



# Aviation Investigation Final Report

<b>Location:</b>	Port Alsworth, Alaska	<b>Accident Number:</b>	ANC10LA081
<b>Date &amp; Time:</b>	August 28, 2010, 18:35 Local	<b>Registration:</b>	N9569K
<b>Aircraft:</b>	Stinson 108-2	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Aircraft structural failure	<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot was on a personal cross-country flight and had landed at an off-airport site. While taxiing to park, the right wheel broke and the plane tipped on its right wing. The right wing, wing spar, and aileron were damaged when the wing struck the ground. He reported no mechanical problems with the airplane prior to the accident. A postaccident examination of the broken wheel showed the center of the wheel casting adjacent to the inner bearing race had fractured around its circumference, and the casting piece and bearing race had separated from the wheel, allowing the axle to pivot. An examination at the National Transportation Safety Board's materials laboratory revealed features indicative of overstress separation of the flange. No indications of fatigue, corrosion or other preexisting conditions were noted.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The overstress fracture and failure of a main landing gear wheel during landing, resulting in the right wing striking the ground.

## Findings

<b>Aircraft</b>	Wheel/ski/float - Failure
<b>Aircraft</b>	Wheel/ski/float - Capability exceeded
<b>Environmental issues</b>	Rough terrain - Contributed to outcome



## Factual Information

### History of Flight

#### Landing-landing roll

Aircraft structural failure (Defining event)

On August 28, 2010, about 1835 Alaska daylight time, a Stinson 108-2 airplane, N9569K, sustained substantial damage during an off airport landing, about 48 miles west of Port Alsworth, Alaska. The airplane was being operated by the pilot as a visual flight rules personal cross-country flight under the provisions of 14 Code of Federal Regulations Part 91, when the accident occurred. The commercial pilot and the two passengers were not injured. Visual meteorological conditions prevailed, and company flight following procedures were in effect. The flight departed Port Alsworth about 1730.

In a written report to the National Transportation Safety Board (NTSB) dated September 6, the pilot reported that he was taking his sons on a camping trip. He reported that after scouting a ridge west of Port Alsworth, he decided to land since it was a familiar tundra landing area that he had used in the past. He said he flew over the landing area three times to gauge wind conditions, and to be sure there were no new obstacles to be avoided in the landing area. After touching down and braking almost to a stop, he said he was taxiing into the area where he planned to park, when the right wheel broke, and the plane tipped on its right wing. He said the right wing, wing spar, and aileron were damaged when the wing struck the ground.

On September 2, the NTSB investigator-in-charge (IIC) examined the broken wheel. The wheel had been mounted with 35 inch Alaskan Bush Wheels. The center of the wheel casting adjacent to the inner bearing race had fractured around its circumference, and the casting piece and bearing race had separated from the wheel, allowing the axle to pivot.

On February 16, 2011, an examination of the fractured wheel was completed at the National Transportation Safety Board's materials laboratory. The investigation revealed features indicative of overstress separation of the flange. No indications of fatigue, corrosion or other preexisting conditions were noted.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	33, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<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 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	February 16, 2010
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	June 24, 2010
<b>Flight Time:</b>	4725 hours (Total, all aircraft), 85 hours (Total, this make and model), 4684 hours (Pilot In Command, all aircraft), 253 hours (Last 90 days, all aircraft), 86 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Stinson	<b>Registration:</b>	N9569K
<b>Model/Series:</b>	108-2	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	108-2569
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	November 3, 2009 Annual	<b>Certified Max Gross Wt.:</b>	2330 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3106 Hrs at time of accident	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	IO-360 SER
<b>Registered Owner:</b>	MOVING UP 2 INC	<b>Rated Power:</b>	210 Horsepower
<b>Operator:</b>	Glen Alsworth Jr	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	PALJ,288 ft msl	<b>Distance from Accident Site:</b>	48 Nautical Miles
<b>Observation Time:</b>	16:39 Local	<b>Direction from Accident Site:</b>	90°
<b>Lowest Cloud Condition:</b>	Scattered / 800 ft AGL	<b>Visibility</b>	20 miles
<b>Lowest Ceiling:</b>	Broken / 3000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	230°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.86 inches Hg	<b>Temperature/Dew Point:</b>	11°C / 11°C
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Port Alsworth, AK (AK51)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Port Alsworth, AK (AK51)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	4 None	<b>Latitude, Longitude:</b>	60.199886,-154.280685(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Lewis, Lawrence
<b>Additional Participating Persons:</b>	Jon Edmonds; FAA FSDO-03; Anchorage, AK
<b>Original Publish Date:</b>	May 19, 2011
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=77153">https://data.ntsb.gov/Docket?ProjectID=77153</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).