



Aviation Investigation Preliminary Report

Location:	Afton, MN	Accident Number:	CEN24FA125
Date & Time:	March 2, 2024, 09:42 Local	Registration:	N2387B
Aircraft:	Globe GC-1B	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

On March 2, 2024, about 0942 central standard time, a Globe GC-1B, N2387B, was destroyed when it was involved in an accident near Afton, Minnesota. Both occupants were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 Personal flight.

According to a witness that was outside of his house about 600 feet north of the accident site saw the plane in a “quick nosedive” and disappear. He heard the crash and ran to the scene to try and provide aid.

Another witness that is the owner of the property where the airplane impacted terrain, stated that he was in the house at the time of the accident and heard an “exceptionally” loud plane. He stated that the engine was steady and loud followed by 1-2 seconds of silence, then 1-2 seconds of engine noise then it “went quiet” again. He then heard “snapping and cracking” followed by an “explosion”. He then ran outside and called emergency services.

Another witness stated that he was inside his house that is about 700ft northeast of the accident site at the time of the accident. He stated that he heard a loud airplane that sounded much lower than it should have been, and that the engine sounded like it was going back and forth from high rpm to low rpm multiple times before he heard the “thud” of the crash.

The accident site was located about 6 nautical miles south-southeast from the Lake Elmo Airport (21D) in a residential area. The airplane came to rest between a residential garage and wooded area. The airplane impacted in a nose down attitude and sustained post impact fire. Fuel staining was observed on the paved driveway ahead of the wreckage.

The fuselage exhibited significant thermal damage and was mostly consumed by post impact fire. The cockpit was near consumed by post impact fire. The left control stick was installed

and intact. The right control stick and attachment hardware was not located at the accident scene. The control stick system was continuous to their termination at the bell cranks. All control bell cranks sustained significant thermal damage. The instrument panel, instruments, and engine controls exhibited significant crush and thermal damage. All fuel tanks were impact damage and ruptured. The fuel selector was observed in a 10:30 position.

Both wings exhibited accordion crush damage. All fuel tanks exhibited forward hydroforming damage and were ruptured. Both ailerons were attached, and control cables were continuous to their respective bell crank terminations. The right flap remained attached to the wing and its control pushrods were continuous to the fuselage where it was separated in overload. The left flap was located about 10ft aft of the left wing, its bell crank was in place and its control pushrods were overload separated. The landing gear were in the retracted position and the left main gear was impact separated at the strut barrel.

The empennage was mostly intact but separated from the fuselage. Control cable continuity was established from the control surfaces to their respective bell crank termination, and pedals. The right horizontal stabilizer was bent upwards near its root, and the left horizontal stabilizer was bent downward near its root. The elevator trim tab actuator was observed to be 17° tab up, aircraft nose down position. The vertical stabilizer and rudder were unremarkable. The flap actuator was found detached in the wreckage, in a full extended position.

The airplane was recovered to a secure location for further examination by investigators.

The engine was attached to the engine mount and the mount sustained significant thermal and impact damage and was mostly separated from the firewall. The engine was removed from the airframe and hung from a hoist to facilitate the examination.

The top spark plugs were removed, #1 and #3 were observed to be in normal near new condition, #2 was carbon fouled, #4 was carbon fouled and the electrode was recessed into the porcelain. Thumb compression was not able to be obtained due to the limited crank rotation of about 30°. Both magnetos, engine fuel pump, prop governor, oil sump, and fuel servo exhibited significant thermal and impact damage and were not able to be tested. The throttle and mixture cables remained attached. The #3 fuel injector line was separated from the union cone at the flow divider. The exhaust and intake tubing exhibited significant impact crush damage. The crank flange was bent and partially separated from the crankshaft due to impact.

The engine was disassembled by investigators. The camshaft was manually rotated, and it and the valve train were unremarkable. The cylinders were unremarkable. The fuel injectors were unremarkable. The oil pump contained multiple fragments of a soft solder like metal, no scoring was noted. The oil pressure screen was clean from debris, and its seam was split open and missing solder. The oil suction screen was observed to be free from debris. The #2 (center) main bearing exhibited wear and light radial scoring. The crankshaft was bent at the

#1 and #2 rod journals, and the #1 rod exhibited about 40° of rotation. The case at #2 bearing support exhibited significant scoring on the forward face.

The propeller remained attached to the engine. The cylinder and piston impact separated from the propeller assembly. Both blades exhibited chordwise/rotational scoring. One blade was bent opposite rotation and twisted to low pitch. Both blades were bent aft. The blade retention pocket for one blade was fractured in the aft/trailing edge quadrant.

Fuel records indicated that 9.1 gallons of Avgas was purchased by the pilot at 0918 CST on the day of the accident flight.

The airplane was retained for further examination.

Aircraft and Owner/Operator Information

Aircraft Make:	Globe	Registration:	N2387B
Model/Series:	GC-1B	Aircraft Category:	Airplane
Amateur Built:			
Operator:	On file	Operating Certificate(s) Held:	None
Operator Designator Code:			

Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	Condition of Light:	Day
Observation Facility, Elevation:	KSTP,711 ft msl	Observation Time:	09:53 Local
Distance from Accident Site:	11 Nautical Miles	Temperature/Dew Point:	7°C /1°C
Lowest Cloud Condition:	Clear	Wind Speed/Gusts, Direction:	10 knots / , 150°
Lowest Ceiling:	None	Visibility:	10 miles
Altimeter Setting:	29.87 inches Hg	Type of Flight Plan Filed:	None
Departure Point:	Lake Elmo, MN (21D)	Destination:	Granite Falls, MN (KGDB)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	44.910766,-92.798599

Administrative Information

Investigator In Charge (IIC): Brown, Zane

Additional Participating Persons: Daniel Sindt; FAA FSDO; Minneapolis, MN

Investigation Class: [Class 3](#)

Note: