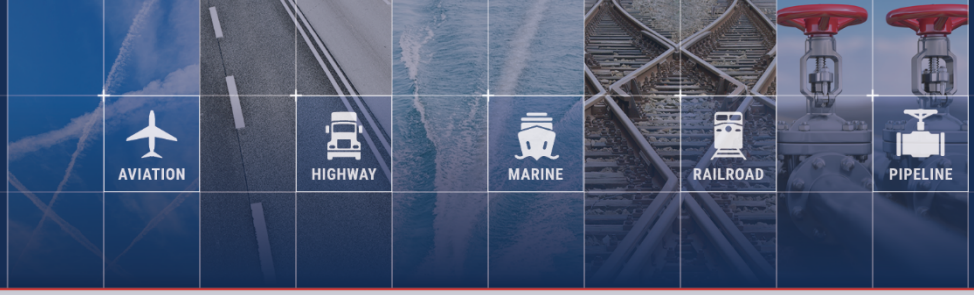

Aviation Investigation Factual Report

Location:	Lawrenceville, Illinois	**Accident Number:**	CHI07FA009
Date & Time:	October 26, 2006, 22:12 Local	**Registration:**	N1832N
Aircraft:	Beech 95-B55	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation		

Factual Information

HISTORY OF FLIGHT

On October 26, 2006, about 2212 central daylight time, a Beech 95-B55, N1832N, piloted by a private pilot, impacted trees and terrain during a non-precision approach to runway 18 (5,199 feet by 150 feet, asphalt) at Lawrenceville-Vincennes International Airport (LWV), Lawrenceville, Illinois. Night instrument meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 flight was operating on an instrument flight rules flight plan. The pilot was fatally injured. The flight departed from Indianapolis International Airport, Indianapolis, Indiana, about 2132 eastern standard time, en route to LWV.

The following is a partial transcript of communications between N1832N and Terra Haute FCF/AFSS Preflight-2 position (PF-2):

2044:25, PF-2, *(terre haute) flight service

2044:27, N1832N, good evening er not so good evening uh baron one eight three two november *(up) on the ground at i n d and wanna go instruments here in about thirty minutes to lawrenceville *(i'll) check the weather and file (unintelligible)

2044:43, PF-2, okay there's an airmet for occasional moderate rime or mixed icing in clouds and in precip from the freezing level to flight level two zero zero freezing level's kinda high tonight it looks like about uh ten to eleven thousand feet for that

2044:59, N1832N, wow

2045:00, PF-2, yeah ha ha *(that's) a big change

2045:02, N1832N, *(great)

2045:03, PF-2, um and then for your descent into lawrenceville there's occasional moderate turbulence below fifteen thousand uh and then uh i f r throughout the route there is low pressure dro dominating you've got uh ha ha you're sandwiched in between low two low pressure tof trofs uh one *(in the) northern part one in the southern part of the state uh and as far as uh you being in central indiana and then as you get to lawrenceville it looks like that one the lower that (unintelligible) the trof that's in the southern part of the state is laying right over lawrenceville *(area)

2045:36, N1832N, good

2045:37, PF-2, um uh on radar scattered moderate with some ve very widely scattered heavy cells moving eastward and currently for indianapolis wind one two zero at eight visibility four miles with light drizzle and mist three hundred overcast temperature eight dew point seven and altimeter two niner niner seven and um yeah that's pretty in indicative of what you'll see along your route three hundred to six hundred overcast for the ceilings all the way across and for lawrenceville let's see their automated let's see their latest one was zero one forty one zulu five minutes ago with wind one six zero at eight two miles in mist four hundred overcast temperature eleven dew point niner and altimeter two niner niner three the uh i only have one pilot report um

2046:34, N1832N, (unintelligible)

2046:35, PF-2, over shelbyville an embraer one forty five got light rime icing from twelve thousand five hundred to fifteen thousand five hundred uh looking at the forecast let's see for lawrenceville terre haute's expecting uh seven knots out of the southeast visibilities uh variable from a mile and a half to four miles in mist and uh four hundred overcast and beginning at zero three hundred zulu in a little more than an hour they're expecting some occasional thunderstorms to start moving through that area

