



Aviation Investigation Final Report

Location:	Canandaigua, New York	Accident Number:	IAD05LA072
Date & Time:	June 5, 2005, 08:00 Local	Registration:	N61TW
Aircraft:	Weiss Vans RV-8	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot/owner of the homebuilt airplane began the takeoff roll. At rotation, the airplane pulled "hard" to the left, and pitched up "more aggressively" than a standard takeoff. The pilot applied full down elevator, "but the nose would not come down." The airplane then pitched nose down, the pilot applied full up elevator, and the airplane attained a level pitch attitude prior to ground contact. When asked about the performance and handling of the airplane, the pilot/owner said, "Everything was perfect with the engine." He added that about the time of rotation, he felt a bump, and surmised that he had struck a runway light or that a wheel brake had locked. Examination of the airplane revealed an ink pen lodged beneath the rudder bar. As a result, more force was required for a right rudder input than a left rudder input. The pilot/owner said he routinely stored pens, unsecured, on the ledge next to his right knee. Further examination revealed a 50-ounce glass jar beneath the front seat, in close proximity to the forward control stick. The jar's lid displayed indentations that the pilot said had not been there prior to the accident. He said the jar was kept in the airplane as a relief container, and that it was placed on a ledge, unsecured, prior to takeoff.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Partial blocking of the flight controls by unsecured items in the cockpit, which resulted in a loss of control during takeoff.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF

Findings

1. (C) FLIGHT CONTROL SYSTEM - BLOCKED(PARTIAL)

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

2. TERRAIN CONDITION - GROUND

Factual Information

On June 5, 2005, at 0800 eastern daylight time, a homebuilt Rans RV-8, N61TW, was substantially damaged during collision with terrain following an uncontrolled descent after takeoff from the Canandaigua Airport, Canandaigua, New York. The certificated private pilot/owner was seriously injured and the passenger was not injured. Visual meteorological conditions prevailed for the personal flight, which was destined for the Oswego County Airport, Oswego, New York. No flight plan was filed for the flight conducted under 14 CFR Part 91.

A Federal Aviation Administration (FAA) aviation safety inspector interviewed both occupants, a witness, and examined the airplane at the scene.

The purpose of the flight was to travel to the Oswego County Airport for a fly-in breakfast. This was the first flight where the pilot/owner had carried a passenger.

The pilot performed the preflight inspection and run-up checks with no anomalies noted. Prior to takeoff, he set the flaps at zero degrees, and the elevator trim at "neutral." He advanced the throttle slowly for takeoff, and reached the full-throttle position just prior to attaining his selected rotation speed of 60 knots.

At rotation, the airplane pulled "hard" to the left, and pitched up "more aggressively" than a standard takeoff. The pilot applied full down elevator, "but the nose would not come down." The airplane then pitched nose down, the pilot applied full up elevator, and the airplane attained a level pitch attitude prior to ground contact.

When asked about the performance and handling of the airplane, the pilot/owner said, "Everything was perfect with the engine." He added that about the time of rotation, he felt a bump, and surmised that he had struck a runway light or that a wheel brake had locked.

In a written statement, the passenger said that approximately 50 feet above the ground, the airplane "was unable to maintain lift," turned to the left, and struck the ground at full power.

The witness stated that he had watched and listened to the tail-wheeled airplane takeoff from the runway on many previous occasions. He said the engine sound was strong and continuous, and that the airplane sounded as it always had.

The witness added that the airplane rotated from the "three-point" position. He explained that normally the tail wheel was raised, and the airplane rotated from the main gear. After liftoff from all three landing gear, the airplane climbed at a much steeper angle than was customary. The airplane slowed in the steep climb about 60 to 75 feet above the ground, and pitched down and to its left. The witness then turned and ran to his automobile to render assistance. He did

not witness the airplane as it contacted the ground.

The airplane was a homebuilt Vans RV-8 that was built by the pilot/owner. The airworthiness certificate was issued June 10, 2004. The airplane had accrued 71 total hours of flight time, and the pilot/owner was the only pilot to fly the airplane.

The airplane was examined at the site by the FAA inspector, and all major components were accounted for at the scene. Both propeller blades exhibited significant twisting, bending, leading edge gouging, and chordwise scratching. Control continuity was established from the flight controls to all flight control surfaces. The elevator trim was measured across a 10-notch range, and was found two notches past neutral in the "nose-up" direction. Electrical power was applied to the airplane, and the elevator trim was actuated through its full range with no binding noted.

A subsequent examination revealed an ink pen lodged beneath the rudder bar. As a result, more force was required for a right rudder input than a left rudder input. The pilot owner said he routinely stored pens, unsecured, on the ledge next to his right knee.

Further examination revealed a 50-ounce glass jar beneath the front seat, in close proximity to the forward control stick. The jar's lid displayed indentations that the pilot said had not been there prior to the accident. He said the jar was kept in the airplane as a relief container, and that it was placed on a ledge, unsecured, prior to takeoff. In a subsequent written statement, the pilot suggested, "The glass jar probably lodged in the [pedal] mechanism leaving me unable to steer for directional control."

The pilot held a private pilot certificate with ratings for airplane single engine land and single engine sea. His most recent FAA third class medical certificate was issued June 3, 2004, and he reported 1,318 hours of total flight experience on that date.

The weather reported at Penn Yan Airport, Pen Yan, New York, 20 miles southeast of Canandaigua Airport included clear skies with 5 miles of visibility in haze. The wind was from 210 degrees at 5 knots.

Pilot Information

Certificate:	Private	Age:	65, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	June 1, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 1, 2005
Flight Time:	1420 hours (Total, all aircraft), 71 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Weiss	Registration:	N61TW
Model/Series:	Vans RV-8	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	80428
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	October 1, 1999 Annual	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:	71 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	71 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-360-C1C6
Registered Owner:	Theodore T. Weiss	Rated Power:	200 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:	KPEO,990 ft msl	Distance from Accident Site:	
Observation Time:	07:54 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	5 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	19°C / 16°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	Canandaigua, NY (D38)	Type of Flight Plan Filed:	None
Destination:	(D38)	Type of Clearance:	None
Departure Time:	08:00 Local	Type of Airspace:	

Airport Information

Airport:	Canandaigua D38	Runway Surface Type:	Asphalt
Airport Elevation:	814 ft msl	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	3200 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 None	Latitude, Longitude:	42.906944,-77.321388

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Guido Hassig; FAA/FSDO; Rochester, NY
Original Publish Date:	April 25, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=61628

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