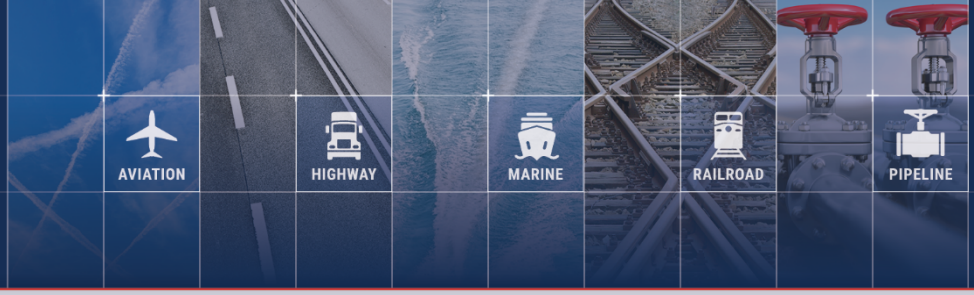

Aviation Investigation Final Report

Location:	BROWNFIELD, Texas	**Accident Number:**	FTW99LA180
Date & Time:	July 5, 1999, 19:00 Local	**Registration:**	N9520E
Aircraft:	Bellanca BL17-30A	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane stalled as the pilot pulled up to clear powerlines following a loss of engine power on final approach. The left wing of the airplane dropped abruptly, and the airplane nosed down impacting the ground in a left wing low attitude, approximately 100 yards short of the landing threshold. The pilot estimated that he had approximately 40 gallons of fuel prior to departing on the 35-nautical mile flight. The pilot reported to a local law enforcement officer that the engine lost power on final approach and 'he was not quick enough to switch the fuel selector to the other tank.' Examination of the fuel system by an FAA inspector revealed that the airplane was equipped with an extended range fuel system which encompassed a total of 7 fuel cells, with 3 cells in each wing and a fuselage tank aft of the baggage compartment. Most of the fuel cells were compromised during impact and evidence of spilled fuel was found on the ground.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadvertent stall while attempting to clear powerlines. Factors were the loss of engine power due to fuel starvation and the pilot's improper use of the fuel tank selector.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
1. (F) FLUID,FUEL - STARVATION
2. (F) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND
3. CHECKLIST - NOT FOLLOWED - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
4. OBJECT - WIRE,TRANSMISSION
5. MANEUVER TO AVOID OBSTRUCTIONS - PERFORMED - PILOT IN COMMAND
6. (C) STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On July 5, 1999, at 1900 central daylight time, a Bellanca BL17-30A airplane, N9520E, was substantially damaged when it collided with terrain while on final approach to the Terry County Airport, near Brownfield, Texas. The non-instrument rated private pilot, sole occupant of the airplane, sustained minor injuries. The airplane was registered to and operated by the pilot. Visual meteorological conditions prevailed for the Title 14 CFR Part 91 personal flight. The 35-nautical mile flight originated from the Lubbock International Airport, near Lubbock, Texas, approximately 1845.

The pilot reported to a local law enforcement officer, who responded to the accident site, that the engine lost power on final approach, and "he was not quick enough to switch the fuel selector to the other tank." The officer reported that the wing tanks were compromised during impact with the ground, and he found evidence that some fuel spilled on the ground.

A pilot, who witnessed the accident at the Terry County Airport, stated that he observed the airplane stall as it cleared the powerlines at the approach end of runway 20. The witness reported that "the left wing of the airplane dropped abruptly and the airplane nosed down impacting the ground in a left wing low attitude, approximately 100 yards short of the landing threshold."

Examination of the airplane by the airport manager revealed that both wings were "destroyed by the impact with the ground." Additionally, the 3-bladed propeller separated from the engine. There was no fire.

Examination of the fuel system by an FAA inspector revealed that the airplane was equipped with an extended range fuel system which encompassed a total of 7 fuel cells. There were 3 cells in each wing and a fuselage tank aft of the baggage compartment.

In the recommendation block of the enclosed NTSB Form 6120.1/2, the pilot stated that the accident could have been prevented by "better fuel management" and "better attention to all gauges (fuel pressure, manifold pressure) to possibly be aware sooner of a possible problem." The pilot further stated that he estimated that he had approximately 40 gallons of fuel aboard the airplane prior to his departure from Lubbock.

Pilot Information

Certificate:	Private	**Age:**	29,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	September 30, 1996
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	278 hours (Total, all aircraft), 192 hours (Total, this make and model), 22 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	**Registration:**	N9520E
Model/Series:	BL17-30A BL17-30A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	76-30805
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 14, 1998 Annual	**Certified Max Gross Wt.:**	3325 lbs
Time Since Last Inspection:	54 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2534 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-D
Registered Owner:	PAUL M. WILLIS	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LBB ,3200 ft msl	**Distance from Accident Site:**	35 Nautical Miles
Observation Time:	18:56 Local	**Direction from Accident Site:**	13°
Lowest Cloud Condition:	Scattered / 6500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	17 knots / 23 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	31°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LUBBOCK (LBB)	**Type of Flight Plan Filed:**	None
Destination:	(Q26)	**Type of Clearance:**	None
Departure Time:	18:45 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	TERRY COUNTY AIRPORT Q26	**Runway Surface Type:**	Asphalt
Airport Elevation:	3263 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	20	**IFR Approach:**	None
Runway Length/Width:	5218 ft / 75 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	33.169647,-102.270629(est)

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	ROBERT L FELDMAN; LUBBOCK , TX
Original Publish Date:	December 4, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=46703

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.