



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	Dallas, TX	<b>Accident Number:</b>	FTW04FA052
<b>Date &amp; Time:</b>	01/01/2004, 1004 CST	<b>Registration:</b>	N4104B
<b>Aircraft:</b>	Bellanca 17-30A	<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Analysis

After takeoff and climb out in solid instrument meteorological conditions, the single-engine airplane experienced failures of flight/navigation instruments. The 1,050-hour pilot was attempting to maneuver the airplane using partial panel techniques. Radar data showed that the pilot appeared to be experiencing spatial disorientation. ATC controllers were alerted due to the fact that the airplane was making "left' turns" instead of right turns as advised. After being observed by several witnesses flying just below the lowest cloud layer (approximately 125 feet agl) the airplane impacted several homes in a residential neighborhood. Both homes and the airplane were destroyed by post-impact fire. One person who was located 1/2 miles from the accident site, witnessed the airplane flying overhead in an straight and level attitude approximately 125 feet above ground level (agl), slightly below a layer of clouds. Another person who was a private pilot and located about 1/2 miles from the accident site, stated that he heard an airplane engine that sounded "normal." After about 15 seconds, it sounded as if the airplane was maneuvering, because of the pitch change in the engine. According to this witness, the engine sounded like it was "making good power." The airplane was rapidly getting closer and sounded very low and fast. The witness stated, "at no time did I see the aircraft due to the weather conditions." The nearest automated surface observing station reported wind from 130 degrees at 6 knots, visibility 7/8 in mist, overcast at 100 feet. The temperature and dew point were reported as 17 degrees Celsius, and an altimeter setting of 30.20 inches of Mercury. Flight control continuity could not be verified due to impact damage. A fire extinguisher from the airplane was found with the handle lock pin missing and bottle fully discharged. The instrument panel was completely destroyed by post-impact fire. The vacuum pump was separated and the drive coupling was bent approximately 30-degrees. The unit was disassembled and the rotor vanes were observed to be in place and not damaged. The core element was cracked. The intake and exhaust pipes were separated; the exhaust pipes were separated aft of the mufflers. Examination revealed that the left side ball flange clamp had four washers on the bolt. The clamp was tight on the ball flange, and the tailpipe would not move on the ball flange. The exhaust pipes were separated on both sides of the left ball flange. Due to the extensive post-impact fire damage, it could not be concluded as to the cause of the pilot's reported loss of instruments during the flight. However, it was noted that the wire bundle that connects the instrument panel through the firewall were in close proximity to the muffler's exhaust flange, on the engine side of the firewall.

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of flight/navigation instruments while in instrument meteorological conditions (in-cloud flight and low ceilings) resulting in spatial disorientation. A contributing factors was the prevailing instrument meteorological conditions (low ceiling and in-cloud flight)

## Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - CLOUDS
2. (F) WEATHER CONDITION - LOW CEILING

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Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

3. (C) FLIGHT/NAV INSTRUMENTS - INOPERATIVE
4. (C) FLIGHT/NAVIGATION INSTRUMENT(S) - UNAVAILABLE - PILOT IN COMMAND

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Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

5. (C) AIRCRAFT CONTROL - NOT MAINTAINED
6. (F) SPATIAL DISORIENTATION - PILOT IN COMMAND

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Occurrence #4: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: MANEUVERING

Findings

7. OBJECT - RESIDENCE

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	59
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Instrument Rating(s):</b>	Airplane
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	1050 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Bellanca	<b>Registration:</b>	N4104B
<b>Model/Series:</b>	17-30A	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	David D. Knowles	<b>Engine Manufacturer:</b>	Continental
<b>Air Carrier Operating Certificate:</b>	None	<b>Engine Model/Series:</b>	IO-520-K
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Meteorological Information and Flight Plan

<b>Observation Facility, Elevation:</b>	ADS, 644 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Conditions at Accident Site:</b>	Instrument Conditions	<b>Lowest Ceiling:</b>	Overcast / 100 ft agl
<b>Condition of Light:</b>	Day	<b>Wind Speed/Gusts, Direction:</b>	6 knots, 130°
<b>Temperature:</b>	17° C / 17° C	<b>Visibility</b>	0.88 Miles
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Addison, TX (ADS)	<b>Destination:</b>	Amarillo, TX (AMA)

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	1 Fatal	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Alexander Lemishko	<b>Adopted Date:</b>	07/07/2005
<b>Investigation Docket:</b>	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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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