Aviation Investigation Final Report

Location:	Stateboro, Georgia	**Accident Number:**	ERA19LA119
Date & Time:	March 5, 2019, 15:00 Local	**Registration:**	N101WV
Aircraft:	OSTERTAG WALTER G Velocity RG	**Aircraft Damage:**	Destroyed
Defining Event:	Abnormal runway contact	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The pilot and instructor were on final approach for landing in gusting wind conditions when, about 20 ft above the ground, the airplane's nose dropped and the airplane abruptly lost 20 knots of airspeed. They initiated a go-around, but the airplane's landing gear impacted the runway approach lights, and the airplane subsequently impacted the runway and departed the right side; a postcrash fire consumed a majority of the airplane. Given the wind conditions, the abrupt loss of airspeed, and the subsequent loss of pitch control, it is likely that the airplane encountered windshear while on short final approach with insufficent altitude available to recover.

Probable Cause and Findings

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

The pilot’s loss of airplane control while on final approach in gusty wind conditions.

Findings

Personnel issues	Aircraft control - Pilot
Environmental issues	Gusts - Effect on operation
Aircraft	Descent rate - Not attained/maintained

Factual Information

History of Flight

Landing-flare/touchdown	Loss of control in flight
Landing-flare/touchdown	Abnormal runway contact (Defining event)

On March 5, 2019, about 1500 eastern standard time, an experimental amateur-built Velocity RG, N101WV, was destroyed by a postcrash fire after it impacted an approach lighting system and terrain while landing at the Statesboro-Bulloch County Airport (TBR), Statesboro, Georgia. The commercial pilot was not injured, and the flight instructor sustained minor injuries. The airplane was operated by Mission Hardware Ltd as an instructional flight conducted under the provisions of Title 14 Code of Federal Regulations Part 91. Day visual meteorological conditions prevailed, no flight plan was filed for the flight, which originated from Savannah-Hilton Head International Airport (SAV), Savannah, Georgia, about 1400.

According to the pilot, he was receiving instruction and transition training for the Velocity RG from a flight instructor. After performing a series of maneuvers while en route from SAV, they entered a left downwind for runway 32 at TBR. They intended to practice takeoff and landings before returning to SAV. The pilot stated they were on a stabilized final approach at about 100 knots, into a headwind that was gusting to 18 knots. He noted that the typical approach speed in the velocity is 80 knots. On short final approach, the airplane sank abruptly and lost about 20 knots of airspeed, about 15-20 ft above ground level (agl). The pilot initiated a go-around procedure, added additional power and full aft stick. The airplane appeared to climb when the right main landing gear struck an approach light. The airplane then "pancaked" onto the runway and rotated clockwise before coming to a stop. The pilot and the flight instructor then exited the airplane before a postcrash fire ensued.

The flight instructor provided a similar description of the approach, and stated that just before the airplane's nose pitched down, while flying at about 15 to 20 feet above ground level, the pilot was flying the airplane at an airspeed around 90 knots. The flight instructor further stated that he typically flew approached in the accident airplane make and model at an airspeed that was 10 to 15 knots faster than the airplane's stall speed of 70 knots, and would typically add an additional 10 knots of airspeed for approaches in gusty or crosswind conditions.

Both pilots stated they believed they encountered wind shear on short final approach.

A Federal Aviation Administration (FAA) inspector responded to the accident site and examined the wreckage. The majority of the wreckage was consumed by fire. The winglets and propeller, at the rear of the airplane, were the only portions of the airplane that did not exhibit thermal damage. The airplane came to rest to the right of the runway in the grass. There were multiple gouges in the ground starting at the landing lights leading towards the runway.

The pilot held a commercial pilot certificate with ratings for airplane single- and multiengine land, instrument airplane, and rotorcraft-helicopter. He held a flight instructor certificate with a rating for airplane single-engine, and instrument airplane. He held a mechanic certificate with airframe and powerplant ratings. His most recent FAA second-class medical certificate was issued December 5, 2018. He reported 4,300 total hours of flight experience on that date.

The flight instructor held a commercial pilot certificate with ratings for airplane single- and multiengine land, and airplane instrument. He held a flight instructor certificate with ratings for airplane single-engine and instrument airplane. He held a repairman experimental aircraft builder certificate for the accident airplane make and model. His most recent FAA first-class medical certificate was issued September 11, 2017. He reported 1,790 total hours of flight experience on that date.

The four-seat, single-engine, low-wing, canard-equipped airplane was built in 1995. It was powered by a Lycoming IO-360, 180-horsepower engine. A review of the airplane's maintenance records revealed that the most recent condition inspection was completed on January 17, 2019.

At 1455, the weather conditions reported at TBR included, wind from 320° at 13 knots, visibility 10 statute miles, clear skies, temperature 13° C, dew point -1° C, and an altimeter setting of 30.05 inches of mercury. At 1435, about 25 minutes before the accident, the winds were 320° at 13 knots, gusting to 16 knots. At 1515, about 15 minutes after the accident, the winds were 320° at 9 knots, gusting to 20 knots.

The FAA Airplane Flying Handbook (FAA-H-8083-3B), states for landing in turbulent conditions, us a power-on approach at an airspeed slightly above the normal approach speed. This provides for more positive control of the airplane when strong horizontal wind gusts, or up and down drafts, are experienced. One procedure is to use the normal approach speed plus one-half of the wind gust factors.

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	64,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	September 11, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 23, 2017
Flight Time:	2232 hours (Total, all aircraft), 7 hours (Total, this make and model), 2014 hours (Pilot In Command, all aircraft), 51 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	63,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	December 5, 2018
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 1, 2018
Flight Time:	4300 hours (Total, all aircraft), 2.5 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	OSTERTAG WALTER G	**Registration:**	N101WV
Model/Series:	Velocity RG	**Aircraft Category:**	Airplane
Year of Manufacture:	1995	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	DMO134
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	January 17, 2019 Condition	**Certified Max Gross Wt.:**	2300 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1357.6 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-X
Registered Owner:	Mission Hardware Ltd Co	**Rated Power:**	200 Horsepower
Operator:	Mission Hardware Ltd Co	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	TBR,187 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	14:55 Local	**Direction from Accident Site:**	324°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	320°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	13°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Savannah, GA (SAV)	**Type of Flight Plan Filed:**	None
Destination:	Stateboro, GA (TBR)	**Type of Clearance:**	None
Departure Time:	14:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Statesboro-Bulloch County TBR	**Runway Surface Type:**	Asphalt
Airport Elevation:	186 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	6000 ft / 100 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	32.475276,-81.730552(est)

Administrative Information

Investigator In Charge (IIC):	Hill, Millicent
Additional Participating Persons:	Steven L Davidson; FAA/FSDO; Atlanta, GA
Original Publish Date:	December 3, 2020
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99059