2047:10, N1832N, are you showing any of that

2047:13, PF-2, well there's some uh about thirty miles to the west southwest of terre haute there are some uh heavy cells let me see what those tops are it looks like tops up to flight level three five zero and that that looks to be about twenty miles south of mattoon and they also *(there's a) report of some hail in that area

2047:35, N1832N, beautiful

2047:35, PF-2, uh yeah it it's um

2047:37, N1832N, so between here and lawrenceville you're looking pretty clean

2047:41, PF-2, there's uh mostly moderate with a few widely scattered heavy cells but nothing uh that look looks it looks like just showers yeah just showers between there and terre haute once you get into illinois is when you're gonna run into that well actually *(what what) you said you're leaving in half an hour that stuff may be around the terre haute area by then

2048:00, N1832N, yeah okay

2048:03, PF-2, and it looks like it's uh it's uh easy easy enough to go around it

2048:08, N1832N, okay (unintelligible)

2048:08, PF-2, (unintelligible) around to the south of it

2048:10, N1832N, okay *(i don't) have radar but i guess you guys could help me

2048:14, PF-2, yeah yeah

2048:15, N1832N, *(yeah)

2048:15, PF-2, flight watch or flight service

2048:17, N1832N, yeah

2048:19, PF-2, uh actually

2048:19, N1832N, (unintelligible) i'd like to file

2048:20, PF-2, okay go ahead

2048:22, N1832N, there's no notams at uh lawrenceville (unintelligible) is there

2048:24, PF-2, oh let me let me look at that

2048:26, N1832N, thanks

2048:33, PF-2, no lawrenceville has no notams and actually while i'm thinking of it uh flight watch is gonna close here at the top of the hour so uh just flight service will be uh available for you to

2048:45, N1832N, is that one twenty two zero

2048:47, PF-2, no that's uh flight watch they're gonna be closed uh calling us on radio it depends on where you're at but um indianapolis area's twenty two point fifty five terre haute area's twenty two point sixty five

2049:01, N1832N, okay

2049:02, PF-2, and if all else fails one twenty two point two

2049:05, N1832N, okay let's file

2049:08, PF-2, okay

2049:09, N1832N, i f r november one eight three two november it's a b e fifty five slash i *(one) eighty knots i n d say in *(about) half an hour four thousand direct lawrenceville l w v take us about thirty five minutes four hours fuel uh [pilot's name] based at lawrenceville eight one two

uh eight eight two six four four eight one aboard white red trim

2049:58, PF-2, okay your flight plan's on file uh pilot reports requested flight watch or flight service

2050:04, N1832N, okay thank you

2050:05, PF-2, sure you're welcome

2050:06, N1832N, *(all right) bye bye

2050:07, PF-2, bye bye

The following is a partial transcript of communications between N1832N, Evansville Local Control (EVV LC), Eagle Flight 295 (EGF295), and an unknown agency (UNK):

2159:57, EVV LC, november one eight three to november did you check on

2200:34, N1832N, (unintelligible) one eight three two november twenty six hundred

2200:47, N1832N, evansville approach baron one eight three two november

2201:02, EVV LC, i was off line november one eight three two november did you check on

2201:07, EVV LC, eagle flight two ninety five did you hear another aircraft calling me

2201:09, EGF295, yes sir some kind of baron

2201:11 EVV LC, okay could you tell him to contact me on one two five point six it's ah three two november

2201:16, EGF295, three two november ah contact evansville on twenty five decimal six

2201:24, N1832N, evansville approach baron one eight three two november twenty six hundred

2201:28, EVV LC, baron one eight three two november evansville approach maintain two thousand six hundred till lawrenceville v o r cleared v o r runway one eight approach at lawrenceville report ah v o r outbound

2201:40, N1832N, okay can i get vectors

2201:43, EVV, i can't see you up there at twenty six hundred to give you vectors

2201:45, N1832N, okay

2202:26, EVV LC, current evansville altimeter two niner niner five

2202:31, EVV LC, three two november if you didn't get that evansville altimeter two niner niner five

2202:35, N1832N, affirmative

2203:21, EVV LC, evansville atis information foxtrot is current the wind one five zero at five visibility three and mist sky condition ceiling three hundred overcast and ah temperature one zero dew point one zero altimeter two niner niner five

2206:26, N1832N, and evansville three two november turning outbound ah on one eight

2206:31, EVV LC, baron three two november roger report procedure turn inbound

2206:35, N1832N, three two november

2213:22, N1832N, and evansville two two november established inbound to one eight

2212:25, EVV LC, november three two november roger change over to lawrenceville advisory frequency is approved report cancellation this frequency on the ground or missed approach on this frequency

2212:36, UNK, (unintelligible)

There were no further transmissions from N1832N.

