



National Transportation Safety Board Aviation Accident Final Report

Location:	Titusville, FL	Accident Number:	MIA08FA070B
Date & Time:	03/01/2008, 0836 EDT	Registration:	N128RV
Aircraft:	William E. Hess RV-8	Aircraft Damage:	Destroyed
Defining Event:	Ground collision	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The accident, an on-ground collision between two airplanes at a non-towered airport, occurred when the lead airplane in a flight of four RV-8s, which had landed and exited the runway, was struck by a Velocity not associated with the flight. Witnesses stated that the flight of four RV-8s announced their intentions to land in formation on Runway 15 over the radio and on the same frequency that the Velocity announced its intention to conduct a straight in approach to Runway 15. The Velocity arrived on final just behind the fourth RV-8, and touched down on the runway close to the approach end. The Velocity then drifted left off the runway and onto the grass. It passed to the left of the three trailing RV-8s that were still on the runway, and struck the lead RV-8, which had cleared the runway to the left on a taxiway in the vicinity of the departure end of the runway. At some point prior to the collision, engine power on the Velocity increased. Examination of the Velocity did not reveal any evidence of preimpact mechanical failures or malfunctions, and the weather in the area was conducive for visual flight rules operations.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot of the Velocity's failure to see and avoid the flight of four RV-8s that had landed and were in the process of clearing the runway.

Findings

Personnel issues	Decision making/judgment - Pilot of other aircraft (Cause)
-------------------------	--

Factual Information

HISTORY OF FLIGHT

On March 1, 2008, about 0836 eastern standard time, a Velocity XL RG, N244CU, and a Vans RV-8, N128RV, registered to private owners, operating as 14 Code of Federal Regulations (CFR) Part 91 personal flights, collided on the ground following landing on runway 15 at the Arthur Dunn Air Park (X21), Titusville, Florida. Visual meteorological conditions prevailed and no flight plan was filed for either airplane. Both airplanes were destroyed by impact and post crash fires. The Certificated commercial pilot received serious injuries and the pilot rated passenger was killed in the Velocity. The Airline Transport Pilot and private rated passenger in the RV8 were also killed. The Velocity flight originated from Sebastian Municipal Airport (X26), Sebastian, Florida, about 0810. The RV-8 originated from Spruce Creek Airport (7FL6), in Daytona Beach, Florida, about 0805.

According to witnesses, the purpose of the arriving flights was for the participation in the Experimental Aircraft Association's (EAA) monthly pancake breakfast. There were several witnesses that had arrived at the airport, in airplanes, just prior to the accident. The witnesses stated that a flight of 4 RV-8's announced their intentions of landing in formation on runway 15. Witnesses recalled hearing the Velocity announce its intentions for a straight in approach to runway 15; he arrived on final just behind the 4th RV-8, and according to the witnesses he was to close to the 4th RV-8 to land as a separate airplane. Following uneventful landings the 4 RV-8's were exiting the runway at intersection B, to the left. The lead RV-8, N128RV had entered the intersection and was midway between runway 15 and the parallel taxiway when it was struck from the left side by the Velocity. The three remaining RV-8's were still on the runway when the accident occurred.

Witnesses stated that the Velocity had landed on runway 15 following the flight of 4 RV-8's and ran off the runway on the left side, entering a grassy area separating the runway and taxiway. The Velocity continued in the grass and witnesses stated that they observed the Velocity collide with the RV-8 while in a left turn and with full engine power. Both airplanes exploded into a fire ball.

The extent of the velocity pilot's injuries precluded any interviews by the National Transportation Safety Board as of the time of this report.

PERSONNEL INFORMATION

The pilot of the Velocity, age 63, a Swiss National, held a private pilot (Foreign Based) certificate for airplane single engine land and glider, issued on February 3, 2000, and a second-class medical certificate issued on January 14, 2002, with no restrictions. The pilot also held a Switzerland pilot certificate which had been revalidated until June 9, 2008. Additionally, the pilot held a Swiss Class II Medical Certificate valid until June 26, 2008. The pilot reported on his most recent medical certificate that he had accumulated 1,728 total civilian flight hours. The pilot's logbook was not recovered.

The pilot rated passenger of the Velocity, age 80, held an private pilot certificate for airplane single engine land, a certified flight instructor certificate for airplane single land, instrument airplane, issued on June 13, 2000, and a third-class medical certificate issued on January 29,

2007, with a restriction that he must wear corrective lenses. The pilot reported on his most recent medical certificate that he had accumulated 1,068 total civilian flight hours. The pilot's logbook was not recovered.

The pilot of the RV-8, age 71, held an airline transport pilot (ATP) certificate for airplane multiengine land, commercial pilot certificate for airplane single engine land, a certified flight instructor certificate for airplane single and multiengine land, instrument airplane, issued on February 28, 1992, and a denied medical certificate issued on February 21, 2006. The pilot reported on his most recent medical certificate that he had accumulated 20,000 total civilian flight hours. The pilot's logbook was not recovered.

