Aviation Investigation Final Report

Location:	KATY, Texas	**Accident Number:**	FTW96FA120
Date & Time:	February 20, 1996, 11:45 Local	**Registration:**	N2TC
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

After 35 minutes of uneventful flight at 5,500 feet MSL, the pilot contacted ATC to request a lower altitude due to 'not feeling very well.' During the next 45 minutes of flight inbound to his destination airport, he relayed to ATC controllers that he was feeling progressively worse. About 9 miles west of his destination, his radio transmissions were becoming increasingly labored, and he stated that he was 'in bad shape' and was experiencing 'blurred vision.' Subsequent to radar contact being lost, a pilot from another airplane witnessed the aircraft 'swerving back and forth very low to the ground.' He reported that the aircraft impacted the ground 'at cruise speed or faster.' Autopsy findings did not reveal evidence of a cardiac event. Toxicology tests for alcohol and carbon monoxide were negative. An inspection of the aircraft's heater and muffler systems did not reveal any defects. No hazardous or toxic materials were found within the wreckage. The cause of death was determined to be blunt force trauma to the head and chest. The pilot was not wearing a shoulder harness (not installed). After impact damage, there was occupiable volume within the forward cabin structure.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a loss of control due to pilot incapacitation for undetermined reasons. A factor related to the pilot's injuries was the lack of shoulder harness restraint.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - EMERGENCY

Findings
1. (C) AIRCRAFT CONTROL - UNCONTROLLED - PILOT IN COMMAND
2. (C) INCAPACITATION - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. (F) MISC EQPT/FURNISHINGS,SHOULDER HARNESS - NOT INSTALLED

Factual Information

HISTORY OF FLIGHT

On February 20, 1996, approximately 1145 central standard time, a Beech A36, N2TC, was substantially damaged following a loss of control near Katy, Texas. The commercial pilot, sole occupant, was fatally injured. The rental airplane, owned by Flight Enterprises Inc., Houston, Texas, was being operated under Title 14 CFR Part 91 when the accident occurred. The personal flight originated from San Antonio, Texas, approximately 1035, and was en route to West Houston Airport, Houston, Texas. A flight plan was not filed; however, VFR flight following (radar) from Houston Approach Control was being utilized by the pilot. Visual meteorological conditions prevailed.

While cruising at 5, 500 feet MSL, the pilot contacted Houston Center (frequency 132.8 Mhz) approximately 1111, and requested VFR flight following and a descent to 3,500 feet. He stated to the controller that "I might have a problem here." After radar contact was established, the controller asked the pilot if he required assistance. The pilot replied, "I don't feel very well, I have a strong headache, and I'd like to go down [to 3,500 feet] to see if it gets better." The pilot remained with Houston Center until approximately 1130, at which time he was handed off to Houston Approach (frequency 123.8 Mhz).

The pilot contacted Houston Approach Control, approximately 25 miles west of West Houston Airport, and stated that he was "not feeling well at all" and requested a descent to a lower altitude. Approach Control then cleared the pilot to descend and maintain VFR. The pilot then relayed to Approach Control that he was "having a serious problem." Subsequent radio transmissions from the pilot (beginning about 9 miles out from the airport) were becoming labored as he reported that he was "in bad shape' and had "blurred vision." Approach Control then cleared West Houston Airport's traffic pattern to facilitate the pilot's request for a straight in approach. Approach queried the pilot as whether he wanted paramedics standing by at the airport, to which the pilot replied, "I think that is a good idea." This was the last transmission from the pilot. Subsequently, at 1143, radar contact with the airplane was lost.

Another airplane, N9492D, was in the vicinity and monitored radio transmissions on Approach Control frequency. To assist approach and relay information, the pilot of N9492D established visual contact with the accident airplane, and estimated that it was descending through 400 feet AGL. He further reported that, the airplane was "swerving back and forth very uncontrolled", and that "the engine was still running." Subsequently, he witnessed the airplane impact the ground "at cruise airspeed or faster" and observed the "nose of the plane buckle under" upon impact.

