



Aviation Investigation Final Report

Location:	Sitka, Alaska	Accident Number:	ANC11LA004
Date & Time:	October 18, 2010, 07:00 Local	Registration:	N111AX
Aircraft:	Beech 1900C	Aircraft Damage:	Substantial
Defining Event:	Miscellaneous/other	Injuries:	3 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The captain, who was the non-flying pilot, reported that he altered their course to avoid thunderstorm activity. Once clear of the thunderstorms, they flew direct to the initial instrument approach fix. During the instrument approach to land, the flight crew saw a build up of static electricity, known as St. Elmo's fire, near the nose of the airplane. The first officer reported that the light from the static electricity was very bright, and he decided to keep his eyes focused on the instruments. Shortly thereafter, lightning struck the nose of the airplane and the associated flash temporarily blinded the captain. The first officer continued to fly the approach without difficulty. Once the captain regained his sight, he took the flight controls and completed the landing. During a postaccident inspection of the airplane, the flight crew discovered substantial damage to the right elevator.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A lightning strike which resulted in substantial damage to the elevator.

Findings

Environmental issues	Lightning - Effect on equipment
Aircraft	Elevators - Damaged/degraded

Factual Information

History of Flight

Approach	Other weather encounter
Approach	Miscellaneous/other (Defining event)

On October 18, 2010, at 0700 Alaska daylight time, a Beech 1900C, N111AX, sustained substantial damage when it was struck by lightning about 15 nautical miles from the Sitka Rocky Gutierrez Airport (PASI), Sitka, Alaska. The captain, first officer, and an observer sitting in the jump seat were not injured. The airplane was registered to and operated by Alaska Central Express, Inc., as a 14 Code of Federal Regulations Part 135 on-demand cargo flight. Visual meteorological conditions prevailed at the time of the accident. An instrument flight plan was filed. The airplane departed the Juneau International Airport (PAJN), Juneau, Alaska, at 0608 en route to PASI.

The captain, who was the non-flying pilot, reported that they altered their planned course to avoid thunderstorm activity between Juneau and Sitka. Once clear of the thunderstorms, they proceeded direct to HESOK, the initial approach fix for the RNAV (GPS) RWY 11 approach to PASI. About 2 miles from the final approach fix, lightning struck the nose of the airplane. The lightning flash blinded the captain and the observer for about 30 seconds. The first officer was looking at the instrument panel when the lightning flash occurred so he did not lose his sight. He continued to fly the approach. Once the captain regained his sight, he took control of the airplane and landed on runway 11. During the postflight inspection of the airplane, the flight crew discovered substantial damage to the right elevator.

The first officer reported that prior to the lightning strike, the flight crew observed St. Elmo's fire coming off the nose of the airplane. The light was very bright so he decided to keep his eyes focused on the instruments as he continued to fly the instrument approach. He stated that a few moments later there was a "loud bang" and the "brightest light I have ever seen in my life." He reported that the airplane's flight characteristics were not adversely affected by the lightning strike.

At 0653, the surface weather observation at PASI was: Wind 180 at 13 knots gusting to 21 knots; visibility 10 miles; scattered clouds 3,100 feet; broken clouds 3,800 feet; overcast 6,500 feet; temperature 9 degrees Celsius (C); dew point 4 degrees C; altimeter 29.54 inches of mercury.

At 0711, the special weather observation at PASI was: Wind 200 degrees at 15 knots gusting to 30 knots; visibility 4 miles; small hail and light rain; ceiling broken at 2,800 feet; overcast at 3,800 feet; temperature 8 degrees C; dew point 4 degrees C; altimeter 29.57 inches of mercury. Remarks: peak wind from 200 degrees at 30 knots occurred at 0709; rain began at 0657; small

hail began at 0711; hourly precipitation 0.04 inches since 0653.

The National Transportation Safety Board's accident database included only two previous accidents associated with "lightning blindness." The previous accidents were NYC84LA289 and FTW93LA114.

Pilot Information

Certificate:	Airline transport	Age:	27, 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:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	January 15, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 21, 2010
Flight Time:	3500 hours (Total, all aircraft), 2800 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Commercial	Age:	27, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	February 8, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 8, 2010
Flight Time:	860 hours (Total, all aircraft), 375 hours (Total, this make and model), 175 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N111AX
Model/Series:	1900C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal; Transport	Serial Number:	UC-81
Landing Gear Type:	Retractable - Tricycle	Seats:	3
Date/Type of Last Inspection:	September 29, 2010 Continuous airworthiness	Certified Max Gross Wt.:	17600 lbs
Time Since Last Inspection:		Engines:	2 Turbo prop
Airframe Total Time:	56862 Hrs	Engine Manufacturer:	P&W CANADA
ELT:	Installed, not activated	Engine Model/Series:	PT6A-60A
Registered Owner:	ALASKA CENTRAL EXPRESS INC	Rated Power:	1050 Horsepower
Operator:	ALASKA CENTRAL EXPRESS INC	Operating Certificate(s) Held:	On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	PASI, 21 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	06:53 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 3100 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 6500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	13 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.55 inches Hg	Temperature/Dew Point:	9°C / 4°C
Precipitation and Obscuration:	In the vicinity - Thunderstorm - Unknown obscuration		
Departure Point:	Juneau, AK (PAJN)	Type of Flight Plan Filed:	IFR
Destination:	Juneau, AK (PAJN)	Type of Clearance:	IFR
Departure Time:	06:08 Local	Type of Airspace:	

Airport Information

Airport:	Sitka PASI	Runway Surface Type:	Asphalt
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	Global positioning system
Runway Length/Width:	6500 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	57.046943,-135.361389(est)

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Dee Rice; FAA-Anchorage FSDO; Anchorage, AK
Original Publish Date:	July 12, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=77624

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