METEOROLOGICAL INFORMATION

The LWV Automated Surface Observing System, recorded the following observations:

Each 5-minute observation from 1825 to 2225 recorded sky conditions as overcast 400 feet above ground level (AGL).

At 1953, wind 150 degrees at 8 knots; visibility 1 1/4 statute miles (SM); mist; sky condition overcast 600 feet AGL; temperature 11 degrees Celsius (C); dew point 9 degrees C; altimeter setting 29.93 inches of mercury (Hg).

At 2053, wind 170 degrees at 8 knots; visibility 2 SM; mist; sky condition overcast 400 feet AGL; temperature 11 degrees C; dew point 9 degrees C; altimeter setting 29.94 inches of Hg.

At 2153, wind 170 at 8 knots, visibility 1 1/4 SM; mist; sky condition overcast 400 feet AGL;

temperature 11 degrees C; dew point 9 degrees C; altimeter setting 29.93 inches of Hg.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single-engine land, multiengine land, and instrument airplane ratings. On May 12, 2006, the pilot was issued a third class airman medical certificate with an exemption and restriction: "must have available glasses for near vision" and "not valid for any class after." The pilot indicated on his airman medical certificate application dated May 12, 2006, a total pilot flight of 2,710 hours and 0 hours in the past 6 months.

According to Federal Aviation Administration (FAA) records, the pilot had no reported history of accidents, incidents, or enforcement actions.

The pilot logbook(s) were not located at the accident site and no logbook(s) were received by the National Transportation Safety Board or the FAA.

AIRCRAFT INFORMATION

The 1981 Beech B-55, serial number TC-2413, was registered to Bomac Equipment Corp, of which the pilot was principal. The airplane was powered by two Teledyne Continental Motors IO-470-L engines (right engine serial number 297628-R and left engine serial number 297627-R). The remains of aircraft logbook(s) were not located at the accident site. A repair station provided a work order dated April 24, 2006, indicating that an annual inspection of the airplane was performed at an hour meter and aircraft total time of 2,596.4 hours.

AIRPORT INFORMATION

LWV was an uncontrolled airport served by runway 18/36 (5,199 feet by 150 feet, asphalt), runway 9/27 (5,198 feet by 150 feet, asphalt), and 4U/22U (1,000 feet by 200 feet, turf). Runway 18 was equipped with runway end identifier lights and a pulsating/steady burning precision approach slope indicator located on the left side of the runway.

All of the runway lights were operational and able to be controlled with a handheld transceiver on a frequency of 122.8 during inspection.

According to the VOR RWY 18 approach chart, the airport elevation and the runway 18 touchdown zone elevation are both 430 feet mean sea level (MSL). The minimum safe altitude is 2,600 feet MSL north and 2,100 feet south of the LWV VOR. The approach is depicted with an inbound course of 199 degrees with a procedure turn of 334 degrees and 154 degrees. The missed approach point is LWV VOR, which is 0.1 NM from runway 18. The category A and B

straight-in-minimums for the VOR approach is 1,020 feet mean sea level (height above touch down 590 feet) and 1 SM visibility. The category A and B VOR approach with distance measuring equipment (DME) straight in minimums is 840 feet MSL (height above touchdown 410 feet) and 1 SM visibility. The VOR with DME final approach segment minimum decent altitudes (MDAs) depicted on the chart is 1,020 feet MSL beyond a VOR/DME distance of 1.7 miles from LWV VOR and 840 feet MSL between a VOR/DME distance of 1.1 and 1.7 miles. The category C approach minimums increased the visibility minimums to 1 1/2 miles for the VOR straight-in approach and 1 1/4 for the VOR/DME minimums.

WRECKAGE AND IMPACT INFORMATION

The main wreckage, which consisted of the fuselage, wings, and engines, was located in a wooded area at Global Positioning System coordinates: 38 degrees 48.1351 minutes North, 87 degrees 35.3857 West; or about 2.14 nautical miles and 016.7 degrees from runway 18. The main wreckage was approximately 2.06 NM from LWV VOR at an elevation of 530 feet MSL.

The wreckage path was approximately 343 feet in length along a heading of approximately 196 degrees in a wooded area with trees approximately 50 feet in height. The wooded area was adjacent to the southern edge of a grass field. The northern edge of the wooded area contained broken branches from the tree tops with white paint chips and left wing tip lens material at the tree bases. Pieces of the aircraft windshield that were located along the wreckage path did not contain soot or damage consistent with fire. A second tree located approximately 200 feet along the wreckage path had broken branches at a height that was approximately equal to the height of broken branches associated with trees located at the northern edge of the wooded area. There was soot present on trees surrounding the main wreckage, which displayed damage consistent with post impact fire.

The wings were attached to the fuselage, which was oriented on a tail to nose heading of approximately 305 degrees. The trailing edge wing flaps were extended approximately 15 degrees and the landing gear was extended. All four of the wing fuel tanks were either broken open or damaged by post impact fire. The empennage was separated from the fuselage and located approximately 20 feet north of the main wreckage. Both flaps were approximately at the 15-degree position. The aileron trim tab was approximately 2.25 degrees trailing edge down. The pitch trim tabs were about 1 degree trailing edge down and the rudder trim tab was about 9 degrees trailing edge left.

The pitch flight control cables behind the instrument panel were intact and separated at the cabin floor area. The aileron cables behind the instrument panel were connected. The two aileron cables and the aileron balance cable were intact. The rudder control cables were separated at the cabin floor area. All of the flight control cable separations had features consistent with overload.

The instrument panel, cockpit switches, and gauges were destroyed by fire. The Hobbs meter

was separated from the instrument panel and located on the ground next to the main wreckage. The face of the Hobbs meter was separated from the unit, which indicated a time of 2,623.0 hours.

The left propeller was attached to the engine and did not exhibit leading edge damage. The propeller blades were deformed aft and forward along various blade spans. The blade tips were twisted towards the lower pitch direction.

The right propeller was located approximately 50 feet south-southwest of the main wreckage. The propeller was separated from the propeller flange, which exhibited features consistent with overload.

Examination of both engines and accessories revealed no anomalies that would have precluded operation.

MEDICAL AND PATHOLOGICAL INFORMATION

The Federal Aviation Administration Final Forensic Toxicology Fatal Accident Report reported: carbon monoxide not performed, cyanide not performed, ethanol not detected in muscle and brain, metoprolol detected in liver and heart.

The pilot had a heart attack with complications 18 months prior to the accident. One of the largest arteries supplying blood to his heart was found completely blocked and was reopened with a balloon device (angioplasty); a stent was placed to help maintain the artery open. Two other arteries supplying blood to the pilot's heart also had significant blockage, but were not treated. Immediately following the heart attack, the pilot had complications including abnormal heart rhythms leading to decreased blood pressure, and reduced heart function leading to mild congestive heart failure. Just over 6 months prior to the accident, an exercise treadmill showed electrical changes consistent with reduced blood flow to the heart and frequent abnormal heart beats following exercise. An imaging study done in conjunction with that test was consistent with generally decreased heart function. Just over 5 months prior to the accident, a heart monitor test showed intermittent abnormal heart rhythm. Just over 4 months prior to the accident, the pilot was granted a medical certificate under Authorization for Special Issuance. According to his fiancé, he was having palpitations for 20 minutes at a time for the two months prior to the accident and noted being "tired" within a week of the accident, but there is no evidence that he sought medical treatment for the fatigue or palpitations.

Metoprolol is a prescription medication used to treat high blood pressure, to reduce the likelihood of a second heart attack, and for certain other heart conditions. The pilot had been placed on metoprolol following his heart attack.

