



# Aviation Investigation Final Report

<b>Location:</b>	Aspen, Colorado	<b>Accident Number:</b>	DEN06LA038
<b>Date &amp; Time:</b>	February 9, 2006, 12:45 Local	<b>Registration:</b>	N900LG
<b>Aircraft:</b>	Canadair CL-600	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	3 None
<b>Flight Conducted Under:</b>	Part 91: General aviation		

## Analysis

According to the pilot, he was landing on runway 15 when the airplane encountered wake vortices from an aircraft which had just departed runway 33. At 50 feet above ground level, the airplane rolled hard to the left and the stall warning horn activated. The pilot added power and the airplane rolled hard to the right. The pilot was able to stop the roll; however, the nose dropped and the right main landing gear impacted the runway, resulting in substantial damage. The pilot did not report any anomalies with the airframe, flight controls, engines, or weather.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the flight's encounter with wake turbulence from the departing airplane resulting in the pilot's inability to control the airplane and the subsequent impact with the runway.

## Findings

Occurrence #1: VORTEX TURBULENCE ENCOUNTERED  
Phase of Operation: LANDING - FLARE/TOUCHDOWN  
-----

Occurrence #2: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

1. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

-----

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

2. TERRAIN CONDITION - RUNWAY

## Factual Information

On February 9, 2006, approximately 1245 mountain standard time, a Canadair CL-600, N900LG, owned by Branblebush LLC, and piloted by an airline transport pilot, was substantially damaged while landing at Aspen-Pitkin County Airport (ASE), Aspen, Colorado. Visual meteorological conditions prevailed at the time of the accident. The business flight was being conducted under the provisions of Title 14 CFR Part 91 on an instrument flight rules flight plan. The pilot, co-pilot, and passenger were not injured. The cross-country flight departed Van Nuys, California, at 1045.

According to the pilot, he was landing on runway 15 (7,006 feet by 100 feet, asphalt) when the airplane encountered wake vortices from a BAe 146, which had just departed runway 33. At 50 feet above ground level, the airplane rolled hard to the left and the stall warning horn activated. The pilot added power and the airplane rolled hard to the right. The pilot was able to stop the roll; however, the nose dropped and the right main landing gear impacted the runway. The pilot reduced the power to "idle" and attempted to maintain runway centerline. The right main landing gear strut penetrated the right wing, the leading edge of the right wing was crushed aft, and the right aft wing spar was bent and buckled. The pilot did not report any anomalies with the airframe, flight controls, engines, or weather.

The airplane was equipped with a Fairchild Model A-100A cockpit voice recorder. This recorder was removed and sent to the National Transportation Safety Board's Vehicle Recorder Division for readout and a summary transcript was prepared. The recording was 31 minutes and 15 seconds in length and times are expressed in elapsed time only. According to the transcript, the accident airplane was cleared to land 26 minutes and 33 seconds into the recording. At this time, the controller reported that the winds were calm. At 28 minutes and 46 seconds, the BAe 146 was cleared for takeoff and the crew of the accident airplane commented to each other "airplane's on the roll." At 31 minutes at 09 seconds, the recorder captured a comment about "plus five sinking five", and at 31 minutes and 12 seconds, a stall warning horn was heard for 1.08 seconds. At 31 minutes and 15 seconds, the sound of an impact was captured.

## Pilot Information

<b>Certificate:</b>	Airline transport; Commercial; Flight instructor	<b>Age:</b>	52,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With waivers/limitations	<b>Last FAA Medical Exam:</b>	September 1, 2005
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	September 1, 2005
<b>Flight Time:</b>	11800 hours (Total, all aircraft), 350 hours (Total, this make and model), 10252 hours (Pilot In Command, all aircraft), 41 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Co-pilot Information

<b>Certificate:</b>	Airline transport; Commercial; Flight instructor	<b>Age:</b>	52,Male
<b>Airplane Rating(s):</b>	Single-engine land; 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>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With waivers/limitations	<b>Last FAA Medical Exam:</b>	December 1, 2005
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	January 1, 2006
<b>Flight Time:</b>	3548 hours (Total, all aircraft), 147 hours (Total, this make and model), 1695 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Canadair	<b>Registration:</b>	N900LG
<b>Model/Series:</b>	CL-600	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	1036
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	14
<b>Date/Type of Last Inspection:</b>	April 1, 2005 AAIP	<b>Certified Max Gross Wt.:</b>	41250 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo fan
<b>Airframe Total Time:</b>	6726 Hrs at time of accident	<b>Engine Manufacturer:</b>	Honeywell
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	ALF-502-C
<b>Registered Owner:</b>	Bramblebush LLC	<b>Rated Power:</b>	7500 Lbs thrust
<b>Operator:</b>		<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>	ASE, 7820 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	19:53 Local	<b>Direction from Accident Site:</b>	180°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/ None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.12 inches Hg	<b>Temperature/Dew Point:</b>	6°C / -11°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	VAN NUYS, CA (VNY )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Aspen, CO (ASE )	<b>Type of Clearance:</b>	VFR; Traffic advisory
<b>Departure Time:</b>	10:45 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	ASPEN-PITKIN CO/SARDY FIELD ASE	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	7820 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	15	<b>IFR Approach:</b>	Visual
<b>Runway Length/Width:</b>	7006 ft / 100 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 None	<b>Latitude, Longitude:</b>	39.223331,-106.868331

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Kaiser, Jennifer
<b>Additional Participating Persons:</b>	Carl M Miller; FAA Flight Standards District Office; Denver, CO
<b>Original Publish Date:</b>	October 12, 2006
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=63213">https://data.nts.gov/Docket?ProjectID=63213</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](#).