Aviation Investigation Final Report

Location:	Panama City, Florida	**Accident Number:**	ERA19TA276
Date & Time:	September 10, 2019, 12:20 Local	**Registration:**	N3555R
Aircraft:	Beech 23	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

After returning from a roundtrip, cross-country flight, the student pilot and flight instructor were conducting airport pattern work, go-arounds, and touch-and-go landings. After a normal go-around due to excessive crosswinds, they initiated a no-flap landing for the next attempt. As the student pilot established the airplane on short final, he attempted to arrest the airplane's descent by increasing engine power, but the engine did not respond. The instructor told the student pilot to "push it back in to add power," and the student pilot pulled and pushed the throttle several times to try to increase engine power. After several unsuccessful attempts to increase engine power, the instructor took control of the airplane and attempted a forced landing. The airplane touched down short of the runway, bounced hard, and struck the landing lights before landing back on the runway. The airplane's airframe sustained substantial damage.

Postaccident examination of the airplane revealed an obstructed right trailing edge fuel vent line that likely blocked venting of the fuel tank and resulted a negative pressure within the tank, whichsubsequently starved the engine of fuel and resulted a total loss of engine power. The airplane's flight manual specified that during a preflight inspection, the fuel vent line should be checked for any obstructions, but the flight instructor did not witness the student pilot conduct the preflight inspection of the airplane. It is likely that the student pilot did not detect the blocked vent line during the preflight inspection; had more direct supervision been provided by the flight instructor during the preflight inspection, the blockage would have been discovered.

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 due to an obstructed fuel vent, and the flight instructor's failure to ensure that the student did an adequate preflight inspection, which resulted in a forced landing.

Findings

Personnel issues	Preflight inspection - Student/instructed pilot
Personnel issues	Preflight inspection - Instructor/check pilot
Environmental issues	Debris/dirt/foreign object - Awareness of condition
Aircraft	Fuel distribution - Damaged/degraded
Aircraft	Fuel distribution - Inadequate inspection

Factual Information

History of Flight

Approach-VFR pattern final	Fuel starvation (Defining event)
Landing-flare/touchdown	Hard landing
Landing-flare/touchdown	Collision with terr/obj (non-CFIT)

On September 10, 2019, about 1220 central daylight time, a Beech A-23, N3555R, was substantially damaged during a forced landing at Northwest Florida Beaches International Airport (ECP) Panama City, Florida. The student pilot/owner and flight instructor were not injured. The airplane was registered to and operated by the student pilot under the provisions of Title 14 *Code of Federal Regulations* as a part 91 instructional flight. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that departed South Alabama Regional Airport at Bill Benton Field (79J) Andalusia, Alabama about 1130.

The student pilot and his flight instructor had just completed a cross country flight from ECP to 79J, then back to ECP and were conducting airport traffic pattern work, go-arounds and touch and go landings to runway 16. After a normal go-around due to excessive crosswinds, they initiated a no-flap landing for the next attempt. As the student pilot became established on short final, he reported that the approach was normal, but when he attempted to arrest his descent by increasing engine power, the engine did not respond. The student pulled and pushed the throttle several times and the instructor told him to immediately "push it back in to add power." The instructor's first thought was that the throttle cable had broken. After several unsuccessful attempts to regain engine power, the instructor took control of the airplane and attempted a landing, but touched down short of the runway; the airplane bounced hard, struck the approach lights, then settled back onto the runway before rolling to a stop.

According to Federal Aviation Administration (FAA) airmen records, the flight instructor held a commercial pilot certificate with ratings for airplane single engine land, multiengine land, instrument airplane. She also held a flight instructor certificate with ratings for airplane single engine land instrument airplane. She reported 3,150 hours total time and was issued an FAA second-class medical certificate in May 1, 2019.

The student pilot/owner reported 36.1 hours total time with 6.1 hours in the accident airplane make and model and was issued an FAA third-class medical certificate on August 30, 2017.

According to FAA airworthiness and maintenance records, the airplane was issued a standard airworthiness certificate on April 12, 1965. It was a four-place, internally braced low-wing airplane, that was equipped with fixed tricycle landing gear, and a Continental IO-346A, 165-horsepower engine driving a two-blade metal fixed pitch propeller. The airframe and engine had accumulated 3,023 hours total time; the engine accumulated 669 hours total time since overhaul as of the last annual inspection on April 2, 2019. The student pilot purchased the airplane on May 10, 2017.

The weather conditions reported at ECP at 1153 included winds 080° at 7 knots, visibility 10 statute miles, scattered clouds at 4,500 ft, temperature 34° C, dew point 22° C, and an altimeter setting of 30.18 inches of mercury.

Postaccident examination of the airplane revealed that the right wing spar was damaged, and the upper and lower areas on the right wing were buckled. The right gear fairing was buckled, and the left wing was wrinkled where the gear assembly was attached and resulted in damage to the left wing spar. Examination of the airplane's fuel venting system by a mechanic revealed foreign object debris with the consistency of dirt obstructing the right trailing edge fuel vent line. Upon closer examination, it was revealed that the fuel tank vent tube was clogged with mud from an insect, commonly referred to as a "Mud Dauber" wasp.

According to the manufacturer's Airplane Flight Manual (AFM), under Section IV Normal procedures, the preflight inspection includes a specific line item to ensure that the right wing trailing edge, fuel tank vent line, is unobstructed. The flight instructor stated that she did not witness the student pilot conduct the preflight inspection of his airplane.

Pilot Information

Certificate:	Student	**Age:**	54,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 Without waivers/limitations	**Last FAA Medical Exam:**	August 30, 2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	36 hours (Total, all aircraft), 6 hours (Total, this make and model)		

Flight instructor Information

Certificate:	Commercial	**Age:**	59,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	May 1, 2019
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 1, 2018
Flight Time:	(Estimated) 3150 hours (Total, all aircraft), 15 hours (Total, this make and model), 80 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N3555R
Model/Series:	23 A23	**Aircraft Category:**	Airplane
Year of Manufacture:	1965	**Amateur Built:**	
Airworthiness Certificate:	Normal; Utility	**Serial Number:**	M-729
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 2, 2019 Annual	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:	3 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3023.1 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-346A
Registered Owner:	On file	**Rated Power:**	165 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:	ECP,68 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Scattered / 4500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.18 inches Hg	**Temperature/Dew Point:**	34°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Panama City, FL (ECP)	**Type of Flight Plan Filed:**	None
Destination:	Panama City, FL (ECP)	**Type of Clearance:**	None
Departure Time:	12:10 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Northwest Florida Beaches Intl ECP	**Runway Surface Type:**	Concrete
Airport Elevation:	68 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	10000 ft / 150 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	30.358333,-85.795555(est)

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Clayton Caessens; FAA ; Birmingham, AL
Original Publish Date:	January 28, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=100294