The pilot rated passenger of the RV-8, age 72, held an ATP certificate for airplane multiengine land, commercial pilot certificate for airplane single engine land and glider, a certified flight instructor certificate for airplane single engine land and glider, instrument airplane, issued on March 25, 1967, and a second-class medical certificate issued on December 6, 2007, with a limitation that he must wear corrective lenses. The pilot reported on his most recent medical certificate that he had accumulated 28,000 total civilian flight hours. The pilot's logbook was not recovered.

AIRCRAFT INFORMATION

The four-seat, low-wing, retractable-gear, Ulrich Christen Velocity XL RG, experimental amateur built airplane, was certificated on September 13, 2001, and received its airworthiness certificate on December 21, 2002. It was powered by a Lycoming IO-540-SER, 300-horsepower engine, and equipped with a Constant Speed MT Propeller. The airplane logbooks were consumed in the post-impact fire.

The two-seat, low-wing, fixed-gear, William E. Hess, RV-8 experimental amateur built, was certificated on October 11, 2000, and received its airworthiness certificate on October 24, 2002. It was powered by a Lycoming O-360-SER, 180-horsepower engine, and equipped with a Hartzel propeller. The airplane logbooks were consumed in the post-impact fire.

METEOROLOGICAL INFORMATION

The 0853 surface weather observation at Executive Airport (ORL), Orlando, Florida,, was: wind 090 degrees at 3 knots, visibility 10 miles, clear sky, temperature 64 degrees Fahrenheit, dew point temperature 52 degrees Fahrenheit, and an altimeter setting of 30.33 inches of mercury.

AIRPORT INFORMATION

Arthur Dunn Air Park (X21) was located in Titusville, Florida. Runway 15/33 was 2,961 feet long and 70 feet wide. The runway was paved with asphalt and was in good condition. Runway 15 was the active runway at the time of the accident.

WRECKAGE INFORMATION

Examination of the RV 8 revealed that the Velocity struck the RV 8 from its left side; the Velocity passed through the RV 8 then continued to its final resting place.

On scene examination of the RV-8 found it in a grassy area adjacent to intersection B. The wreckage was on a heading of 280-degrees. The fuselage, cabin and left wing were consumed by the post impact fire. Flight control continuity was established to all flight controls leading to the cockpit area. Examination of the engine found no evidence of any mechanical failure or

malfunction.

On scene examination of the Velocity found it inverted 330 feet beyond the RV-8 coming to rest on a heading of 330-degrees. The fuselage, right wing and cockpit were consumed by the post impact fire. Examination of the engine found no evidence of preimpact mechanical failure or malfunction.

The Velocity's first touched down point was observed about 550 feet from the arrival end of runway 15 near the left edge. The left main landing gear departed the runway's hard surface about 733 feet from the arrival end of the runway and at 786 feet the left main gear returned to the runway's hard surface. After passing taxiway D, at 1,295 feet, the nose gear departed the left side of the runway and at 1,385 feet, the right main gear departed the left side of the runway. Both mains remained in the grass until impact with the RV8. Braking action was noted from the left main gear at 2,310 feet and the nose gear was observed in the grass at 2,331 feet and the right main gear braking action was noted at 2,367. The impact point with the RV 8 was measured at 2,391 feet from the arrival end of runway 15.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot of the RV8 on March 2, 2008, by the Office of the Medical Examiner, District 18, Brevard County, Rockledge, Florida. The autopsy finding reported the cause of death as blunt force injuries of head and chest.

Forensic toxicology was performed on specimens from the pilot of the RV8 by the Federal Aviation Administration (FAA) Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The toxicology report stated that there was no Carbon Monoxide or Cyanide detected in the blood and no ethanol detected in the urine. However, there was Diphenhydramine detected in the urine but not in the blood.

History of Flight

Taxi-from runway	Ground collision (Defining event)
------------------	-----------------------------------

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	71, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Rear
Other Aircraft Rating(s):		Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	None With Waivers/Limitations	Last Medical Exam:	02/21/2006
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	20000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	William E. Hess	Registration:	N128RV
Model/Series:	RV-8	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	81054
Landing Gear Type:	Retractable - Tailwheel	Seats:	2
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-SER
Registered Owner:	William E. Hess	Rated Power:	180 hp
Operator:	William E. Hess	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	ORL, 113 ft msl	Observation Time:	0853 EST
Distance from Accident Site:	30 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	90°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	18°C / 11°C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	3 knots, 90°	Visibility (RVR):	
Altimeter Setting:	30.33 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Daytona Beach, FL (7FL6)	Type of Flight Plan Filed:	None
Destination:	Titusville, FL (X21)	Type of Clearance:	None
Departure Time:	0805 EST	Type of Airspace:	

Airport Information

Airport:	Arthur Dunn Air Park (X21)	Runway Surface Type:	Asphalt
Airport Elevation:	30 ft	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	2961 ft / 70 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	2 Fatal		

Administrative Information

Investigator In Charge (IIC):	Ralph L Wilson	Adopted Date:	07/28/2009
Additional Participating Persons:	Cheryl A King; FAA/FSDO; Orlando, FL Ken C Baker; Velocity Aircraft, Inc.; Sebastian, FL		
Publish Date:	07/28/2009		
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/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.