



National Transportation Safety Board Aviation Accident Data Summary

Location:	SEBASTIAN, FL	Accident Number:	ATL01LA029
Date & Time:	02/03/2001, 1400 EST	Registration:	N658SE
Aircraft:	Robert D. Wood VELOCITY XLFG	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

This was the first test flight for this experimental airplane. As the airplane climbed through 2000 feet and accelerated to approximately 135 knots, the pilot reported that the left winglet began to flutter. When left rudder was applied, the flutter condition lessened, but when right rudder was applied the flutter became more severe. The pilot attempted an emergency landing in a field near the departure airport. Upon touchdown, the aircraft nosed over and came to rest inverted. Examination of the airplane disclosed errors in composite construction in the left and right wings, along with errors in bonding techniques for metal to fiber structures were revealed in the design of the aircraft.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The manufacturer's inadequate design of the winglet/rudder assembly, and inadequate bonding techniques for metal to fiber structures, which resulted in control surface flutter.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CLIMB - TO CRUISE

Findings

1. (C) MISCELLANEOUS,AIRFRAME - COMPOSITE MATERIAL

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE - NORMAL

Findings

2. (C) MISCELLANEOUS,AIRFRAME - DELAMINATION

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. (C) WING,WINGLET - FLUTTER

- 4. (C) MISCELLANEOUS - IMPROPER - KIT MANUFACTURER
- 5. (F) ACFT/EQUIP,INADEQUATE DESIGN - KIT MANUFACTURER

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	28
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine
Flight Time:	2605 hours (Total, all aircraft), 1023 hours (Total, this make and model), 2480 hours (Pilot In Command, all aircraft), 78 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Robert D. Wood	Registration:	N658SE
Model/Series:	VELOCITY XLFG	Engines:	1 Reciprocating
Operator:	BRENDEN J. O'RIORDAN	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	None	Engine Model/Series:	I-0540-D
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	VRB, 25 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Overcast / 2000 ft agl	Wind Speed/Gusts, Direction:	13 knots / , 360°
Temperature:	18°C	Visibility	7 Miles
Precipitation and Obscuration:			
Departure Point:	SEBASTIAN, FL (X26)	Destination:	SEBASTIAN, FL (X26)

Airport Information

Airport:	SEBASTIAN (X26)	Runway Surface Type:	Unknown
Runway Used:		Runway Surface Condition:	Unknown
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): PHILLIP POWELL

Adopted Date: 07/30/2001

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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