Aviation Investigation Final Report

Location:	Rochester, Washington	**Accident Number:**	WPR18FA261
Date & Time:	September 14, 2018, 11:20 Local	**Registration:**	N382T
Aircraft:	GRUBER Beelzabub	**Aircraft Damage:**	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

This report was modified on September 15, 2022. Please see the public docket for this accident to view the original report.

A witness reported that the airplane overflew the area, about 500 ft above ground level, before it descended and leveled out. The airplane was in a wings-level attitude when the left wing struck a lone tree that was about 60–70 ft tall. The surrounding trees in the area were about 30–50 ft tall. The airplane continued for about 500 feet before it impacted a forested area and came to rest nose-down against a tree. The witness further reported that the engine was running at the time of the accident.

Examination of the airframe and engine revealed no preimpact mechanical malfunctions or failures that would have precluded normal operation.

Toxicology testing detected a low concentration of the opiate morphine in the pilot-rated passenger's urine specimen but not in the blood specimen, which suggests use was not recent and any sedating effects would not be present. Therefore, the effects of the pilot-rated passenger's use of morphine were not a factor in the accident.

It is likely that the pilot did not see the tree that was taller than the surrounding trees while maneuvering at low altitude.

Probable Cause and Findings

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

The pilot's failure to maintain clearance from a tree while maneuvering at a low altitude.

Findings

Personnel issues	Monitoring environment - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Tree(s) - Effect on operation

Factual Information

History of Flight

Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT) (Defining event)

On September 14, 2018, about 1120 Pacific daylight time, an experimental Gruber Beelzabub airplane, N382T, was substantially damaged when it was involved in an accident near Rochester, Washington. The pilot/owner and pilot-rated passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane departed Flying B Airport (8WA0), Rainier, Washington, at an undetermined time, and no flight plan had been filed.

A witness reported observing the airplane about 500 ft above ground level just east of their job site. The airplane circled around a single tree, leveled off, and began a descent. The airplane was in a wings-level attitude when the left wing struck a 60–70 ft tall tree. The witness reported that the engine was running.

Pilot Information

Certificate:	Private	**Age:**	34,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 None	**Last FAA Medical Exam:**	June 9, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Pilot-rated passenger Information

Certificate:	Private	**Age:**	19,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	None
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 None	**Last FAA Medical Exam:**	July 12, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	GRUBER	**Registration:**	N382T
Model/Series:	Beelzabub	**Aircraft Category:**	Airplane
Year of Manufacture:	2007	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	001
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2471 Hrs at time of accident	**Engine Manufacturer:**	Jacobs Aircraft Engine Company
ELT:	C91 installed, not activated	**Engine Model/Series:**	R755-9
Registered Owner:		**Rated Power:**	245 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:	KOLM,188 ft msl	**Distance from Accident Site:**	16 Nautical Miles
Observation Time:	12:54 Local	**Direction from Accident Site:**	7°
Lowest Cloud Condition:	Few / 3400 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.97 inches Hg	**Temperature/Dew Point:**	17°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	46.713333,-122.946388(est)

The accident area was located on a hilltop whose trees were being cleared. The trees in the area where the airplane came to rest, were between 30-50 ft tall and were downslope from the single tree that the airplane impacted. The tree impacted was about 60-70 ft tall and about 500 feet from the main wreckage.

The airplane came to rest in a nose-down attitude with the empennage against a tree. The left wing and left horizontal stabilizer separated from the airframe; a portion of the left wing came to rest in a tree about 500 ft from the main wreckage. A landing gear wheel separated and was located on the road adjacent to the forested area. The fuel tank had been breached and the smell of fuel was present along with damaged foliage. The tailwheel remained attached in its normal position.

The fabric cover was torn away from the undercarriage and exposed the flight control tubes. The control tubes and cables remained connected via their associated hardware. Flight control

continuity was established via flight control cables. The landing gear bungees remained in place and not damaged.

The engine separated from the airframe and came to rest adjacent to the nose of the airplane. There were no obvious holes in the crankcase. The propeller assembly remained attached to the engine.

The two-bladed Curtiss propeller remained attached to the crankshaft. One propeller blade was bent midspan; the tip was missing. The other blade was relatively straight with bending at the outboard tip portion of the blade.

Visual inspection of the engine revealed no obvious holes in the crankcase. The fuel strainer was removed and was free of debris. Mechanical and valve train continuity were established by manual rotation of the engine.

Medical and Pathological Information

The Thurston County Coroner performed autopsies of both pilots and determined their cause of death to be blunt force trauma of the head.

Toxicology testing performed by the Federal Aviation Administration Forensic Sciences laboratory of the pilot/owner revealed no carbon monoxide, volatiles, or tested-for drugs. The toxicology testing did not perform testing for cyanide.

Toxicology testing performed for the pilot-rated passenger detected no volatiles; and carbon monoxide and cyanide testing was not performed. The toxicology detected 0.045 (ug/mL, ug/g) morphine in urine but not in the blood cavity.

Morphine is an opiate narcotic indicated for the management of severe and chronic pain; morphine may also be present as a metabolite of the opiate codeine. Use of morphine carries a high risk of addiction, abuse, and misuse. It is an impairing medication and carries the warning that patients should not drive or operate dangerous machinery until they know how they will react to the medication. The half-life of morphine is between 1.3 and 6.7 hours and it has a therapeutic range of 10 to 100 ng/mL. Morphine is metabolized mainly in the liver; normorphine is a major inactive metabolite. About 10% of a morphine dose is excreted unchanged in the urine.

The investigation was unable to determine which occupant was flying the airplane at the time of the accident.

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye		
Additional Participating Persons:	John Osborne; Federal Aviation Administration; Des Moines, WA		
Original Publish Date:	May 3, 2022	**Investigation Class:**	3
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98298		