



Aviation Investigation Final Report

Location:	Spanish Fork, Utah	Accident Number:	GAA18CA358
Date & Time:	June 16, 2018, 10:22 Local	Registration:	N992CT
Aircraft:	DIAMOND AIRCRAFT IND INC DA 20	Aircraft Damage:	Substantial
Defining Event:	Aerodynamic stall/spin	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor and pilot receiving instruction reported that the pilot performed a soft-field takeoff, and once in ground effect, he reduced back pressure, and the instructor heard the stall warning horn and observed a low airspeed. The instructor told the pilot to reduce the pitch, the pilot lowered the nose a little, but the airplane continued to climb. The instructor told the pilot to reduce pitch again, but the pilot stated he was concerned about a possible propeller strike. The flight instructor took the flight controls, but the airplane had turned to the right, and he experienced a "loss of control." The airplane landed off the right side of the runway, the instructor reduced power, the left main landing gear separated, and the airplane came to rest.

The flight instructor and pilot reported that the airplane had aerodynamically stalled.

The airplane sustained substantial damage to the fuselage.

The flight instructor and pilot both reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Probable Cause and Findings

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

The pilot receiving instruction's failure to maintain adequate airspeed and his exceedance of the airplane's critical angle of attack during takeoff, which resulted in an aerodynamic stall.

Findings

Aircraft	Angle of attack - Capability exceeded
Personnel issues	Aircraft control - Student/instructed pilot
Aircraft	Airspeed - Not attained/maintained

Factual Information

History of Flight

Takeoff	Aerodynamic stall/spin (Defining event)
Takeoff	Loss of control in flight
Landing	Runway excursion
Landing	Part(s) separation from AC

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	26, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	August 30, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 30, 2018
Flight Time:	(Estimated) 650 hours (Total, all aircraft), 350 hours (Total, this make and model), 540 hours (Pilot In Command, all aircraft), 160 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Private	Age:	24, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	June 25, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 3, 2018
Flight Time:	(Estimated) 181.6 hours (Total, all aircraft), 129.6 hours (Total, this make and model), 92.3 hours (Pilot In Command, all aircraft), 103.9 hours (Last 90 days, all aircraft), 55.4 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DIAMOND AIRCRAFT IND INC	Registration:	N992CT
Model/Series:	DA 20 C1	Aircraft Category:	Airplane
Year of Manufacture:	1999	Amateur Built:	
Airworthiness Certificate:	Utility	Serial Number:	C0092
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	June 6, 2018 100 hour	Certified Max Gross Wt.:	1764 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5774.3 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	C91 installed, not activated	Engine Model/Series:	O-200
Registered Owner:		Rated Power:	125 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KPVU, 4497 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	16:56 Local	Direction from Accident Site:	330°
Lowest Cloud Condition:	Few / 6500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.77 inches Hg	Temperature/Dew Point:	24°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Spanish Fork, UT (SPK)	Type of Flight Plan Filed:	None
Destination:	Provo, UT (PVU)	Type of Clearance:	None
Departure Time:	10:22 Local	Type of Airspace:	Class G

Airport Information

Airport:	SPANISH FORK ARPT SPRINGVILLE- SPK	Runway Surface Type:	Asphalt
Airport Elevation:	4529 ft msl	Runway Surface Condition:	Dry
Runway Used:	30	IFR Approach:	None
Runway Length/Width:	6500 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	40.14389,-111.666114(est)

Administrative Information

Investigator In Charge (IIC):	Benhoff, Kathryn
Additional Participating Persons:	Diane Hager; FAA; Salt Lake City, UT
Original Publish Date:	March 18, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97517

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