The pilot did not, at any time, report any mechanical problems to either Houston Center or

Houston Approach Control. The time duration, from the pilot's initial report to controlling agencies of not feeling well to the loss of radar contact, was approximately 32 minutes (1111 to 1143). Radar data did not show any abrupt changes in altitude or airspeed prior to the loss of radar contact.

PERSONNEL INFORMATION

According to FAA records and a close friend of the pilot, the pilot had over 18,000 hours of total flight time at the time of the accident. About 5,000 hours in single engine aircraft, 500 of which are in the Beech A36. He held a valid third class medical certificate, corrective lenses required. According to his friend, who spoke with family members, the pilot was in good health, and had not disclosed any health problems.

AIRCRAFT INFORMATION

The airplane was a 1972 model Beech A36. Airframe total time as of the accident date was 9,119 hours. It was flown a total of 99 hours since its last annual inspection performed on August 4, 1995. The engine was manufactured on April 24, 1989. Its total time as of the accident date was 1,722 hours and was operated 227 hours since its last major overhaul. No anomalies or uncorrected maintenance defects were noted in the available airframe and engine logbooks. The aircraft was not, nor was it required to be equipped with a shoulder harness.

METEOROLOGICAL INFORMATION

Weather was not a factor.

COMMUNICATIONS

The following information is representative of pertinent dialogue between the pilot and air traffic control facilities prior to the accident. It was extracted from actual audio tapes retained by the FAA which will be archived with this report as attachments (audio cassettes). It does not represent the exact "word for word" record as the tapes do, but is presented to expand the information presented in the "History of Flight" portion of this report. Verbatim statements are within quotation marks. The time period is from approximately 1111 to 1143.

N2TC Houston Center, five thousand, five hundred VFR, en route to West Houston Airport, request flight following and a descent to three thousand, five hundred. "I might have a problem here."

HOUSTON CENTER Squawk "two five four two"

HOUSTON CENTER Radar contact, five thousand, five hundred, "say the nature of your problem and if you require any assistance."

N2TC "Going down to three thousand, five hundred. I'm by myself. I didn't feel too well a minute ago and I would like to go down to see if it gets better."

HOUSTON CENTER "Say again the nature of your emergency."

N2TC "I didn't feel too well about two minutes ago. I had a strong headache, and I'd like to go down to three thousand, five hundred to see if it gets better."

HOUSTON CENTER "Roger"

N2TC "Can I start my descent to three thousand, five hundred."

HOUSTON CENTER You can maintain VFR, but once you go below about four thousand, five hundred, I may lose you on radar, and I still "can't understand the nature of your emergency."

N2TC "I'm not feeling too well" and I'd like to go down a bit to three thousand, five hundred.

HOUSTON CENTER Understand your destination is Houston, west side. "say again the nature of your problem."

N2TC "That's correct, I'm the pilot that's not feeling too well."

HOUSTON CENTER "Understand you are not feeling too well."

HOUSTON CENTER " What type of distress are you feeling."

N2TC "I have a strong headache at five thousand, five hundred. Its better now, I'll keep in touch in about another five minutes."

HOUSTON CENTER "How are you feeling now?"

N2TC "I have a strong headache, very unusual, I never had it before. I still have a headache, but it is a little better now. I can live with that."

HOUSTON CENTER "Contact Houston Approach on one two three point eight."

N2TC "Houston Approach, November two tango charlie."

HOUSTON APPROACH Squawk zero two two four and ident.

HOUSTON APPROACH "Bonanza two tango charlie, radar contact, show you two five miles west of West Houston Airport."

N2TC "I'd like to start to descend to a lower altitude. I'm not feeling too well at all. I'd like to descend to a lower altitude."

HOUSTON APPROACH Cleared into the class "B" airspace, altitude at pilot's discretion.

N2TC "Houston Approach, I have a serious problem here."

HOUSTON APPROACH What kind of assistance can we provide for you, sir?

N2TC "I don't know. I'm feeling real bad right now. I'll let you know in one minute."

HOUSTON APPROACH "How are you doing two tango charlie?"

