



Aviation Investigation Final Report

Location:	CHUGIAK, Alaska	Accident Number:	ANC97LA040
Date & Time:	March 27, 1997, 14:00 Local	Registration:	N4855C
Aircraft:	Cessna 185	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot, a licensed aviation mechanic, had just installed wheel penetration skis on the main landing gear of his personal airplane. During a subsequent test flight, the skis immediately rotated nose up to a near vertical position. The pilot continued around the traffic pattern, and landed in snow just prior to the start of the runway. The skis failed to come out of the near vertical position, and during the landing roll, one ski broke off, causing the gear leg to penetrate the snow, which allowed the right wing and elevator to strike the snow. Postaccident examination of the skis disclosed the ski check cables at the heel of the skis were excessively long.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper installation of the main landing gear wheel penetration skis, which allowed the skis to rotate to a vertical position in flight and subsequently separate during landing.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: LANDING - ROLL

Findings

1. (F) LANDING GEAR, SKI ASSEMBLY - NOT SECURED
2. (C) MAINTENANCE, INSTALLATION - IMPROPER - PILOT IN COMMAND

- 3. TERRAIN CONDITION - SNOW COVERED
- 4. LANDING GEAR,SKI ASSEMBLY - SEPARATION

Factual Information

On March 27, 1997, about 1400 Alaska standard time, N4855C, a Cessna 185 airplane equipped with wheel penetration skis, sustained substantial damage while landing at the Birchwood Airport, Chugiak, Alaska. The solo commercial pilot was not injured. The local, 14 CFR Part 91 postmaintenance test flight operated in visual meteorological conditions without a flight plan.

The pilot, who is the owner of the airplane and also a certificated aviation mechanic, reported he had just installed wheel penetration skis on the airplane, and was taking the airplane for a short flight to test the skis. As soon as the airplane lifted off runway 19, he said the ski tips rotated full up, into a nearly vertical position. He maintained full power, and was able to fly the airplane around the traffic pattern and land on the snow covered terrain just short of the approach end of runway 01. The skis failed to rotate down to a normal position upon touchdown, and the airplane continued down the runway for about 100 feet. The pilot said as the airplane slowed, side loads on the right main landing gear ski caused the ski to break free of the main landing gear, and allowed the gear leg to penetrate the snow. After the right gear leg penetrated the snow, the right wing and elevator struck the snow, causing substantial damage.

Postaccident inspection of the airplane's ski assemblies disclosed excessively long check cables which attach near the heel of the skis and prevent the ski tips from pitching up too far.

Pilot Information

Certificate:	Commercial	Age:	59, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	February 12, 1997
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2527 hours (Total, all aircraft), 500 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N4855C
Model/Series:	185 185	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	18502623
Landing Gear Type:	Tailwheel; Ski/wheel	Seats:	
Date/Type of Last Inspection:	February 20, 1997 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:	0 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1826 Hrs	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520
Registered Owner:	HERBERT W. HANCOCK	Rated Power:	300 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:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	100 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(BCV)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	13:55 Local	Type of Airspace:	Class E

Airport Information

Airport:	BIRCHWOOD BCV	Runway Surface Type:	Asphalt
Airport Elevation:	96 ft msl	Runway Surface Condition:	Snow
Runway Used:	1	IFR Approach:	None
Runway Length/Width:	4010 ft / 100 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	61.109897,-149.899963(est)

Administrative Information

Investigator In Charge (IIC):	Labelle, James
Additional Participating Persons:	GENE CORDLE; ANCHORAGE , AK
Original Publish Date:	May 4, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=2975

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