



National Transportation Safety Board Aviation Accident Data Summary

Location:	Kayenta, AZ	Accident Number:	SEA07LA118
Date & Time:	05/02/2007, 1455 MDT	Registration:	N3210L
Aircraft:	Beech V35B	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that the airplane was at a cruise altitude of 12,500 feet msl on a cross-country flight when he experienced a sudden and complete loss of ruddervator control. The pilot said that control of the airplane was regained after reducing engine power to 1,500 rpm, and stabilizing the airspeed at 100-knots. He added that subsequent airplane control was accomplished via aileron and power inputs. The pilot flew to an airport about 75 miles from where the loss of control occurred. On short final for the intended runway, he lowered the landing gear. The airplane entered a dive and collided with terrain about 300 yards short of the runway in a nose-low attitude, which resulted in structural damage to the airframe. According to first responders to the accident, the pilot told them that he encountered severe turbulence, and momentarily lost control of the airplane. Examination of the airplane revealed that both ruddervators had separated from their respective stabilizer attach points at some earlier time during the flight. The ruddervators were not found at the accident site, and only remnants remained attached to the hinge points on the stabilizers. The remaining pieces of ruddervator were examined. The examination revealed no evidence of preexisting cracks, fatigue, or corrosion damage, and all fracture features were consistent with overstress separations. For the portions of the flight documented by radar coverage, the data indicated calculated true airspeeds routinely above design maneuvering speed (VA-132-kts), with two sustained periods at design cruising speed (VC-165-kts), and occasional periods 5 to 12-knots above VC. There's no evidence indicating that the airplane's never-exceed speed (VNE-195-kts) was exceeded. An AIRMET (Airman's Meteorological Information) for moderate turbulence was issued during the timeframe of the accident, and included the route of flight.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The overstress separation of both ruddervators during cruise flight. Contributing to the accident was the flight's encounter with turbulence.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE - NORMAL

Findings

1. (F) WEATHER CONDITION - TURBULENCE

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings

- 2. (C) FLT CONTROL SYST, RUDDERVATOR - OVERLOAD
- 3. (C) FLT CONTROL SYST, RUDDERVATOR - SEPARATION

 Occurrence #3: LOSS OF CONTROL - IN FLIGHT
 Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

- 4. (C) RUDDERVATOR - NOT AVAILABLE
- 5. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

 Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
 Phase of Operation: DESCENT - UNCONTROLLED

Findings

- 6. TERRAIN CONDITION - OPEN FIELD

Pilot Information

Certificate:	Private	Age:	71
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	1200 hours (Total, all aircraft), 1200 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Beech	Registration:	N3210L
Model/Series:	V35B	Engines:	1 Reciprocating
Operator:	Don C. Debelle	Engine Manufacturer:	Teledyne Continental
Air Carrier Operating Certificate:	None	Engine Model/Series:	IO-520
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Observation Facility, Elevation:		Weather Information Source:	Pilot
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	Broken / 10000 ft agl
Condition of Light:	Day	Wind Speed/Gusts, Direction:	Light and Variable
Temperature:	16° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	GRAND JUNCTION, CO (GJT)	Destination:	Kayenta, AZ (0V7)

Airport Information

Airport:	Kayenta Airport (0V7)	Runway Surface Type:	Asphalt
Runway Used:	23	Runway Surface Condition:	Dry
Runway Length/Width:	7140 ft / 75 ft		

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Dennis J Hogenson	Adopted Date:	08/28/2008
Investigation Docket:	NTSB accident and incident docket 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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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