N2TC "I'm feeling real bad. I don't know what it is. Its something serious. I'm going down to see if it gets better."

HOUSTON APPROACH Bonanza two tango charlie, advise when you have West Houston in sight, nine miles, at one o'clock. Let me know if we can do anything more for you.

N2TC "Can you advise the airport to hold their traffic? I'm going to make a straight-in approach to runway one five. I'm feeling real bad. I don't know what it is. Something with my heart? But my vision is blurred and I'm in bad shape."

HOUSTON APPROACH Roger, I'll clear out traffic. Let me know when you have West Houston in sight.

HOUSTON APPROACH "Two tango charlie, do you want us to call the paramedics out for you sir?"

N2TC "I think that's a good idea." (last transmission from N2TC)

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was found upright in a field approximately 5.1 nautical miles northeast of his intended destination on a measured heading of 102 degrees magnetic. The engine, partially separated from the fuselage, was found folded under the forward cabin structure. Both propeller blades were found attached to the hub assembly and exhibited chord wise scratches. The underside of the fuselage exhibited compression buckling upward, and the left wing tip was crushed aft. Wreckage distribution, including ground impressions, encompassed a linear rectangular area approximately 25 feet wide and 635 feet long. The initial ground impression, located 635 feet northwest of the main wreckage, was narrow, linear and had pieces of navigation light lenses embedded within. About 89 feet further along the energy path and 516 feet northwest of the main wreckage, an impression was found measuring approximately 27 feet long, 3 feet wide, and 10 inches deep. A portion of the right door from

the nose landing gear was found adjacent to this impression.

MEDICAL AND PATHOLOGICAL

An autopsy on the pilot was performed by the Office of the Medical Examiner of Harris County, Houston Texas. The cause of death was determined to be blunt trauma injuries to the head and chest. There was no incidental finding of cardiovascular disease. Toxicology tests, conducted at CAMI, Oklahoma City, Oklahoma were negative for alcohol and carbon monoxide. 24.600 (ug/ml, ug/g) of Salicylate (aspirin) was detected in the urine, but was determined to be insignificant.

SURVIVAL ASPECTS

Examination of the wreckage revealed that there was occupiable volume within the cabin and cockpit structure. The pilot was wearing his seat lap belt, however, a shoulder harness was not available. According to autopsy findings, the pilot had blunt force trauma injuries to the head and chest. The seat structure was not deformed and remained intact. Although it remains unknown as to whether the pilot lost consciousness prior to impact, rescue personnel (due to coordination from Houston Approach Control) responded to the accident site within minutes of the impact.

FIRE

There was no evidence of in-flight electrical fire or fumes, and there was no post impact fire.

TESTS AND RESEARCH

No defects were found upon inspection of cabin heat and muffler systems. No hazardous or toxic materials were found within the wreckage or wreckage debris path.

ADDITIONAL INFORMATION

The wreckage was released to the owner's representative.

Pilot Information

Certificate:	Commercial	**Age:**	63,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 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 20, 1995
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	18000 hours (Total, all aircraft), 500 hours (Total, this make and model), 10 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N2TC
Model/Series:	A36 A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-359
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	August 4, 1995 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	99 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	9119 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-BA
Registered Owner:	FLIGHT ENTERPRISES INC.	**Rated Power:**	285 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:	IAH ,24 ft msl	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	11:52 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	25000 ft AGL	**Visibility**	15 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	28°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SAN ANTONIO , TX (SAT)	**Type of Flight Plan Filed:**	None
Destination:	HOUSTON , TX (IWS)	**Type of Clearance:**	VFR on top;VFLF
Departure Time:	10:35 Local	**Type of Airspace:**	Class B

Airport Information

Airport:	WEST HOUSTON IWS	**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	29.840469,-95.729026(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	DARRYL L VOSS; HOUSTON , TX THOMAS CAMPAGNOLA; WICHITA , KS JOHN T KENT; SEAGOVILLE , TX
Original Publish Date:	August 25, 1997
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Investigation Class:	Class
Note:	
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