



National Transportation Safety Board Aviation Accident Final Report

Location:	Duluth, Minnesota	Accident Number:	CEN12FAMS1
Date & Time:	June 8, 2012, 14:27 Local	Registration:	N174BH
Aircraft:	Piper PA-31-325	Aircraft Damage:	Substantial
Defining Event:	Unknown or undetermined	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airline transport-rated pilot departed in the twin-engine airplane for a maintenance flight to break in a new engine. The flight was expected to last about 4 hours. Radar track data indicated that the airplane departed the airport and proceeded north following the western shoreline of a lake. While following the shoreline, the airplane descended from about 2,800 to 1,600 ft, which was its last recorded position. When the airplane did not return on time, it was reported missing, and an extensive search was conducted. However, the airplane and pilot were not found.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Undetermined because the airplane was not found.

Findings

Not determined	(general) - Unknown/Not determined
-----------------------	------------------------------------

Factual Information

HISTORY OF FLIGHT

On June 8, 2012, about 1307 central daylight time, a Piper PA-31-325, N174BH, departed from the South St Paul Municipal Airport-Richard E Fleming Field (SGS), South St Paul, Minnesota for a maintenance test flight. The airplane reportedly had one of its two engines replaced and the pilot was to fly for about 4 hours to break-in the engine. The airplane did not return from the flight and was reported overdue. The airplane is missing and is presumed to have crashed. The airline transport pilot has not been located. The airplane was registered to Family Celebrations LLC, and was operated as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed and no flight plan was filed. The flight departed SGS with the intention of returning to SGS at the conclusion of the flight.

The airplane was reported missing and an alert notification issued about 2225. The last reported contact with the airplane and pilot was about 1300 when the fixed base operator at SGS towed the airplane to the fuel pumps. When he returned about 15 minutes later, the airplane was no longer there. Aircraft radar track data from various ground based sources indicated that the airplane departed SGS about 1307. The airplane maneuvered east of SGS before turning toward the north. The airplane's track continued north toward Duluth, Minnesota. Once the airplane reached Duluth, it followed the west shoreline of Lake Superior. Radar track data indicated that the airplane was at a pressure altitude of 2,800 feet when it reached the shoreline. The airplane continued along the west shoreline toward Two Harbors, Minnesota, flying over the water while maintaining a distance of about 0.5 miles from the shore. As the airplane approached Two Harbors, it descended. The airplane's last recorded position at 1427 was about 30 miles northeast of Duluth, Minnesota, at an uncorrected pressure altitude of 1,600 feet.

The Air Force Rescue Coordination Center coordinated a search for the missing airplane. The Civil Air Patrol, United States Coast Guard, and other entities participated in the search efforts. Search efforts were suspended on July 4, 2012.

PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with a single-engine land multiengine land and single-engine seaplane ratings. He was issued a second-class airman medical certificate, with a restriction for corrective lenses, on March 27, 2012.

AIRCRAFT INFORMATION

The airplane was a 1976 Piper model PA-31-325, serial number 31-7612038. The airplane was a six to eight seat, low wing, twin-engine airplane, with a tricycle landing gear configuration. The airplane was constructed predominately of aluminum alloys and was powered by one Lycoming TIO-540-F2BD and one Lycoming LTIO-540 F2BD, each rated to produce 325 horsepower.

METEOROLOGICAL INFORMATION

Weather conditions recorded by the Duluth International Airport (DLH) Automated Surface Observing System (ASOS), located about 30 miles southwest of the last recorded airplane position, at 1355, were: wind from 220 degrees at 14 knots gusting to 22 knots, visibility 10 miles, few clouds at 4,000 feet above ground level (agl), scattered clouds at 12,000 feet agl, temperature 27 degrees Celsius, dew point 17 degrees Celsius, and altimeter 29.81 inches of mercury.

History of Flight

Unknown	Unknown or undetermined (Defining event)
---------	--

Pilot Information

Certificate:	Airline transport; Flight engineer; Flight instructor	Age:	67
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
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 With waivers/limitations	Last FAA Medical Exam:	March 27, 2012
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 17570 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N174BH
Model/Series:	PA-31-325	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	31-7612038
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	TIO-540 SER
Registered Owner:		Rated Power:	325 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DLH, 1428 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	13:55 Local	Direction from Accident Site:	240°
Lowest Cloud Condition:	Few / 4000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	14 knots / 22 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.8 inches Hg	Temperature/Dew Point:	27° C / 17° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	South St Paul, MN (SGS)	Type of Flight Plan Filed:	None
Destination:	South St Paul, MN (SGS)	Type of Clearance:	None
Departure Time:	13:15 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	47.05722, -91.596664

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	
Original Publish Date:	January 5, 2016
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=83964

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).