



National Transportation Safety Board Aviation Accident Final Report

Location:	EAGLE, MI	Accident Number:	CHI97LA241
Date & Time:	08/01/1997, 2045 EDT	Registration:	N8237R
Aircraft:	Bellanca 17-30A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Personal

Analysis

The pilot said that he had departed with a main fuel tank selected to feed the engine. Once the airplane got above '4,500 feet,' the pilot switched to an auxiliary fuel tank. 'Fuel usage was timed using a countdown clock for each tank. Approaching Lansing, [Michigan] I requested and got flight following to Detroit. A few minutes later, my fuel countdown clock signaled time for a fuel cell change.' The pilot switched to a full tank. At that time, the engine lost power. The pilot switched to another full tank, but the engine would not start. 'I told Lansing Approach of my problem; they gave me the direction to the nearest airport, and I did the Bellanca Viking restart procedure. The plane would not restart.' The pilot declared an emergency and force landed the airplane in a cornfield. Examination of the wreckage revealed that one of the airplane's five fuel tanks was empty. The remaining fuel tanks were full of fuel. No other anomalies were revealed with the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inaccurate fuel consumption calculations, his decision to switch fuel tanks too late, and fuel starvation.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CRUISE

Findings

1. (C) FLUID,FUEL - STARVATION
2. (C) FUEL CONSUMPTION CALCULATIONS - INACCURATE - PILOT IN COMMAND
3. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

On August 1, 1997, at 2045 eastern daylight time (edt), a Bellanca 17-30A, N8237R, operated by a private pilot, sustained substantial damage when during cruise flight, the airplane's engine lost power. During the subsequent forced landing, the airplane impacted the terrain. Visual meteorological conditions prevailed at the time of the accident. The flight was being conducted under 14 CFR Part 91. No flight plan was on file. The pilot reported no injuries. The flight originated at Oshkosh, Wisconsin, at 1800 central daylight time (cdt), and was en route to Detroit, Michigan.

In his written statement, the pilot said that he had departed with a main fuel tank selected to feed the engine. Once the airplane got above "4,500 feet," the pilot switched to an auxiliary fuel tank. "Fuel usage was timed using a countdown clock for each tank. Approaching Lansing, [Michigan] I requested and got flight following to Detroit. A few minutes later, my fuel countdown clock signaled time for a fuel cell change." The pilot switched to a full tank. At that time, the engine lost power. The pilot switched to another full tank, but the engine would not start. "I told Lansing Approach of my problem; they gave me the direction to the nearest airport, and I did the Bellanca Viking restart procedure. The plane would not restart." The pilot declared an emergency and force landed the airplane in a cornfield.

The Federal Aviation Administration (FAA) inspector who examined the wreckage found the airplane's engine and cowling bent upward and aft. The nose gear was separated from the airplane. The engine mounts were bent upward and aft. There was a large gouge in the leading edge of the left wing running aft to the forward spar. The left wing spar was bent aft. Flight control continuity was confirmed. One of the airplane's five fuel tanks was empty. The remaining fuel tanks were full of fuel. Examination of the engine, engine controls and other airplane systems revealed no anomalies.

Pilot Information

Certificate:	Private	Age:	47, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	01/13/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	448 hours (Total, all aircraft), 172 hours (Total, this make and model), 387 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	Registration:	N8237R
Model/Series:	17-30A 17-30A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	30473
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	05/06/1997, Annual	Certified Max Gross Wt.:	3000 lbs
Time Since Last Inspection:	63 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4145 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520-K
Registered Owner:	JUG AVIATION, INC.	Rated Power:	260 lbs
Operator:	JUG AVIATION, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	LAN, 861 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	1745 EDT	Direction from Accident Site:	110°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 8000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	23° C / 12° C
Precipitation and Obscuration:			
Departure Point:	OSHKOSH, WI (OSH)	Type of Flight Plan Filed:	None
Destination:	DETROIT, MI (DET)	Type of Clearance:	None
Departure Time:	1800 CDT	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): DAVID C BOWLING **Report Date:** 02/02/1998

Additional Participating Persons: DAN KARAS; GRAND RAPIDS, MI

Publish Date:

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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