



National Transportation Safety Board Aviation Accident Final Report

Location:	Madison, Wisconsin	Accident Number:	CEN09LA095
Date & Time:	December 16, 2008, 22:52 Local	Registration:	N4504B
Aircraft:	Cessna 402	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The on-demand cargo flight departed for the destination airport and was delayed en route due to repetitive destination airport closures. The closures were the result of snow-contaminated runways. The pilot then diverted to an alternate airport due to concerns about remaining fuel reserves. The airplane experienced a loss of engine power during an instrument approach at the alternate airport and impacted the ground about 200 yards short of the landing runway. A postaccident inspection of the airplane revealed no usable fuel on board.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper fuel management, which resulted in a loss of engine power during an instrument landing due to fuel exhaustion.

Findings

Aircraft	Fuel - Fluid level
Personnel issues	Decision making/judgment - Pilot

Factual Information

On December 16, 2008, at 2252 central standard time, a Cessna 402B, N4504B, operated by Freight Runners Express, Inc., received substantial damage on impact with terrain during a forced landing near Madison, Wisconsin. The commercial pilot was uninjured. The 14 CFR Part 135 on-demand cargo flight was operating on an instrument flight rules flight plan. The flight originated from Appleton, Wisconsin, at 2030 and was en route to Milwaukee, Wisconsin.

In preparation for an on-demand cargo flight, the pilot reportedly obtained preflight information at 1935 indicating General Mitchell International Airport (MKE), Milwaukee, Wisconsin, was closed but was to reopen at 2015. The pilot was informed during taxi for departure that there would be a 10 minute departure delay. After the delay, the airplane departed and the pilot reduced cruise speed by about 10 knots due to "backed up" traffic at MKE. While en route, air traffic control (ATC) informed the pilot that MKE reopened.

The pilot received radar vectors that took the airplane over Lake Michigan and then to the west for the ILS 7R approach. When the airplane reached a midfield downwind position during the approach, MKE closed again due to a poor braking action report. The airplane was then vectored to a holding fix where the pilot completed 1 1/2 turns before receiving radar vectors for ILS 7R. The airplane flew the ILS 7R approach, was on a 2 mile final, and cleared to land, when the pilot was instructed by ATC to perform a missed approach. A poor braking action report was reported and MKE closed again.

The pilot contacted the operator who told the pilot to divert to Chicago/Rockford International Airport (RFD), Rockford, Illinois. The pilot asked ATC for minimal vectors to RFD and did not use the specific verbiage, "minimum fuel." He noticed that the airplane's indicated airspeed began to decrease 15-20 knots with an accumulation of ice on the wings, which he described as severe. He decided that he would not be able to divert to RFD due to fuel and diverted to Dane County Regional Airport-Truax Field (MSN), Madison, Wisconsin, since it was closer. He executed a climb to 8,000 feet to get out of the icing. He requested and received clearance for the ILS 36 approach at MSN. The left engine began to sputter as the airplane neared the approach's decision height. The pilot shut the engine down and thereafter was unable to maintain altitude. The airplane impacted terrain approximately 200 yards short of runway 36. Post accident inspection of the airplane revealed no usable fuel in the airplane's fuel tanks.

History of Flight

Enroute-holding (IFR)	Air traffic event
Enroute	Structural icing
Approach-IFR final approach	Fuel exhaustion (Defining event)

Pilot Information

Certificate:	Commercial	Age:	30
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 1, 2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 3, 2008
Flight Time:	2069 hours (Total, all aircraft), 274 hours (Total, this make and model), 1519 hours (Pilot In Command, all aircraft), 92 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N4504B
Model/Series:	402 B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	402B1370
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	April 14, 2008 Annual	Certified Max Gross Wt.:	6300 lbs
Time Since Last Inspection:	12805 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	12805 Hrs as of last inspection	Engine Manufacturer:	Teledyne Continental Motors
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TSIO-520-E
Registered Owner:		Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	KCQA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Night
Observation Facility, Elevation:	MSN,887 ft msl	Distance from Accident Site:	
Observation Time:	22:55 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:	Clear	Visibility	1 miles
Lowest Ceiling:	Broken / 1000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	-13°C / -15°C
Precipitation and Obscuration:			
Departure Point:	Appleton, WI (ATW)	Type of Flight Plan Filed:	IFR
Destination:	Milwaukee, WI (MKE)	Type of Clearance:	IFR
Departure Time:	20:30 Local	Type of Airspace:	

Airport Information

Airport:	Dane County Regional Airport MSN	Runway Surface Type:	Concrete
Airport Elevation:	887 ft msl	Runway Surface Condition:	
Runway Used:	36	IFR Approach:	ILS
Runway Length/Width:	9006 ft / 150 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	43.13972,-89.337501 (est)

Administrative Information

Investigator In Charge (IIC): Gallo, Mitchell

Additional Participating
Persons:

Original Publish Date: April 12, 2011

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=69581>

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