



National Transportation Safety Board Aviation Accident Final Report

Location:	Hailey, ID	Accident Number:	SEA02LA046
Date & Time:	03/01/2002, 1936 MST	Registration:	N421DG
Aircraft:	Cessna 421C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

While on approach to the Friedman Memorial airport (Hailey, Idaho), the pilot of the Cessna 421C lowered the landing gear but failed to receive a gear down and locked indication on the right main gear. He attempted to lower the landing gear utilizing the nitrogen blow down system, again without success. The pilot then executed a landing with the nose and left main gear extended. Post-crash examination revealed a small amount of water in the landing gear hydraulic lines. When the landing gear system was purged and replenished with uncontaminated fluid the gear operated without malfunction both normally and with the use of the blow down system. Temperature at Hailey, Idaho, remained well below freezing before and after the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Water contamination within the aircraft's landing gear hydraulic line(s) which froze and blocked the line(s) preventing extension of the right main gear. A factor was the below freezing environmental conditions which the aircraft was operating in prior to and during the approach and landing.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: APPROACH

Findings

1. (C) HYDRAULIC SYSTEM - CONTAMINATION, WATER
 2. HYDRAULIC SYSTEM, LINE - BLOCKED (TOTAL)
 3. (F) WEATHER CONDITION - TEMPERATURE, LOW
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Occurrence #2: WHEELS UP LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Factual Information

On March 1, 2002, at 1936 mountain standard time, a Cessna 421C, N421DG, registered to and being flown by a private pilot, sustained substantial damage during a gear up landing on runway 31 at the Friedman Memorial airport, Hailey, Idaho. The pilot and passenger were uninjured. Visual meteorological conditions existed and an IFR flight plan had been activated. The flight, which was personal, was operated under 14CFR91, and originated from Santa Monica, California, earlier in the day, and was destined for Hailey.

As the aircraft approached Hailey, the pilot reported that he was unable to obtain a down and locked status on the right main landing gear. He then attempted a manual extension of the landing gear using the nitrogen blow down system, but again was unable to get a down and locked indication on the right main gear. The aircraft was landed with the nose and left main gear extended and during the initial landing roll the right wing impacted the runway.

An examination and testing of the aircraft's landing gear and associated hydraulic systems was conducted under the oversight of an inspector from the Federal Aviation Administration's (FAA) Flight Standards District Office (FSDO) at Boise, Idaho. The hydraulic system was drained and the fluid was captured. Examination of the fluid yielded no particulate contaminants but a small amount of water was found in the fluid. The hydraulic system was subsequently replenished and the aircraft was placed on jacks. The landing gear was then cycled up and down repeatedly with no malfunction noted. The landing gear was then extended utilizing the emergency extension system, again with no malfunction (refer to ATTACHMENT FAA-I).

The surface temperature at Friedman airport was well below freezing several hours before and after the accident.

Pilot Information

Certificate:	Private	Age:	51, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	05/21/2001
Occupational Pilot:		Last Flight Review or Equivalent:	01/19/2002
Flight Time:	1680 hours (Total, all aircraft), 1232 hours (Total, this make and model), 1635 hours (Pilot In Command, all aircraft), 68 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N421DG
Model/Series:	421C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	421C0456
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	12/05/2001, Annual	Certified Max Gross Wt.:	7560 lbs
Time Since Last Inspection:	50 Hours	Engines:	2 Reciprocating
Airframe Total Time:	3898 Hours as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	GTSIO-520-L
Registered Owner:	Benjamin, Mark J.	Rated Power:	375 hp
Operator:	Benjamin, Mark J.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	SUN, 5315 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1955 MST	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 2000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	-9° C / -14° C
Precipitation and Obscuration:			
Departure Point:	Santa Monica, CA (SMO)	Type of Flight Plan Filed:	IFR
Destination:	Hailey, ID (SUN)	Type of Clearance:	IFR
Departure Time:	1530 PST	Type of Airspace:	Class D

Airport Information

Airport:	Friedman Memorial (SUN)	Runway Surface Type:	Asphalt
Airport Elevation:	5315 ft	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	Visual
Runway Length/Width:	6602 ft / 100 ft	VFR Approach/Landing:	Full Stop; Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	43.505000, -114.296667

Administrative Information

Investigator In Charge (IIC):	Steven A McCreary	Report Date:	04/08/2003
Additional Participating Persons:	Terry Bateman; FAA Flight Standards District Office; Boise, ID		
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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