A letter from the FAA's Aerospace Medical Certification Division, Civil Aerospace Medical

Institute, dated June 28, 2006, regarding the Authorization For Special Issuance Of A Medical Certificate, states in part, "Enclosed is your medical certificate. It is valid for any class after May 31, 2007, and it requires your signature. This certificate supersedes any previously issued certificates." Additionally, the letter states, "You must promptly report any adverse changes in your medical condition or medications to the FAA Medical Appeals Section, AAM-313. You are cautioned to abide by Title 14 of the Code of Federal Regulations (CFR's), Section 61.53, relating to physical deficiency, medication, or treatment. Because of your cardiac history, operation of aircraft is prohibited at any time new symptoms or adverse changes occur or if you experience side-effect, or require a change in medication."

TESTS AND RESEARCH

Plots of radar data show a radar track towards the LWV VOR at an altitude of 2,600-2,700 feet at an average ground speed of 139 knots followed by a right turn along the outbound course of the VOR 18 approach at an average ground speed of 171-179 knots, followed by a right turn towards the inbound course of the VOR 18 approach. During the turn toward the inbound course, the average ground speed was 147 knots. Once inbound along the course, the plot of radar data shows an average ground speed of 123 knots from 2,600 feet to 1,600 feet with an average descent rate of 857 feet per minute.

Federal Aviation Regulation 91.169 IFR Flight Plan: Information Required, states in part:

(a) Information required. Unless otherwise authorized by ATC, each person filing an IFR flight plan must include in the following information:

(1) Information required under 91.153(a) of this part;

(2) Except as provided in paragraph in paragraph (b) of this section, an alternate airport.

(b) Paragraph (a)(2) of this section does not apply if:

(1) Part 97 of this chapter prescribes a standard instrument approach procedure to, or a special instrument approach procedure has been issued by the Administrator to the operator for, the fist airport of intended landing; and

(2) Appropriate weather reports or weather forecasts, or a combination of them, indicate the following:

(i) For aircraft other than helicopters. For at least 1 hour before and for 1 hour after the estimated time of arrival, the ceiling will be at least 2,000 feet above the airport elevation and the visibility will be at least 3 statute miles.

Advisory Circular 60-22, Aeronautical Decision Making, Operational Pitfalls, states in part:

c. Get-There-Itis. This tendency, common among pilots, clouds the vision and impairs judgment by causing fixation on the original goal or destination combined with a total disregard for any alternative course of action.

d. Duck-Under Syndrome. The tendency to sneak a peek by descending below minimums during an approach. Based on a belief that there is always a built-in "fudge" factor that can be used or on an unwillingness to admit defeat and shoot a missed approach.

ADDITIONAL INFORMATION

The FAA, Raytheon Aircraft Company, and Teledyne Continental Motors were parties to the investigation.

Pilot Information

Certificate:	Private	**Age:**	55,Male
Airplane Rating(s):	Single-engine land; Multi-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:**	Yes
Medical Certification:	Class 3	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N1832N
Model/Series:	95-B55	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-2413
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 1, 2006 Annual	**Certified Max Gross Wt.:**	5100 lbs
Time Since Last Inspection:	26.6 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2623 Hrs at time of accident	**Engine Manufacturer:**	Teledyne Continental
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-470-L
Registered Owner:	BOMAC Equipment Corp	**Rated Power:**	260 Horsepower
Operator:	Pilot	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	LWV,430 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	22:10 Local	**Direction from Accident Site:**	196°
Lowest Cloud Condition:	Clear	**Visibility**	1.75 miles
Lowest Ceiling:	Overcast / 400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.93 inches Hg	**Temperature/Dew Point:**	11°C / 9°C
Precipitation and Obscuration:			
Departure Point:	Indianapolis, IN (IND)	**Type of Flight Plan Filed:**	IFR
Destination:	Lawrenceville, IL (LWV)	**Type of Clearance:**	
Departure Time:	21:32 Local	**Type of Airspace:**	

Airport Information

Airport:	LAWRENCEVILLE-VINCENNES INTL LWV	**Runway Surface Type:**	Asphalt
Airport Elevation:	430 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	18	**IFR Approach:**	VOR/DME
Runway Length/Width:	5199 ft / 150 ft	**VFR Approach/Landing:**	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	38.802223,-87.589721

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Scott Burke; Federal Aviation Administration; Springfield, IL Paul Yoos; Raytheon Aircraft Company; Wichita, KS Jason Lukasik; Teledyne Continental Motors; Mobile, AL
Report Date:	July 20, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=64780