



# Aviation Investigation Final Report

<b>Location:</b>	WHITEHALL, Michigan	<b>Accident Number:</b>	CEN19LA308
<b>Date &amp; Time:</b>	September 9, 2019, 11:40 Local	<b>Registration:</b>	N9492U
<b>Aircraft:</b>	Cessna 150	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Controlled flight into terr/obj (CFIT)	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot was conducting a personal flight in visual meteorological conditions below the minimum safe altitudes and over congested areas when the airplane impacted the center of a water tower. Witnesses observed the airplane in straight and level flight before impact and reported the engine was running at that time. Examination of the wreckage revealed no anomalies that would have prevented the pilot from maneuvering to avoid the tower.

The pilot’s toxicology results were positive for an antidepressant and a sedating antihistamine. The pilot was operating the airplane with an expired medical certificate, and his medical records indicated that he had been prescribed an antidepressant to treat anxiety/depression. This medication required the pilot to obtain a special issuance medical certificate before operating the airplane. It could not be determined if the pilot was impaired by his use of these medications or by the underlying conditions that warranted the medication.

The reasons that the pilot operated the airplane over a congested area at a low altitude and failed to avoid the water tower could not be determined based on the available evidence for this investigation.

## Probable Cause and Findings

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

The pilot’s flight into a water tower while operating below minimum safe altitudes for reasons that could not be determined based on the available evidence for this investigation.

## Findings

<b>Aircraft</b>	Altitude - Incorrect use/operation
<b>Aircraft</b>	Directional control - Incorrect use/operation
<b>Environmental issues</b>	Tower/antenna (incl guy wires) - Contributed to outcome

## Factual Information

### History of Flight

<b>Enroute-cruise</b>	Controlled flight into terr/obj (CFIT) (Defining event)
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On September 9, 2019, about 1140 eastern daylight time, a Cessna 150 airplane, N9492U, was involved in an accident when it impacted a water tower in Whitehall, Michigan. The pilot was fatally injured, and the airplane was destroyed. The airplane was operated under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight.

The flight originated from Fremont Municipal Airport (FFX), Fremont, Michigan, about 1115. The pilot's intended destination could not be determined from the available evidence for this investigation. Witnesses reported observing the airplane flying from the north-northeast at a low altitude and in straight and level flight before the airplane impacted the 180-ft-tall municipal water tower, which was located in a densely populated area about 17 miles west of the departure airport. The witnesses also reported hearing the engine operating at a high-power setting when the impact occurred.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	79, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	None
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 None	<b>Last FAA Medical Exam:</b>	November 1, 1998
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

No pilot logbooks were found during the investigation. The pilot reported a total flight experience of 2,000 hours at the time of his last medical exam, which occurred more than 20 years before the accident. The FAA had no records indicating that the pilot had renewed his third-class medical certificate after it expired.

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N9492U
<b>Model/Series:</b>	150 M	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1976	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Utility	<b>Serial Number:</b>	15078440
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	1601 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>		<b>Engine Model/Series:</b>	O-200 SERIES
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	100 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

No maintenance logbooks were located during the investigation.

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KMKG,633 ft msl	<b>Distance from Accident Site:</b>	17 Nautical Miles
<b>Observation Time:</b>	11:55 Local	<b>Direction from Accident Site:</b>	142°
<b>Lowest Cloud Condition:</b>	Scattered / 3500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	90°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.56 inches Hg	<b>Temperature/Dew Point:</b>	17.8°C / 11.1°C
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Fremont, MI (FFX )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	11:15 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Fremont Municipal Airport KFFX	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	771 ft msl	<b>Runway Surface Condition:</b>	Unknown
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal	<b>Latitude, Longitude:</b>	43.405555,-86.335556(est)

The water tower showed impact damage near the center of the tank that was consistent with the damage noted on the leading edge of the wings and the propeller. The damage to the airplane and the water tower was consistent with the airplane impacting the water tower perpendicular to the tank. The impact was on an approximate heading of 225°. The airplane wreckage was aligned on an approximate heading of 260°. The wreckage was mostly contained to an area that was 15 ft in diameter in the northeast corner of a fenced lot containing the water tower. Miscellaneous debris consisting of a nose and main landing gear tire and small pieces of metal, plastic, and windshield were located within a 130-ft radius of the main wreckage.

Most of the cockpit area and fuselage were consumed by postimpact fire. Flight control continuity was established from the elevators, rudder, and ailerons to the cockpit area, but the impact and fire damage prevented control continuity from being established within the cockpit. The flaps were attached to the wings in the retracted position, the flap cables were intact, and continuity was established between the flaps.

The engine was located under fire-damaged fuselage debris. The engine sustained impact and fire damage and was found fragmented. The engine crankcase was fractured, and cylinders were expelled from the crankcase. The crankshaft was fractured with a part still attached to the propeller.

The propeller had separated from the engine and came to rest under the horizontal and vertical stabilizers. The propeller was damaged from its impact with the water tower. The spinner assembly was flattened and deformed into the propeller hub, and a circular flattening was observed. The propeller mounting bolts were sheared and exhibited rotational bending. One blade was bent aft at the tip, bent midspan, and had chordwise scratching. The other blade was

bent aft near the blade root and had chordwise scratching. No airframe or engine anomalies consistent with a preimpact failure or malfunction were noted.

## Medical and Pathological Information

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The Western Michigan University School of Medicine, Medical Examiner and Forensic Services, performed an autopsy of the pilot. His cause of death was multiple injuries. Toxicology testing performed at the Federal Aviation Administration's Forensic Sciences Laboratory detected citalopram, N-desmethylcitalopram, and diphenhydramine in the pilot's specimens.

Citalopram is a prescription medication used to treat various conditions, including depression, obsessive-compulsive disorder, panic disorder, anxiety disorder and post-traumatic stress disorder. N-desmethylcitalopram is a metabolite of citalopram. Diphenhydramine is a sedating antihistamine used to treat allergic conditions and facilitate sleep.

The patient instructions for citalopram state the following:

*Because psychoactive drugs may impair judgment, thinking, or motor skills, patients should be cautioned about operating hazardous machinery, including automobiles, until they are reasonably certain that [citalopram] therapy does not affect their ability to engage in such activities.*

The effects of long-term use of citalopram on performance is not known. The FAA requires pilots using antidepressants, including citalopram, to have a special issuance medical certificate.

The pilot's personal medical records for the 3 years before the accident were reviewed. The records revealed that the pilot had a longstanding history of high blood pressure, high cholesterol, and an anxiety disorder, . He used lisinopril to treat his high blood pressure, atorvastatin to treat his high cholesterol, and escitalopram to treat anxiety/depression. These records did not mention of the extent or seriousness of the pilot's anxiety/depression.

Major depression is associated with significant cognitive degradation, particularly in executive functioning skills. The cognitive degradation may not improve even with remission of a depressed episode, and patients with severe depression are more significantly affected than those with fewer symptoms or episodes.

## Additional Information

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Title 14 *Code of Federal Regulations* 91.119, Minimum Safe Altitudes, states in part the following:

*Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes...Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.*

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Baker, Daniel
<b>Additional Participating Persons:</b>	Robert Holdridge; FAA; Grand Rapids, MI
<b>Original Publish Date:</b>	March 4, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=100214">https://data.ntsb.gov/Docket?ProjectID=100214</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).