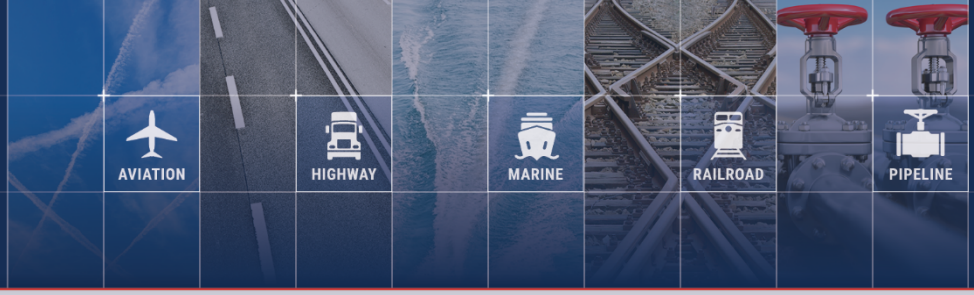

Aviation Investigation Factual Report

Location:	SMITHVILLE, Tennessee	**Accident Number:**	MIA97FA014
Date & Time:	October 27, 1996, 14:30 Local	**Registration:**	N74306
Aircraft:	Bellanca 14-13-2	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

HISTORY OF FLIGHT

On October 27, 1996, about 1430 central standard time, a Bellanca 14-13-2, N74306, registered to the pilot, crashed while the pilot was returning to land after takeoff, at the Smithville Municipal Airport, Smithville, Tennessee, while on a Title 14 CFR Part 91 personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed. The aircraft was destroyed and the private-rated pilot was fatally injured. The flight was originating at the time of the accident.

Witnesses observed the aircraft takeoff on runway 24 and pass low over the trees at the departure end of the runway. As the aircraft reached an altitude of about 200 feet agl, the engine suddenly "cut off". The pilot transmitted on the airport unicom frequency that he had a problem and was turning back. The aircraft was observed to enter a steep bank to the left and turn to a northeasterly heading, toward the airport. A witness reported the aircraft "appeared to stall and turn downward about 60 degrees." The aircraft descended nose first and was lost from sight behind trees and a hill. The witnesses then observed smoke coming from the trees where the aircraft crashed.

PERSONNEL INFORMATION

Pilot logbook records showed the pilot last received a flight review on June 29, 1991. Title 14 CFR Part 61.56c requires that a pilot have complete a flight review within 24 calendar months of acting as pilot-in-command. Federal Aviation Administration records showed the pilot was last issued a FAA medical certificate on February 26, 1993. This certificate expired on February 28, 1995. Title 14 CFR Part 61.5c requires that a pilot hold a current FAA medical certificate to act as pilot-in-command of an airplane. Additional information on the pilot is contained in this report under first pilot information and in attachments to this report.

AIRCRAFT INFORMATION

Aircraft logbook records showed the aircraft last received an annual inspection on June 12, 1994. Title 14 CFR Part 91.409a requires that an aircraft have received an annual inspection within the preceding 12 calendar months prior to flight. Within the logbook records were receipts for the purchase by the pilot of engine cylinder parts. No logbook entries by a licensed aircraft mechanic were found showing installation of these parts. A mechanic at the Smithville Airport reported to NTSB that the pilot had performed the cylinder work himself. FAA records do not indicate that the pilot held an Airframe or Powerplant Mechanic certificate.

Another pilot stated he spoke with the accident pilot late in the afternoon on October 25,

1996. The accident pilot had just finished ground testing the engine of N74306, and he stated all appeared to be ok except his fuel pressure was reading about 2 psi and the left fuel gauge did not read properly. The normal fuel pressure is 5 psi. The accident pilot attributed the faulty fuel gauge to the aircraft having sat for a long period. The pilot stated the accident pilot flew the aircraft to another airport on October 26, 1996, and when he saw the accident pilot there, he did not mention any problem with the aircraft. The accident pilot returned to the Smithville Airport that day. Additional aircraft information is contained in this report under aircraft information and in attachments to this report.

METEORLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. Additional meteorological information is contained in this report under weather information.

