



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Rittman, OH	<b>Accident Number:</b>	IAD05LA073
<b>Date &amp; Time:</b>	06/04/2005, 1830 EDT	<b>Registration:</b>	N3434
<b>Aircraft:</b>	de Havilland DHC-6	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 1 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Skydiving		

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## Analysis

The purpose of the flight was for the second pilot to perform an evaluation of the first pilot, who was recently designated by the operator as a backup pilot. Following several successful flights with and without passengers, the pilots discussed single engine operations, and the first pilot reduced the right engine's power to flight idle and feathered the propeller. During the final leg of the approach to landing, the airplane crossed over a fence near the runway threshold, and the first pilot pitched the airplane downward. The nose landing gear contacted the runway "hard," and the airplane began to bounce. After several bounces, the first pilot elected to abort the landing, increased power on the left engine to "full." As the first pilot pitched the airplane upward, it yawed to the right, "stalled," and impacted the ground.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper flare and recovery from a bounced landing, which resulted in a stall and subsequent impact with the ground.

## Findings

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Occurrence #1: HARD LANDING

Phase of Operation: LANDING

Findings

1. (C) FLARE - IMPROPER - PILOT IN COMMAND

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Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: LANDING - ABORTED

Findings

2. (C) RECOVERY FROM BOUNCED LANDING - IMPROPER - PILOT IN COMMAND

3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND

4. STALL - INADVERTENT - PILOT IN COMMAND

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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. TERRAIN CONDITION - GROUND

## Factual Information

On June 4, 2005, at 1830 eastern daylight time, a de Havilland DHC-6, N3434, was substantially damaged when it impacted terrain following an aborted landing at Hilty Field (OI68), Rittman, Ohio. The certificated airline transport pilot received serious injuries, and the second pilot, also a certificated airline transport pilot, received minor injuries. Visual meteorological conditions prevailed, and no flight plan was filed for the local parachuting flight, conducted under 14 CFR Part 91.

During a telephone interview, the second pilot stated that the purpose of the flight was to perform an evaluation of the first pilot, who was recently designated by the operator as a backup pilot.

The pilots initially departed and performed three takeoff and landings, with the first pilot in the right seat, and no parachutists onboard the airplane. They then embarked passengers, and performed several parachuting flights. The pilots then decided that the first pilot would transition to the left seat. Two additional parachuting flights followed uneventfully.

Following the passenger drop on the third flight, the pilots discussed single engine operations. The first pilot subsequently reduced the right engine's power to flight idle, and feathered the propeller.

During the final leg of the approach to landing, the airplane crossed over a fence near the runway threshold, and the first pilot pitched the airplane downward. The nose landing gear then contacted the runway "hard," and the airplane began to bounce. After two bounces, the first pilot increased power on the left engine to "full," and pitched the airplane up. He then told the second pilot that he was going to abort the landing, and to reduce the flap setting to 10 degrees. The airplane continued to pitch up, yawed to the right, and "stalled" at an attitude about 25 feet above ground level.

According to a written statement submitted by the first pilot, following several previous flights, the decision was made to demonstrate single engine operations. He performed a practice single engine approach, and missed approach, between 3,000 and 4,000 feet. The pilot then performed an actual single engine approach to landing. During the entire approach, nothing unusual was noted. During the touchdown, "a slight bounce was encountered." The pilot judged that the groundspeed was too fast in order to land within the remaining runway, and elected to abort the landing. He added full power and initiated a climb, "at which time the aircraft slid off to the right which resulted in a loss of directional control."

The owner/operator of the airplane witnessed the accident, and described what he had seen during a telephone interview.

He viewed the airplane as it was on the final leg of the approach, and described that approach as being "a little long, and a little fast." The airplane then contacted the runway, and bounced three times, with the nose landing gear contacting the runway first, followed by the main landing gear. The airplane's pitch angle then increased, and the airplane "looked like it stalled." It then rolled to the right, and the right wing contacted the ground.

Another individual witnessed the accident, and provided a written statement.

The witness was driving on a highway adjacent to the airport, when he saw the airplane "coming down very fast." The landing gear contacted the ground, and the airplane bounced back into the air, then turned right. As the airplane was turning, it again began to descend, the right wing contacted the ground, and separated from the airplane. When asked, the witness stated that the airplane initially touched down about 100 yards from the runway end.

The wreckage was examined at the scene by Federal Aviation Administration (FAA) inspectors, and no anomalies were noted with the airframe, or either engine.

The first pilot held an airline transport pilot certificate with a rating for airplane multiengine land, and a commercial pilot certificate with a rating for airplane single engine land. His most recent first class FAA medical certificate was issued on May 5, 2004. On that date he reported 10,154 total hours of flight experience.

The second pilot held an airline transport pilot certificate with a rating for airplane multiengine land, and a commercial pilot certificate with a rating for airplane single engine land. His most recent second class FAA medical certificate was issued on July 12, 2004. On that date he reported 6,882 total hours of flight experience.

The weather reported at Akron-Canton Regional Airport (CAK), Akron, Ohio, at 1851, included winds from 170 degrees at 6 knots, few clouds at 4,000 feet, temperature 79 degrees Fahrenheit, dew point 62 degrees Fahrenheit, and an altimeter setting of 29.94 inches of mercury.

### Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	41, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	05/01/2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	01/01/2005
<b>Flight Time:</b>	10420 hours (Total, all aircraft), 3000 hours (Total, this make and model), 9000 hours (Pilot In Command, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	49, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<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>	07/01/2004
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	03/01/2005
<b>Flight Time:</b>	7400 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	de Havilland	<b>Registration:</b>	N3434
<b>Model/Series:</b>	DHC-6	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	193
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	03/01/2005, Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	11579 lbs
<b>Time Since Last Inspection:</b>	88.5 Hours	<b>Engines:</b>	1 Turbo Prop
<b>Airframe Total Time:</b>	33058.7 Hours as of last inspection	<b>Engine Manufacturer:</b>	Pratt & Whitney Canada
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	PT6A-34
<b>Registered Owner:</b>	Aerohio Aviation LLC	<b>Rated Power:</b>	750 hp
<b>Operator:</b>	Aerohio Aviation LLC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CAK, 1228 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	1851 EDT	Direction from Accident Site:	90°
Lowest Cloud Condition:	Few / 4000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	26 °C / 17 °C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hilty Field, OH (OI68)	Type of Flight Plan Filed:	None
Destination:	Hilty Field, OH (OI68)	Type of Clearance:	None
Departure Time:	EDT	Type of Airspace:	

## Airport Information

Airport:	Hilty Field (OI68)	Runway Surface Type:	Grass/turf
Airport Elevation:	1000 ft	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	3000 ft / 80 ft	VFR Approach/Landing:	Unknown

## Wreckage and Impact Information

Crew Injuries:	1 Serious, 1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor	Latitude, Longitude:	40.941389, -81.797778

## Administrative Information

Investigator In Charge (IIC):	David S Muzio	Report Date:	10/27/2005
Additional Participating Persons:	Brian Riddle; FAA/FSDO; Cleveland, OH		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets 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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).