



Aviation Investigation Final Report

Location:	Vaughn, Georgia	Accident Number:	ERA17LA020
Date & Time:	October 17, 2016, 11:00 Local	Registration:	N94919
Aircraft:	Taylorcraft BC12 D	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that he was going to perform several touch-and-go landings with a student pilot before departing for a long cross-country flight. After taxiing up and down the runway a few times, he performed an engine run-up with no anomalies noted. During takeoff, when the airplane was about 30 ft above ground level, the engine started to lose power and then seconds later lost total power. The flight instructor tried to land the airplane on the runway but landed hard. The left main landing gear separated, and the left gear contacted the runway and fractured the main spar. Postaccident examination of the airplane and engine did not reveal any evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation. The weather conditions were conducive to the accumulation of serious carburetor ice at glide power settings; however, the loss of engine power occurred during a full power setting. The investigation could not determine if carburetor ice accumulated during the prior ground operation. Thus, the reason for the total 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:

A total loss of engine power for reasons that could not be determined because postaccident examination of the airplane and engine did not reveal any evidence of preimpact malfunctions or failures that would have precluded normal operation.

Findings

Not determined

(general) - Unknown/Not determined

Factual Information

History of Flight

Takeoff	Loss of engine power (partial)
Takeoff	Loss of engine power (total) (Defining event)
Emergency descent	Miscellaneous/other
Landing	Hard landing
Landing	Abnormal runway contact

On October 17, 2016, about 1100 eastern daylight time, a Taylorcraft BC12-D, N94919, was substantially damaged following a total loss of engine power during takeoff and subsequent forced landing at Brook Bridge Aerodrome (8GA9), Vaughn, Georgia. The flight instructor and a student pilot incurred minor injuries. Visual meteorological conditions prevailed and no flight plan was filed for the local instructional flight. The airplane was operated under the provisions of 14 *Code of Federal Regulations* Part 91.

According to the flight instructor, their intention was to fly the airplane around the traffic pattern for a few touch-and-go landings prior to departing for North Carolina, where the airplane would be hangered. The flight instructor taxied the airplane up and down the runway three times to get himself and the student pilot comfortable with tail wheel handling before takeoff. The flight instructor then taxied to the end of the runway and performed the engine run-up. He stated that shortly after takeoff, approximately 30 feet above ground level, the engine started losing power and seconds later lost all power. The flight instructor tried to land the airplane on the runway, however he "landed hard" and the left main landing gear separated. The left wing tip struck the ground, and the engine compartment and propeller struck the runway before the airplane ground-looped and the right main landing gear separated.

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector revealed that the left wing main spar was fractured mid-wing. Both main landing gear were separated. The propeller had one blade bent aft around the engine cowling and the other blade was straight. Examination of the engine did not reveal any obvious mechanical deficiencies.

Review of maintenance records revealed that the airplane's most recent annual inspection was completed on August 28, 2016, at a recorded total airframe time of 2911.3 hours. The engine time since major overhaul was recorded as 62.5 hours.

The recorded weather at Griffin-Spalding County Airport (6A2), located 7 miles to the southeast of 8GA9, at 1055 was, wind 170° at 4 knots, visibility 10 statute miles, temperature 24° Celsius (C), dew point temperature 18° C, altimeter 30.14 inches of mercury.

The temperature and dew point were plotted on the carburetor icing probability chart. Their intersection was within the serious icing range for glide power.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	49, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	June 30, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 17, 2015
Flight Time:	2000 hours (Total, all aircraft), 90 hours (Total, this make and model), 1900 hours (Pilot In Command, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	48, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	March 17, 2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	183 hours (Total, all aircraft), 1 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Taylorcraft	Registration:	N94919
Model/Series:	BC12 D D	Aircraft Category:	Airplane
Year of Manufacture:	1946	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	9319
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	August 28, 2016 Annual	Certified Max Gross Wt.:	1200 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2911.3 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	A65-8F
Registered Owner:	On file	Rated Power:	65 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	6A2,958 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	14:55 Local	Direction from Accident Site:	115°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.13 inches Hg	Temperature/Dew Point:	24°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Vaughn, GA (8GA9)	Type of Flight Plan Filed:	None
Destination:	Vaughn, GA (8GA9)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	

Airport Information

Airport:	BROOK BRIDGE AERODROME 8GA9	Runway Surface Type:	Grass/turf
Airport Elevation:	820 ft msl	Runway Surface Condition:	Dry
Runway Used:	20	IFR Approach:	None
Runway Length/Width:	2970 ft / 150 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	33.276111,-84.410278(est)

Administrative Information

Investigator In Charge (IIC):	Boggs, Daniel
Additional Participating Persons:	Mark Fayerman; FAA/FSDO; Atlanta, GA
Original Publish Date:	February 11, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94235

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).