity of the

Brief of Accident (Continued)

ERA11FA391 File No. 30727	07/09/2011	Demopolis, AL	Aircraft Reg No. N692TT	Time (Local): 17:40 CDT
------------------------------	------------	---------------	-------------------------	-------------------------

postcrash fire, occupant survivability after the impact could not be determined. Examination of the airframe, the left engine, and both propellers did not reveal any preaccident mechanical malfunctions or failures that would have precluded normal operation. The investigation revealed that the right engine failed when the camshaft stopped rotating after the camshaft gear experienced a fatigue fracture on one of its gear teeth. The remaining gear teeth were fractured in overstress and/or were crushed due to interference contact with the crankshaft gear. Spalling observed on an intact gear tooth suggested abnormal loading of the camshaft gear; however, the origin of the abnormal loading could not be determined.

Updated at Jan 15 2013 9:29AM

Brief of Accident (Continued)

ERA11FA391
File No. 30727

07/09/2011

Demopolis, AL

Aircraft Reg No. N692TT

Time (Local): 17:40 CDT

OCCURRENCES

Enroute-cruise - Loss of engine power (total)
Approach-VFR pattern final - Loss of control in flight
Uncontrolled descent - Collision with terr/obj (non-CFIT)

FINDINGS

Aircraft-Aircraft power plant-Engine (reciprocating)-Recip eng rear section-Failure - F
Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Airspeed-Not attained/maintained - C
Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain airplane control during a single-engine approach and his failure to fly an appropriate traffic pattern for a single-engine landing. Contributing to the accident was a total loss of engine power on the right engine due to a fatigue failure of the right engine cam gear.