



# Aviation Investigation Final Report

<b>Location:</b>	Stow, Massachusetts	<b>Accident Number:</b>	ERA14CA400
<b>Date &amp; Time:</b>	August 9, 2014, 14:00 Local	<b>Registration:</b>	N497PA
<b>Aircraft:</b>	DIAMOND AIRCRAFT IND INC DA 20 C1	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Hard landing	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

The flight instructor/pilot was conducting an introductory flight for the passenger and was landing on a 2,770-foot-long, asphalt runway. Upon landing, the airplane began to bounce. After the third touchdown, the nose gear collapsed, which resulted in substantial damage to the underside of the fuselage. The airplane's second touchdown was described as "rough" by the pilot, and "much more forceful than the initial touchdown" by the passenger. The pilot further stated that he considered aborting the landing after the first bounce, but elected to continue the landing attempt. Postaccident examination of the airplane, which included a metallurgical examination of nose landing gear assembly, did not reveal any preaccident malfunctions or failures that would have precluded normal operation. The pilot reported about 440 hours of total flight experience, which included about 8 hours in the same make and model as the accident airplane, of which, 1.2 hours were accumulated during the previous 90 days.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight instructor/pilot's failure to recover from a bounced landing, which resulted in a hard landing and the subsequent collapse of the nose landing gear. Contributing to the accident was the flight instructor's lack of total experience in the make and model of the accident airplane.

## Findings

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<b>Aircraft</b>	Landing flare - Not specified
<b>Personnel issues</b>	Aircraft control - Instructor/check pilot
<b>Personnel issues</b>	Lack of action - Instructor/check pilot
<b>Personnel issues</b>	Total experience w/ equipment - Instructor/check pilot

## Factual Information

### History of Flight

<b>Landing-flare/touchdown</b>	Abnormal runway contact
<b>Landing-flare/touchdown</b>	Hard landing (Defining event)
<b>Landing-flare/touchdown</b>	Landing gear collapse

### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor; Private	<b>Age:</b>	53
<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>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	December 9, 2013
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	440 hours (Total, all aircraft), 8 hours (Total, this make and model), 340 hours (Pilot In Command, all aircraft), 39 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	DIAMOND AIRCRAFT IND INC	<b>Registration:</b>	N497PA
<b>Model/Series:</b>	DA 20 C1	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2004	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Utility	<b>Serial Number:</b>	C0297
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	July 28, 2014 100 hour	<b>Certified Max Gross Wt.:</b>	1770 lbs
<b>Time Since Last Inspection:</b>	27 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4620 Hrs at time of accident	<b>Engine Manufacturer:</b>	Continental Motors
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-240-B
<b>Registered Owner:</b>	NOBLE AIRVENTURES LLC	<b>Rated Power:</b>	125 Horsepower
<b>Operator:</b>	NOBLE AIRVENTURES LLC	<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>	BED,132 ft msl	<b>Distance from Accident Site:</b>	10 Nautical Miles
<b>Observation Time:</b>	13:56 Local	<b>Direction from Accident Site:</b>	90°
<b>Lowest Cloud Condition:</b>	Scattered / 1800 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Overcast / 10000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots /	<b>Turbulence Type Forecast/Actual:</b>	/ Unknown
<b>Wind Direction:</b>	110°	<b>Turbulence Severity Forecast/Actual:</b>	/ N/A
<b>Altimeter Setting:</b>	30.19 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Stow, MA (6B6 )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Stow, MA (6B6 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	13:20 Local	<b>Type of Airspace:</b>	Unknown

## Airport Information

<b>Airport:</b>	MINUTE MAN AIR FIELD 6B6	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	268 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	03	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2770 ft / 48 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 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>	2 None	<b>Latitude, Longitude:</b>	42.460556,-71.517776(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Schiada, Luke
<b>Additional Participating Persons:</b>	Douglas R Daruka; FAA; Lexington, MA
<b>Original Publish Date:</b>	January 12, 2015
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=89924">https://data.nts.gov/Docket?ProjectID=89924</a>

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