Aviation Investigation Final Report

Location:	Oshkosh, Wisconsin	**Accident Number:**	CEN16LA283
Date & Time:	July 24, 2016, 18:05 Local	**Registration:**	N167BL
Aircraft:	BRISTELL E-LSA	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

The accident airplane was the trailing airplane in a flight of two landing on runway 36L at Experimental Aircraft Association AirVenture when the accident occurred. The pilot reported that, while on final approach, he heard an air traffic control transmission telling a canard airplane to land on runway 36R. Mistaking the transmission for 36L, the pilot stated that he began to look for the canard airplane, which diverted his attention from the lead airplane and resulted in a loss of separation. As he approached the lead airplane's right wing, he reduced the engine power and pitched up to slow his airplane. He stated his airplane banked "hard to the right;" he corrected by banking to the left, which, combined with the airplane's nose-high pitch attitude, resulted in an aerodynamic stall.

Although the pilot stated that he was directly behind and below the lead airplane, and encountered the airplane's wake turbulence and prop wash, a GoPro camera mounted on the left wing of the accident airplane showed that the airplane remained behind and above the lead airplane; therefore, it is unlikely that the accident airplane encountered wake turbulence. The GoPro footage was consistent with the accident airplane slowing then subsequently experiencing an aerodynamic stall. It is likely that the pilot slowed the airplane excessively as he attempted to maintain separation and exceeded the airplane's critical angle of attack.

Probable Cause and Findings

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

The pilot's exceedance of the airplane's critical angle of attack on short final approach, which resulted in an inadvertent aerodynamic stall and subsequent loss of control. Contributing to the accident was the pilot's distraction with other traffic in the area.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Not attained/maintained
Aircraft	Airspeed - Not attained/maintained

Factual Information

History of Flight

Approach-VFR pattern final	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On July 24, 2016, at 1805 central daylight time, a BRM Aero S R O, Bristell E-LSA, collided with the terrain following a loss of control while landing at the Wittman Regional Airport (OSH), Oshkosh, Wisconsin. The pilot received serious injuries. The airplane was substantially damaged. The aircraft was registered to Sport Flying USA, Inc., and was operated by an individual under the provisions of 14 *Code of Federal Regulations* Part 91 as a business flight. Visual meteorological conditions prevailed for the flight, which was not operated on a flight plan. The last leg of the cross country flight originated from the Watertown Municipal Airport (RYV), Watertown, Wisconsin, at 1630.

The airplane was the trailing airplane in a flight of two that were landing on runway 36L at OSH during Experimental Aircraft Association AirVenture. The pilot in the lead aircraft stated they were cleared to land on the purple dot. The purple dot was located 3,052 ft down the 8,002 ft long runway. He did not see the accident occur.

The accident pilot stated he turned onto final approach for runway 36L, and was established with 20 ° of flaps at 65 knots. He then heard an air traffic transmission telling a canard airplane to land on runway 36R not 36L. The pilot stated he began to look for the canard airplane which took his attention off the lead airplane resulting in a decrease of the separation between the airplanes. He stated he got within 10 ft of the lead airplane's right wing at which time he reduced the engine power and pitched up to slow his airspeed. The pilot stated that was then directly behind the lead airplane and below his altitude, when he encountered the lead airplane's wake turbulence and prop wash, and his airplane banked "hard to the right". He corrected by banking to the left, but must have had back pressure on the stick and the airplane stalled. The pilot stated he was about 150 ft above the ground when the loss of control initially occurred.

Witnesses reported the airplane was low and slow as it approached the runway. They stated it stalled, rolled left, and descended to impact with the terrain.

A GoPro camera was located amongst the wreckage. The 128GB Micro SD card was retrieved from the camera and downloaded by the National Transportation Safety Board (NTSB) Vehicle Recorder Laboratory. It was determined that the camera was mounted on the left wing. A summary of the video was prepared and is attached to this report. The lead airplane was visible in front of the accident airplane as they approached the airport. At one point while the airplanes were descending and approaching the airport, the accident airplane was about the same altitude as the lead airplane. Both airplanes then made a left turn [onto base leg] at which time at least two other airplanes were visible in the distance ahead of the lead airplane. At this point the lead airplane was below the altitude of the accident airplane. Both airplanes then made another left turn onto final approach. About 27 seconds after the accident airplane was established on final approach, the distance between the accident airplane and the lead airplane began to reduce. Other than the lead airplane, no other flying airplanes were visible on approach to

either runways 36L or 36R. The distance between the two airplanes continued to reduce. The lead airplane was at or below the attitude of the accident airplane until the accident airplane entered a left bank and began to descend. The left bank continued to increase such that the airplane was nearly inverted as it descended to ground impact.

The air traffic control audio recording was reviewed by the NTSB Investigator-in-Charge. At 03:00 [lapsed recording time, minutes (MM): seconds (SS)], the controller cleared a canard airplane to land on runway 36L. About 31 seconds later, the controller changed the canard's landing runway to 36R. At 04:04, a second canard pilot requested landing on runway 36R and 14 seconds later, it was cleared to land on runway 36R. About 15 seconds later, the controller cleared the accident airplane and his lead airplane to land on runway 36L. At 04:42, the controller instructed the canard airplanes to keep rolling to the end of the runway. At 05:00, the accident is announced over the radio.

A damaged SD card from a Garmin GPS was also retrieved from the wreckage and sent to the NTSB Vehicle Recorder Laboratory. The card was cracked through its memory chip which prevented data recovery from the card.

Pilot Information

Certificate:	Sport Pilot	**Age:**	39,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Sport pilot	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	361 hours (Total, all aircraft), 150 hours (Total, this make and model), 314 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BRISTELL	**Registration:**	N167BL
Model/Series:	E-LSA	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental light sport (Special)	**Serial Number:**	167-2015
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	July 22, 2016 Condition	**Certified Max Gross Wt.:**	1320 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	35 Hrs	**Engine Manufacturer:**	Rotax
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	912 IS
Registered Owner:	Sport Flying USA, Inc.	**Rated Power:**	100 Horsepower
Operator:	Sport Flying USA, Inc.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	OSH,808 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:		**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.81 inches Hg	**Temperature/Dew Point:**	31°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Watertown, WI (RYV)	**Type of Flight Plan Filed:**	None
Destination:	Oshkosh, WI (OSH)	**Type of Clearance:**	VFR
Departure Time:	16:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Witmann Regional Airport OSH	**Runway Surface Type:**	Concrete
Airport Elevation:	808 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	36L	**IFR Approach:**	None
Runway Length/Width:	8002 ft / 150 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	43.961112,-88.556945

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Jon Weston; FAA; Milwaukee, WI
Original Publish Date:	March 19, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93668