



# National Transportation Safety Board Aviation Accident Final Report

<b>Location:</b>	Dodge City, KS	<b>Accident Number:</b>	CEN10LA068
<b>Date &amp; Time:</b>	12/06/2009, 1415 CST	<b>Registration:</b>	N108L
<b>Aircraft:</b>	BEECH V35	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Flight instrument malf/fail	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Analysis

The pilot stated that the pitot heat system was working during preflight. He obtained a full weather briefing from flight service, and checked the weather via the internet before departing. While airborne at 6,000 feet to 6,500 feet mean sea level he encountered instrument meteorological conditions and turned on the pitot heat. Sometime later, the airplane encountered moderate icing conditions. The airspeed indicator stopped working and the pilot diverted from his route of flight to an alternate airport. While over the runway on landing approach, the airplane stalled and landed hard, substantially damaging the airplane. Ice was found at the impact site, on the airplanes surfaces, and in the pitot tube. Inspection of the pitot tube revealed the pitot heat was not functioning at the pitot tube. On the day of the accident there were two AIRMETs for moderate icing in effect for the pilot's route of flight and altitude. The pilot could not recall being informed of the icing conditions during his weather briefing and his briefing from flight service could not be located.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the pitot heat system in icing conditions resulting in an inoperative airspeed indicator which led to an inadvertent stall while on final approach. Contributing to the accident was the pilot's decision to fly into known icing conditions.

## Findings

<b>Aircraft</b>	Pitot/static anti-ice - Failure (Cause)
	Airspeed - Attain/maintain not possible
<b>Personnel issues</b>	Info processing/decision - Pilot (Factor)
<b>Environmental issues</b>	Conducive to structural icing - Effect on equipment

## Factual Information

On December 6, 2009, at 1415 central standard time, a Beech V35 airplane, N108L, was substantially damaged during landing at Dodge City Regional Airport (DDC), Dodge City, Kansas. Instrument meteorological conditions prevailed. The commercial pilot and passenger were not injured. The personal flight was being conducted under the provisions of Title 14 Code of Federal Regulations Part 91 with an Instrument Flight Rules (IFR) flight plan. The cross-country flight originated at the Anoka County-Blaine Airport (ANE), Minneapolis, Minnesota, and was en route to Dalhart Municipal Airport (DHT), Dalhart, Texas.

The pilot obtained a telephone weather brief from flight service, filed an IFR flight plan, and checked the weather on the internet prior to departing ANE. The pilot stated that during preflight inspection the pitot heat was checked and was working. The pilot departed ANE under visual flight rules and climbed to 6,500 feet mean sea level (MSL). After about one and a half hours of flight the pilot encountered IFR conditions, obtained an IFR clearance, and descended to 6,000 feet MSL. The pilot reported the airspeed indicator stopped working so he elected to divert to DDC, which was the nearest airport with an ILS approach. While over the runway on landing approach the airplane “fell straight down” and landed hard.

There are three types of AIRMETs for different weather conditions, each represented by a phonetic letter. AIRMETs ZULU (Z) indicate widespread areas of moderate icing. There were two AIRMET ZULU’s in effect for the pilot’s intended route of flight from 0845 to 1500. One indicated moderate ice below 15,000 feet MSL, and the other indicated moderate ice below 10,000 feet MSL.

On the Safety Board Form 6120.1, Accident/Incident Report, the pilot marked Automated Report as his source of weather information, Telephone/Computer as the method of briefing, and Full for briefing type/completeness. The pilot noted on the Safety Board Form 6120.1 that an Airmen's Meteorological Information (AIRMET) for instrument meteorological conditions (IFR) was in effect at the time of the accident and he told the investigator he could not recall being briefed on the icing conditions. Investigators were unable to obtain a copy of the actual briefing provided to the pilot to verify what he had been briefed.

Beechcraft Bonanza V35, V35A (D-7977 thru D-9068) and V35B (D-9069 thru D-9947) Pilot’s Operating Handbook (POH/AFM, P/N 35-590118-31B4) states:

- Section II – Limitations, Page 2-12

### WARNING

#### FLIGHT IN ICING CONDITIONS IS PROHIBITED

- Section IV – Normal Procedures, Page 4-20

### ICING CONDITIONS

#### Flight in Icing Conditions Is Prohibited

- Section X – Safety Information, Page 10-6

Don’t fly in possible icing conditions

Examination of the airplane revealed all three landing gear collapsed, both wing spars bent, and the left main gear penetrated the top of the left wing. Ice was found on the surfaces of the

airplane and on the ground near the impact point. Initial post accident inspection of the pitot heat system showed the pitot heat switch was in the on position and ice was found in the pitot tube. Power was applied to the airplane, but no heat was detected at the pitot tube. The pitot tube was removed from the airplane by investigators and electrical power was applied directly to the unit. No heat was detected from the pitot tube. The airspeed indicator was examined and found to work normally. An examination of the remaining systems revealed no anomalies.

## History of Flight

Enroute-cruise	Other weather encounter Structural icing Sys/Comp malf/fail (non-power) Flight instrument malf/fail (Defining event)
Approach-IFR final approach	Aerodynamic stall/spin

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	77, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With Waivers/Limitations	<b>Last Medical Exam:</b>	06/12/2009
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	9926 hours (Total, all aircraft), 7157 hours (Total, this make and model), 9827 hours (Pilot In Command, all aircraft), 58 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BEECH	Registration:	N108L
Model/Series:	V35	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	D-8300
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	10/10/2009, Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5842 Hours	Engine Manufacturer:	CONT MOTOR
ELT:	Installed, not activated	Engine Model/Series:	IO 520 SERIES
Registered Owner:	BLADOW HARRY E	Rated Power:	285 hp
Operator:	BLADOW HARRY E	Air Carrier Operating Certificate:	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	DDC, 2594 ft msl	Observation Time:	1427 CST
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Instrument Conditions
Lowest Cloud Condition:	Thin Overcast / 500 ft agl	Temperature/Dew Point:	-7° C / -8° C
Lowest Ceiling:	Overcast / 500 ft agl	Visibility	2 Miles
Wind Speed/Gusts, Direction:	15 knots, 350°	Visibility (RVR):	
Altimeter Setting:	29.91 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Minneapolis, MN (ANE)	Type of Flight Plan Filed:	IFR
Destination:	Dalhart, TX (DHT)	Type of Clearance:	IFR
Departure Time:	1055 CST	Type of Airspace:	

## Airport Information

Airport:	Dodge City Regional Airport (DDC)	Runway Surface Type:	Asphalt
Airport Elevation:	2594 ft	Runway Surface Condition:	
Runway Used:	14	IFR Approach:	ILS
Runway Length/Width:	6899 ft / 100 ft	VFR Approach/Landing:	Full Stop

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None		

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Daniel Baker	<b>Adopted Date:</b>	07/22/2010
<b>Additional Participating Persons:</b>	Henry Rochon; FAA; Wichita, KS		
<b>Publish Date:</b>	07/22/2010		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75144">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75144</a>		

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