



National Transportation Safety Board Aviation Accident Data Summary

Location:	Patuxent River, MD	Accident Number:	IAD02LA080
Date & Time:	08/01/2002, 1420 EDT	Registration:	N1177M
Aircraft:	Cessna 172K	Injuries:	1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

Prior to his departure, the pilot performed a preflight inspection and determined the fuel onboard the airplane by observing the fuel gauges in the cockpit. The gauges indicated the fuel tanks were about 1/4 - 1/2 full, or 8 gallons of fuel per tank. The pilot stated he did not visually check the fuel tanks because he did not have a way to measure the fuel. The pilot added 20 additional gallons of fuel, for a total of 36 gallons of fuel onboard, which he estimated to be 4 1/2 hours flight time. After fueling the airplane, the fuel gauges read about 3/4 full on each tank. The pilot flew direct to his destination; however, he did not perform any fuel burn calculations en route. Approximately 3 miles from the airport, the airplane's engine lost power. The pilot checked the fuel gauges, which indicated 1/8 full on the left side and 1/4 full on the right side. He unsuccessfully attempted to restart the engine, and performed a forced landing approximately 1/2 mile short of the runway. Examination of the airplane revealed that the left wing tank was completely empty and 1/8 inch of fuel remained in the right wing tank. The airplane's fuel system was examined and no pre-impact anomalies were noted. A test run of the engine was performed on the airframe, and it started without hesitation and ran continuously through a variety of power settings. An accurate test of the fuel level transmitters and fuel gauges was unable to be performed during the initial examination, because they were removed and retained by the operator. The pilot had accumulated 124 hours of fixed-wing flight experience, 9 of which were in make and model, and 691 hours in rotorcraft.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate fuel calculations, which resulted in fuel exhaustion and a subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH

Findings

1. FLUID,FUEL - EXHAUSTION
2. (C) FUEL SUPPLY - INADEQUATE - PILOT IN COMMAND
3. (C) FUEL CONSUMPTION CALCULATIONS - INADEQUATE - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

4. TERRAIN CONDITION - GROUND

Occurrence #4: GEAR COLLAPSED
Phase of Operation: EMERGENCY LANDING

Pilot Information

Certificate:	Commercial	Age:	28
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	Airplane; Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	815 hours (Total, all aircraft), 9 hours (Total, this make and model), 310 hours (Pilot In Command, all aircraft), 46 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N1177M
Model/Series:	172K	Engines:	1 Reciprocating
Operator:	Patuxent River Naval Flying Club	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	None	Engine Model/Series:	O-320
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	NHK, 39 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	9 knots / , 40°
Temperature:	34° C	Visibility	7 Miles
Precipitation and Obscuration:			
Departure Point:	Myrtle Beach, SC (MYR)	Destination:	Patuxent River, MD (NHK)

Airport Information

Airport:	Patuxent River NAS (NHK)	Runway Surface Type:	Grass/turf
Runway Used:	06	Runway Surface Condition:	Dry
Runway Length/Width:	11809 ft / 200 ft		

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	38.308333, -76.416111		

Administrative Information

Investigator In Charge (IIC):	Jill M Andrews	Adopted Date:	11/25/2003
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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