



National Transportation Safety Board Aviation Accident Final Report

Location:	College Place, WA	Accident Number:	SEA04LA062
Date & Time:	04/01/2004, 1138 PST	Registration:	N284DM
Aircraft:	Davenport (Van's) RV-8F	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot of the homebuilt RV-8F departed runway 23 executing a climbing right turn, followed by a second RV-8F about 300 feet behind. As the second aircraft climbed through 300-400 feet above ground the pilot observed the first aircraft roll wings level and commence a descent while simultaneously turning back toward the departure airport and then impacting the ground in a wings level flat pitch attitude. The aircraft slid about 25-30 feet across the ground along a 200 degree magnetic track and its "G" meter registered +10 G's. Post crash examination of the aircraft's Franklin engine, the throttle system and engine fuel pump and boost pump revealed no evidence of mechanical or fuel related malfunction. Fuel was found in both fuel tanks and throughout the fuel lines up to the engine.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power for undetermined reason(s) and the pilot's failure to maintain adequate flying airspeed during the forced landing. A contributing factor was the pilot's decision to attempt a turn at low altitude.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On April 1, 2004, approximately 1138 Pacific standard time, a Davenport (Van's) RV-8F homebuilt experimental aircraft, N284DM, registered to and being flown/operated by a commercial pilot sustained substantial damage during an in-flight collision with terrain following a loss of power on initial climb at College Place, Washington. The pilot was fatally injured and there was no post-crash fire. Visual meteorological conditions existed and no flight plan had been filed. The flight, which was personal, originated from Martin Field, College Place, Washington, approximately 1135 and was destined for Walla Walla, Washington.

A pilot of a second RV-8F, N254LF, had just departed Martin Field immediately after N284DM. He reported that N284DM made a climbing right turn after departing runway 23 and he executed the same right turn upon his departure following in loose formation (refer to Chart I). He estimated the separation between his aircraft and the preceding N284DM to be about 300 feet and he "...observed N284DM roll from its r[igh]t bank climb attitude. Then to a shallow left bank. At the same time N284 slowed rapidly and began a descent...." He further reported that while in a climb, his aircraft overtook and passed N284DM and that he maintained visual contact with the aircraft observing it impact the ground in a wings level, flat pitch attitude. He reported observing the impact in his 4-5 o'clock position while climbing through 300-400 feet above ground (refer to Attachment W-I).

The pilot of N254LF also reported that both he and N284DM were in radio communication but he never heard any radio transmissions from the pilot indicating a problem.

PERSONNEL INFORMATION

The pilot possessed a commercial pilot's certificate with airplane single/multi-engine land and instrument, as well as airplane single-engine sea ratings. He also possessed a flight instructor's certificate with an airplane single-engine rating and an experimental aircraft repairman's certificate. His total flight time was reported as 3,500 hours at the time of his most recent airman medical application (November 7, 2001). This application was noted as pending and the pilot's most current medical certificate at the time of the accident was for a Class II certificate with a restriction for vision, which was dated July 27, 1994.

AIRCRAFT INFORMATION

N284DM was a Van's Aircraft model RV-8F homebuilt manufactured by the pilot/owner. The aircraft was initially certificated for flight as an experimental aircraft by an inspector assigned to the Federal Aviation Administration's (FAA) Spokane Flight Standards District Office (FSDO) on June 10, 2003, and the total airframe time was estimated to be approximately 100 hours at the time of the accident. The aircraft was equipped with a Franklin 6A-350-C1 reciprocating engine rated at 220 horsepower and a three blade composite propeller. Refer to Attachment A-I.

WRECKAGE AND IMPACT INFORMATION

On site examination was conducted by an inspector from the FAA Spokane FSDO on the afternoon of the accident. He reported that the aircraft was observed upright on the ground at an approximate latitude/longitude of 46 degrees 02.88 minutes North and 118 degrees 25.22 minutes West. The aircraft was on the south side of East Whitman Drive and within the northern boundary of Martin Field. The first evidence of ground impact was a small crater on the south side of the road with a distribution of debris along an approximate 200 degree magnetic bearing line for a distance of about 25-30 feet (refer to graphic image G-1). The center of the aircraft was located at this terminus and the longitudinal axis of the aircraft paralleled the road with the nose pointed toward 230 degrees magnetic (refer to graphic image G-2).

The aircraft remained essentially in one piece with the exception of the two main landing gear that were broken off and evidence of compressive deformation along the vertical axis (refer to graphic image G-3). The "G" meter positive G recording needle was noted pegged at its maximum reading of +10 g's (refer to graphic image G-4). The fuel selector was observed positioned to the right wing tank (refer to graphic image G-5). The propeller blades displayed damage with the blade in the 8 o'clock position displaying aft bending and the 12 and 4 o'clock blades displaying mid span fractures in an aft direction (when viewed from the cockpit).

The FAA inspector, assisted by a local mechanic, confirmed fuel in both fuel tanks and compression in all cylinders of the engine, as well as the development of sparks at all spark plugs. He also verified control continuity to all three control surfaces. The Ellison throttle body was examined and the mixture and throttle positions were noted in the full rich/open positions respectively. The throttle body was removed for further examination. The fuel line to the fuel pump was disconnected, the fuel selector was switched to the left tank and the boost pump was activated on battery power with a resultant flow of fuel out the end of the line. Fuel was found within the fuel line between the fuel pump and the throttle body. The fuel pump was removed and the drive was manually activated with verification of pump operation (refer to Attachment M-I).

TESTS AND RESEARCH

The throttle body was subsequently installed on another engine and tested satisfactorily. It was then disassembled and no evidence of significant malfunction was noted that could be related to a power loss. The fuel pump also tested satisfactorily and its disassembly revealed no mechanical malfunctions (refer to Attachments TBI-I and FP-I).

MEDICAL AND PATHOLOGICAL INFORMATION

The pilot initially survived the ground impact but later succumbed due to accident related injuries. The St. Mary Medical Center (WA) Lab conducted tests on a sample of the pilot's blood obtained at 1227 on the date of the accident. The tests revealed less than 5 MG/DL alcohol and a drug screen resulted in all negative findings. A post mortem examination was not conducted.

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	60, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 2 Expired	Last Medical Exam:	07/27/1994
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	3500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Davenport (Van's)	Registration:	N284DM
Model/Series:	RV-8F	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	80955
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	06/10/2003, Conditional	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:	100 Hours	Engines:	1 Reciprocating
Airframe Total Time:	100 Hours	Engine Manufacturer:	Franklin
ELT:	Not installed	Engine Model/Series:	6A-350-C1
Registered Owner:	Davenport, David M.	Rated Power:	220 hp
Operator:	Davenport, David M.	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	ALW, 1205 ft msl	Observation Time:	1153 PDT
Distance from Accident Site:	6 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	43°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	12° C / -1° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	8 knots, 230°	Visibility (RVR):	
Altimeter Setting:	30.25 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	College Place, WA (S95)	Type of Flight Plan Filed:	None
Destination:	Walla Walla, WA (ALW)	Type of Clearance:	None
Departure Time:	1135 PST	Type of Airspace:	Class G

Airport Information

Airport:	Martin Field (S95)	Runway Surface Type:	Asphalt
Airport Elevation:	750 ft	Runway Surface Condition:	Dry
Runway Used:	23	IFR Approach:	None
Runway Length/Width:	3840 ft / 60 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal		

Administrative Information

Investigator In Charge (IIC):	Steven A McCreary	Adopted Date:	09/29/2004
Additional Participating Persons:	Charles L Roberts; FAA FSDO; Spokane, WA		
Publish Date:			
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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