



National Transportation Safety Board Aviation Accident Final Report

Location:	Chapmansboro, TN	Accident Number:	ERA14LA281
Date & Time:	06/08/2014, 1540 CDT	Registration:	N863SB
Aircraft:	BELEW MARSHALL D II STEEN SKYBOLT	Aircraft Damage:	Destroyed
Defining Event:	Loss of engine power (partial)	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that he performed a preflight inspection with no anomalies noted. In addition, he performed an engine run-up, and everything was normal. During the initial climb, about 200 ft above ground level and just over the departure end of the runway, the pilot noticed that the airplane was not producing full power; witnesses corroborated that the engine lost partial power after the airplane reached the end of the runway. The pilot chose to return to the runway and performed a 180-degree turn. Once the airplane was over the runway centerline, the pilot attempted to add power; however, the engine did not respond. Witnesses reported that, as the airplane neared the runway, the pilot "flared too high" and that the airplane then "stalled," descended, and impacted the runway. A postimpact fire ensued. A postaccident examination of the engine revealed no evidence of mechanical failures or malfunctions that would have precluded normal operation. The reason for the partial loss of engine power could not be determined.

Probable Cause and Findings

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

The pilot's failure to maintain airspeed while performing an emergency landing, which led to the airplane exceeding its critical angle-of-attack and experiencing a subsequent aerodynamic stall. Contributing to the accident was a partial loss of engine power for reasons that could not be determined during postaccident examinations.

Findings

Aircraft	Airspeed - Not attained/maintained (Cause) Angle of attack - Not attained/maintained (Cause)
Personnel issues	Aircraft control - Pilot (Cause)
Not determined	Not determined - Unknown/Not determined (Factor)

Factual Information

On June 8, 2014, about 1540 central daylight time, an experimental, amateur-built Steen Skybolt, N863SB, experienced a loss of engine power and impacted the runway at a private airstrip near Chapmansboro, Tennessee. The private pilot sustained serious injuries. The airplane sustained substantial damage to the right wing and firewall. Visual meteorological conditions prevailed and no flight plan was filed for the flight. The airplane was registered to a private individual and operating under the provisions of Title 14 Code of Federal Regulations Part 91 as a personal flight, which was initiating at the time of the accident.

According to the pilot, he performed a preflight inspection with no anomalies noted. In addition, he sumped the fuel tanks with no debris noted in the fuel. He stated that he added about 5 gallons of fuel to make the fuel tanks approximately one-quarter full, which would have been "plenty" of fuel for the 15-20 minute intended flight. He turned on the fuel boost pump in order to start the engine, and then did not use it after the engine successfully started. After taxiing to runway 20, he performed an engine run up and everything was "fine." Then, after takeoff, during the initial climb, about 200 feet above ground level and over the departure end of the runway, the pilot noticed the engine was not producing full power. He elected to return to the runway and performed a 180-degree turn. Once over the centerline of the runway, the pilot attempted to add power, however, the engine did not respond. The airplane impacted the runway and a postimpact fire ensued.

According to witnesses, the airplane departed the private airstrip to the south. The engine ran "fine" until it reached the end of the runway, and then it began to run "rough." The airplane was about 300 feet above ground level when it lost partial power, and the pilot initiated a turn back to the runway. As the airplane neared the runway, the pilot "flared too high," the airplane "stalled," descended, impacted the grass strip, and a postimpact fire ensued.

A postaccident examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that the airplane initially impacted the ground approximately 100 feet from where it came to rest on the turf runway. The fuselage, wings, and empennage were consumed by fire. The engine remained attached to the fuselage through the engine mounts.

The airplane was a single-place, welded tube fuselage, wooden wing biplane, with conventional type landing gear. According to FAA records, it was assembled in 2000 and registered to the pilot/owner in 2008. It was equipped with a Continental Motors, Inc. IO-470-L21B, 260 horsepower, engine. According to the pilot, the maintenance records were consumed by the postimpact fire. However, a mechanic that helped the owner maintain the airplane indicated that the engine had accumulated about 800 hours since overhaul.

The automated weather observation at Outlaw Field Airport (CKV), Clarksville, Tennessee, which was located 22 miles northwest of the accident location included wind from 360 degrees at 8 knots, visibility 10 miles, clouds broken at 4,000 feet above ground level, temperature 27 degrees C, dew point 16 degrees C, and an altimeter setting of 29.94 inches of mercury.

The engine was examined on June 12, 2014, by a manufacturer representative under the supervision of an FAA inspector. The engine, fuel system, and ignition system components were heavily fire damaged, which precluded functional testing. However, crankshaft and camshaft continuity was obtained from the propeller flange back to the accessory section and out to the rocker arms and valves. The engine control cables remained attached to the engine although the support structure was consumed by fire. Overall, the inspection of the engine did not reveal any anomalies that would have prevented normal operation and production of rated horsepower. For more information concerning the inspection, a field inspection report for the engine can be found in the public docket for this case.

History of Flight

Initial climb	Loss of engine power (partial) (Defining event)
Emergency descent	Off-field or emergency landing Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	61
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	08/31/2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	BELEW MARSHALL D II	Registration:	N863SB
Model/Series:	STEEN SKYBOLT	Aircraft Category:	Airplane
Year of Manufacture:	2000	Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	01
Landing Gear Type:	Tailwheel	Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	CONT MOTOR
ELT:		Engine Model/Series:	IO-470 SER
Registered Owner:	On file	Rated Power:	0 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CKV, 550 ft msl	Distance from Accident Site:	22 Nautical Miles
Observation Time:	1552 CDT	Direction from Accident Site:	315°
Lowest Cloud Condition:		Visibility	10 Miles
Lowest Ceiling:	Broken / 4000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	27° C / 16° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Chapmansboro, TN (TN77)	Type of Flight Plan Filed:	None
Destination:	Chapmansboro, TN (TN77)	Type of Clearance:	Unknown
Departure Time:	1540 CDT	Type of Airspace:	

Airport Information

Airport:	WHIFFERDILL (TN77)	Runway Surface Type:	Grass/turf
Airport Elevation:	622 ft	Runway Surface Condition:	Unknown
Runway Used:	20	IFR Approach:	None
Runway Length/Width:	3200 ft / 200 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	36.321667, -87.153056 (est)

Administrative Information

Investigator In Charge (IIC):	Heidi Moats	Report Date:	09/08/2015
Additional Participating Persons:	Jim Ruckman; FAA/FSDO; Nashville, TN Nicole Charnon; Continental Motors Inc.; Mobile, AL		
Publish Date:	04/11/2018		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89388		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).