



Aviation Investigation Final Report

Location:	Coleman, Texas	Accident Number:	CEN17LA038
Date & Time:	November 12, 2016, 13:00 Local	Registration:	N2035J
Aircraft:	WEATHERLY AVIATION CO INC 620B	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The commercial pilot was practicing agricultural application operations on his first flight in the accident airplane. While climbing after completing a spray pass, the airplane experienced a total loss of engine power and the pilot made a forced landing during which the airplane nosed over. Examination of the airplane revealed that the right fuel tank was intact and void of fuel, while the left tank was breached, with fuel leaking from the tank. The fuel selector was in the right tank position. No engine anomalies were observed. The pilot had been advised by the owner to switch fuel tanks after flying about 40 minutes, but failed to do so. His advice was based on the engine's typical fuel burn of about 33 gallons per hour and fuel tank capacity of 35 gallons per wing tank. The owner estimated the airplane was airborne for about one hour before the accident occurred. Given the airplane's time in flight and the lack of fuel found in the right wing tank after the accident, it is likely that the loss of engine power was the result of fuel starvation.

Probable Cause and Findings

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

The pilot's inadequate fuel management, which resulted in a total loss of engine power due to fuel starvation.

Findings

Personnel issues	(general) - Pilot
Aircraft	Fuel indication system - Malfunction

Factual Information

History of Flight

Maneuvering	Loss of engine power (total) (Defining event)
Landing	Loss of control on ground

On November 12, 2016, about 1300 central standard time, a Weatherly Aviation Company 620B airplane, N2035J, was substantially damaged during a forced landing near Coleman, Texas. The pilot was not injured. The airplane was registered to and operated by Burkett Aviation under the provisions of 14 Code of Federal Regulations Part 137 as an aerial spraying practice flight. Day visual meteorological conditions prevailed for the flight, with no flight plan filed. The local flight departed a private strip about 1200.

Flying his initial flight in the model of the accident airplane, the pilot stated that a total loss of engine power occurred during climb following a practice spray pass. The pilot executed a forced landing into an adjacent wheat field. Due to trees and a fence in the path of his rollout, he aggressively applied brake pressure, which resulted in a nose over and damage to the vertical stabilizer.

The owner had informed the pilot prior to takeoff that he needed to switch from left to right tank after flying for about 40 minutes. His advice was based on the engine's typical fuel burn of about 33 gallons per hour and fuel tank capacity of 35 gallons of each wing. The owner estimated the airplane was airborne for about one hour.

Examination of the airplane by a Federal Aviation Administration inspector and local mechanic revealed fuel leaking from a breached left tank, with the right tank intact and empty. The fuel selector was in the right tank position. After flipping the airplane upright, the propeller was rotated, with normal engine continuity. Fuel was added to the right tank and the engine was started. The engine ran for about 10 seconds and then stopped. Additional engine starts attempts were not successful, due to unavailability of a powered electrical source.

The right fuel tank low level warning light was tested and initially found to inoperable. After adjusting the sensor in the right fuel tank, the warning light operated normally. The owner stated the low fuel warning system had been intermittent during previous flights.

Pilot Information

Certificate:	Commercial	Age:	25, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	September 1, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 27, 2015
Flight Time:	615 hours (Total, all aircraft), 1 hours (Total, this make and model), 605 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	WEATHERLY AVIATION CO INC	Registration:	N2035J
Model/Series:	620B	Aircraft Category:	Airplane
Year of Manufacture:	1995	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	1592
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	July 12, 2016 Annual	Certified Max Gross Wt.:	4000 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2786 Hrs at time of accident	Engine Manufacturer:	Pratt and Whitney
ELT:		Engine Model/Series:	R-985
Registered Owner:	Burkett Aviation	Rated Power:	450 Horsepower
Operator:	Burkett Aviation	Operating Certificate(s) Held:	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KBWD,1377 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	12:55 Local	Direction from Accident Site:	106°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.28 inches Hg	Temperature/Dew Point:	19°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Coleman, TX (PRI)	Type of Flight Plan Filed:	None
Destination:	Coleman, TX (PRI)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	31.879999,-99.279998(est)

Administrative Information

Investigator In Charge (IIC):	Folkerts, Michael
Additional Participating Persons:	Albert Hilliard; Flight Standards District Office; Lubbock, TX
Original Publish Date:	June 20, 2017
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=94364

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).