Aviation Investigation Final Report

Location:	Eltopia, Washington	**Accident Number:**	GAA15LA085
Date & Time:	May 23, 2015, 14:30 Local	**Registration:**	N3376
Aircraft:	DESTINY 2000	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor and student pilot were departing in the powered parachute during a fly-in event with the student pilot at the flight controls. The flight instructor reported that the powered parachute experienced left-to-right wing oscillations during the takeoff roll and initial climb and that, about 15 ft above ground level, it rotated sharply downward and to the right and then impacted terrain; this was corroborated by video footage provided by an observer on the ground, which also showed that the oscillations worsened during the initial climb. The flight instructor reported that he was monitoring all of the parachute lines during the takeoff roll and initial climb and that he observed no abnormalities that would have adversely affected the parachute's steering mechanism.

According to Federal Aviation Administration guidance on powered parachute operations, the takeoff should be aborted if the parachute experiences severe wing oscillations. The guidance also states that "dual controls are required in the aircraft for training." However, the powered parachute was not equipped with dual flight controls. If the powered parachute had been equipped with dual flight controls, it is possible that the flight instructor would have taken control of the flight and aborted the takeoff. Regardless, the flight instructor should have told the student to abort the takeoff when he first noticed the wing oscillations.

Probable Cause and Findings

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

The flight instructor's failure to tell the student pilot to abort the takeoff after the powered parachute experienced wing oscillations, which resulted in the student pilot's loss of aircraft control during initial

climb and subsequent impact with terrain. Contributing to the accident was the flight instructor's decision to conduct training in a powered parachute without dual flight controls.

Findings

Personnel issues	Aircraft control - Student/instructed pilot
Aircraft	Lateral/bank control - Not attained/maintained
Aircraft	Climb rate - Not attained/maintained
Personnel issues	Lack of action - Instructor/check pilot
Personnel issues	Decision making/judgment - Instructor/check pilot

Factual Information

History of Flight

Prior to flight	Miscellaneous/other
Initial climb	Loss of control in flight (Defining event)
Initial climb	Collision with terr/obj (non-CFIT)

On May 23, 2015, about 1430 pacific daylight time, a Destiny 2000 powered parachute, N3376, impacted terrain during the initial climb from a field near Eltopia, Washington. The flight instructor sustained minor injuries, and the student pilot sustained serious injuries. Day visual meteorological conditions prevailed, and no flight plan was filed for the instructional flight, which was operated under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the flight instructor, the aircraft experienced left to right oscillations during the takeoff roll and initial climb, and about 15 feet above ground level, the parachute rotated sharply downward and to the right. The aircraft impacted terrain in a right bank and nose-low attitude. The student pilot was at the flight controls for the entire duration of the flight, and stated in a postaccident interview that he did not make any abrupt control inputs during the takeoff or initial climb. The flight instructor stated that dual flight controls were not installed, and he could not reach the throttle lever.

The flight instructor provided a video recording of the accident sequence, which was filmed by an observer on the ground. The footage depicted the accident aircraft experiencing left to right wing oscillations throughout the takeoff roll and the rotation. During the initial climb, the oscillations continued and the aircraft rolled sharply downward and to the right, eventually moving out of the video recorders view.

The flight instructor stated there were no mechanical malfunctions or failures with the powered parachute that would have precluded normal operation. In addition, he reported that he was monitoring all parachute lines during the takeoff roll and initial climb, and observed no line-overs or any other abnormalities that would have adversely affected the parachute's steering mechanism.

The reported winds at an airport 11 nautical miles away about the time of the accident were from 210 degrees true at 7 knots. The flight instructor reported that he observed a steady direct headwind about 4 to 7 knots before takeoff. During the video, about one minute before the accident powered parachute lifted off, an observer could be heard stating, "The wind has basically come down to nothing."

ADDITIONAL INFORMATION

According to the Federal Aviation Administration Powered Parachute Flying Handbook (FAA-H-8083-29), "An oscillating wing forced into takeoff will most likely roll the airframe," and "if the oscillations become too severe, it is best to abort the takeoff and set up again." The handbook additionally states, "Dual controls are required in the aircraft for training."

Student pilot Information

Certificate:	None	**Age:**	64
Airplane Rating(s):	None	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 30 hours (Total, all aircraft), 30 hours (Total, this make and model)		

Flight instructor Information

Certificate:	Flight instructor; Sport Pilot	**Age:**	57
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	Powered-lift	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	Powered-lift	**Toxicology Performed:**	No
Medical Certification:	None None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 31, 2014
Flight Time:	(Estimated) 458 hours (Total, all aircraft), 1 hours (Total, this make and model), 306 hours (Pilot In Command, all aircraft), 28 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DESTINY	**Registration:**	N3376
Model/Series:	2000 NO SERIES	**Aircraft Category:**	Powered parachute
Year of Manufacture:	2001	**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	1C0267
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	May 31, 2014 Annual	**Certified Max Gross Wt.:**	1000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Rotax
ELT:	Not installed	**Engine Model/Series:**	582DCDI
Registered Owner:	On file	**Rated Power:**	65 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KPSC,410 ft msl	**Distance from Accident Site:**	11 Nautical Miles
Observation Time:	21:53 Local	**Direction from Accident Site:**	200°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	26°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Eltopia, WA	**Type of Flight Plan Filed:**	None
Destination:	Eltopia, WA	**Type of Clearance:**	None
Departure Time:	14:30 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious, 1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 1 Minor	**Latitude, Longitude:**	46.429721,-119.021667(est)

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Eric Barr; Sokane FSDO (FAA); Spokane, WA
Original Publish Date:	September 24, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91229