



Aviation Investigation Final Report

Location:	Cody, Wyoming	Accident Number:	DEN03LA098
Date & Time:	June 7, 2003, 15:30 Local	Registration:	N4035K
Aircraft:	Helio H800	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported, "A few seconds after becoming airborne, oil began splashing onto the windscreen and boiling out of the cowlings around the oil cap access door." The pilot decided to land immediately. The pilot said he maintained runway heading to gain some altitude, approximately 300 to 400 feet above ground level (agl). He said he flew beyond the departure end of the runway and then made a 180-degree turn back to the airport. The pilot said he lowered flaps and began his descent. At approximately 150 feet agl, the pilot said he encountered "a severe downdraft, which caused the airplane to sink at a rapid rate. Although I immediately added full power, I was unable to overcome the downdraft." The airplane impacted terrain off the departure end of the runway causing substantial damage to the wings, fuselage, undercarriage, and vertical stabilizer. An examination of the airplane showed the oil cap off and the dip stick out. The examination also showed oil streaks around the oil filler door, across the top of the engine cowling, and on the inside of the engine cowling. The weather conditions approximately 5 minutes after the accident were clear skies, 10 miles visibility, and winds at 130 degrees magnetic at 5 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper preflight planning and his failure to maintain aircraft control when returning to the airport. Factors contributing to the accident were the oil leak, the attempted precautionary landing, and the downdraft.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings

1. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
3. LUBRICATING SYSTEM,OIL FILLER CAP - NOT SECURED
4. (F) FLUID,OIL - LEAK
5. (F) PRECAUTIONARY LANDING - ATTEMPTED - PILOT IN COMMAND
6. (F) WEATHER CONDITION - DOWNDRAFT

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

7. TERRAIN CONDITION - GROUND

Factual Information

On June 7, 2003, at 1530 mountain daylight time, a Helio Aircraft Limited, H800 airplane, N4035K, piloted by a private pilot, was substantially damaged when it impacted terrain 200 feet from the approach end of runway 22 at the Yellowstone Regional Airport (COD) Cody, Wyoming. Visual meteorological conditions prevailed at the time of the accident. The personal flight was being conducted under the provisions of Title 14 CFR Part 91. No flight plan was on file. The pilot sustained minor injuries. The 2 passengers on board the airplane reported no injuries. The cross-country flight was originating at the time of the accident.

In his written statement, the pilot reported, "A few seconds after becoming airborne, oil began splashing onto the windshield and boiling out of the cowlings around the oil cap access door." The pilot decided to land immediately. The pilot said he maintained runway heading to gain some altitude, approximately 300 to 400 feet above ground level (agl). He said he flew beyond the departure end of the runway and then made a 180-degree turn back to the airport. The pilot said he lowered flaps and began his descent. At approximately 150 feet agl, the pilot said he encountered "a severe downdraft, which caused the airplane to sink at a rapid rate. Although I immediately added full power, I was unable to overcome the downdraft."

The airport operations manager at COD reported the airplane took off on runway 04 (8,276 feet by 100 feet, dry asphalt). The operations manager said the airplane climbed to an altitude of approximately 300 feet above the ground, when the airplane turned around and crashed. The operations manager said the airplane impacted approximately 200 to 250 feet from the end of the runway, just inside the airport safety zone. The airplane came to rest on its top.

An examination of the airplane showed the airplane's cowling was broken off and crushed upward. The engine was broken off at the mounts and canted approximately 30 degrees to the right. The airplane's right wing was broken aft at the wing root. The left wing tip was crushed upward. The main landing gear were broken aft and the underside of the fuselage was crushed upward. The top of the vertical stabilizer and rudder were crushed and bent downward. The propeller blades showed torsional bending and chordwise scratches. Flight control continuity was confirmed. An examination of the engine showed the oil cap off and the dip stick out. Streaks of oil were observed around the oil filler door, across the top of the engine cowling, and on the inside of the engine cowling.

The weather conditions approximately 5 minutes after the accident were clear skies, 10 miles visibility, and winds at 130 degrees magnetic at 5 knots.

Pilot Information

Certificate:	Private	Age:	51, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
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 None	Last FAA Medical Exam:	July 17, 2002
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 9, 2003
Flight Time:	3154 hours (Total, all aircraft), 587 hours (Total, this make and model), 3154 hours (Pilot In Command, all aircraft), 41 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Helio	Registration:	N4035K
Model/Series:	H800	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	H-6
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	May 1, 2003 Annual	Certified Max Gross Wt.:	4000 lbs
Time Since Last Inspection:	20 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	918 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-720-A1B
Registered Owner:	Schmidt Aviation, Inc.	Rated Power:	400 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:	COD,5102 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	15:55 Local	Direction from Accident Site:	220°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	16°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cody, WY (COD)	Type of Flight Plan Filed:	None
Destination:	Soldier's Bar, ID	Type of Clearance:	None
Departure Time:	15:30 Local	Type of Airspace:	Class E

Airport Information

Airport:	Yellowstone Regional Airport COD	Runway Surface Type:	Asphalt
Airport Elevation:	5102 ft msl	Runway Surface Condition:	Dry
Runway Used:	04	IFR Approach:	None
Runway Length/Width:	8276 ft / 100 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 2 None	Latitude, Longitude:	44.520278,-109.023887

Administrative Information

Investigator In Charge (IIC):	Bowling, David
Additional Participating Persons:	Jim Smith; Federal Aviation Administration; Casper, WY
Original Publish Date:	November 25, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=57145

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).