WRECKAGE AND IMPACT INFORMATION

The aircraft crashed in a wooded area on the side of a hill near the departure end of runway 24, at the Smithville Municipal Airport, Smithville, Tennessee. Examination of the crash site showed the aircraft collided with trees while in a slow speed, near vertical descent while on a northeasterly heading. The right wing outboard section separated from the aircraft during the collision with trees and part of the wing remained in the top of a tree. The aircraft contacted the ground in a right wing low attitude. The aircraft came to rest with the left wing resting against a tree. A postcrash fire erupted and consumed the fuselage and left wing. The remainder of the right wing was found at the bottom of the hill. All components of the aircraft necessary for flight were located on or around the main wreckage of the aircraft. Continuity of all flight control cables was established. All separation points within the cables were typical of overstress separation.

Examination of the engine and propeller from the aircraft was performed after recovery from the crash site. The propeller spinner was bent on the side that made ground contact and did not show damage typical of the propeller rotating at ground impact. One of the wooden propeller blades separated during ground impact and was found adjacent to the main wreckage. Each propeller blade sustained fire damage but did not exhibit damage typical of rotation at the time of ground impact.

The engine assembly was rotated and continuity of the crankshaft, camshaft, connecting rods, pistons, and accessory drive gears was established. Each cylinder produced normal compression. Each spark plug had deposit colors consistent with normal engine operation. Each magneto had sustained fire damage. Teardown examination showed continuity of all components within each magneto. Teardown examination of the carburetor showed the float and shutoff operated normally and all passages were free of obstructions. The engine-driven fuel pump had sustained fire damage and the rubber diaphragm had been damaged by fire. The drive mechanism of the pump operated normally. Fire damage to the pump was consistent with postcrash fire damage.

MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examination of the pilot was conducted by Dr. Charles W. Harlan, Forensic Pathology Associates, Nashville, Tennessee. The cause of death was attributed to burns and smoke inhalation. No findings which could be considered casual to the accident were reported.

Postmortem toxicology studies on specimens obtained from the pilot was performed by Louis Kuykendall, Forensic Scientist, Tennessee Bureau of Investigation and Corning Clinical Laboratories, Nashville, Tennessee. The studies were positive for .073 G/DL ethanol alcohol in blood. The studies were negative for ethanol alcohol in urine, basic, acidic, and neutral drugs. For additional medical and pathological information see Supplement K and the toxicology reports attached to this report.

ADDITIONAL INFORMATION

The aircraft wreckage was released to Chuck Armstrong, Armstrong Aviation, Smithville, Tennessee, on October 28, 1996. Components retained by NTSB for examination were returned to Chuck Armstrong on February 5, 1997.

Pilot Information

Certificate:	Private	**Age:**	44,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Expired	**Last FAA Medical Exam:**	February 26, 1993
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	420 hours (Total, all aircraft), 25 hours (Total, this make and model), 3 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	**Registration:**	N74306
Model/Series:	14-13-2 14-13-2	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1419
Landing Gear Type:	Retractable - Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	June 12, 1994 Annual	**Certified Max Gross Wt.:**	2150 lbs
Time Since Last Inspection:	25 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2522 Hrs	**Engine Manufacturer:**	Franklin
ELT:	Installed, not activated	**Engine Model/Series:**	6A4-165-B3
Registered Owner:	JOHN R. BONO	**Rated Power:**	165 Lbs thrust
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:	BNA ,599 ft msl	**Distance from Accident Site:**	45 Nautical Miles
Observation Time:	13:53 Local	**Direction from Accident Site:**	280°
Lowest Cloud Condition:	Scattered / 1800 ft AGL	**Visibility**	9 miles
Lowest Ceiling:	Broken / 15000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	25°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(0A3)	**Type of Flight Plan Filed:**	None
Destination:	LEBANON (M54)	**Type of Clearance:**	None
Departure Time:	14:29 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	1 Fatal	**Latitude, Longitude:**	35.950527,-85.820167(est)

Administrative Information

Investigator In Charge (IIC):	Kennedy, Jeffrey
Additional Participating Persons:	JAMES PERKINS; NASHVILLE , TN ROCKY DAVIDSON; NASHVILLE , TN
Report Date:	April 14, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=38123