



National Transportation Safety Board Aviation Accident Final Report

Location:	DETROIT LAKES, MN	Accident Number:	CHI98LA331
Date & Time:	09/02/1998, 1050 CDT	Registration:	N6703E
Aircraft:	Cessna 172N	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation - Public Aircraft

Analysis

As the airplane neared its destination the pilot did a pre-landing checklist. When he placed the mixture to full 'RICH' the engine began to run rough. He said the application of carburetor heat did not eliminate the roughness. The pilot said he positioned the fuel selector to the 'RIGHT' fuel tank and the engine began to run normally for a short time and then quit. The on-scene examination revealed no usable fuel in the airplane's fuel tanks. The pilot said he had told another pilot to fill the fuel tanks to the filler neck the day before the accident flight. During his preflight inspection of the airplane, the pilot said he did not visually check the fuel level, but relied on the fuel tank gauges to confirm that the tanks were 'FULL.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An inadequate preflight inspection by the pilot which resulted in fuel exhaustion and subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings

1. FLUID,FUEL - EXHAUSTION
2. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

On September 2, 1998, at 1050 central daylight time (cdt), a Cessna 172N, N6703E, piloted by a commercial pilot, was substantially damaged during a forced landing following a total loss of power during cruise flight. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 Civil Air Patrol aerial observation flight was not operating on a flight plan. The pilot and passenger reported no injuries. The flight departed Hutchinson, Minnesota, at 0740 cdt.

According to the pilot's written statement, the pilot said he was preparing to land at an airport and was doing the landing checklist. He said the engine began running "...very rough..." when he pushed the mixture control in. The pilot said he immediately applied the carburetor heat "...but the engine continued to run rough." He said he switched the fuel tank selector to the wing's "RIGHT" fuel tank. "[The] engine smoothed out momentarily and quit." The pilot said he made a forced landing in an alfalfa field that had about a 15-degree downslope incline.

The pilot said the right wing had about "...1-quart of fuel in the right tank." He said he didn't look in the left tank but could hear "...fuel sloshing around..." in the tank when he rocked the wings.

Before departing on the accident flight, the pilot said another pilot had filled the fuel tanks. The accident pilot said he told the other pilot to fuel the accident airplanes fuel tanks to "...the filler neck and watched as he did." The airplane did not fly after it had been refueled until the accident flight. During the accident flight's preflight inspection the pilot said he did not visually check the fuel tanks. He made sure the fuel caps were on tight and noted that both fuel tank gauges showed "FULL."

The Federal Aviation Administration Principal Maintenance Inspector (PMI) said he did not observe fuel in N6703E's fuel tanks.

Pilot Information

Certificate:	Commercial	Age:	66, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/18/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	8900 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N6703E
Model/Series:	172N 172N	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-320-D2J
Registered Owner:	CIVIL AIR PATROL	Rated Power:	
Operator:	CIVIL AIR PATROL	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DTL, 1396 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	1055 CDT	Direction from Accident Site:	180°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	18° C / 0° C
Precipitation and Obscuration:			
Departure Point:	HUTCHINSON, MN (HCE)	Type of Flight Plan Filed:	Unknown
Destination:		Type of Clearance:	None
Departure Time:	0740 CDT	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

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:	

Administrative Information

Investigator In Charge (IIC):	FRANK S GATTOLIN	Report Date:	02/16/2001
Additional Participating Persons:	CHARLEY BEERS; MINNEAPOLIS, MN		
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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