



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Orient, Ohio	Accident Number:	CEN18LA275
Date & Time:	July 12, 2018, 16:25 Local	Registration:	N619NT
Aircraft:	WHITTMAN Tailwind	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The private pilot, who was the owner of the experimental amateur-built airplane, was receiving instruction from a flight instructor during a familiarization flight when the airplane experienced a total loss of engine power while leveling off at 2,000 ft mean sea level. The flight instructor attempted to restart the engine by turning on the carburetor heat and the fuel pump but was not successful. The flight instructor then performed a forced landing to a field, during which the airplane sustained substantial damage to the fuselage.

The pilot stated that the airplane was equipped with an unconventional mixture control that was improperly used during flight and caused the engine to quit running. Postaccident examination of the airplane revealed the mixture control had been modified from its original configuration; the full-forward position of the mixture control would provide a full lean mixture, opposite of the original configuration in which a full-forward position would have provided a full rich mixture. Thus, it is likely that fuel was inadvertently cut off during flight. There were no other mechanical malfunctions or anomalies reported that would have precluded normal operation of the airplane. The pilot recommended that "[b]etter and more thorough cockpit familiarization would have prevented the accident from occurring."

Probable Cause and Findings

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

The pilot's and the flight instructor's incorrect use of the modified mixture control, which resulted in a loss of engine power due to fuel starvation and a forced landing. Also causal was the inadequate systems knowledge of the experimental, amateur-built airplane by the pilot and the flight instructor.

Findings

Aircraft	Mixture control - Not specified
Personnel issues	Incorrect action performance - Pilot
Personnel issues	Incorrect action performance - Instructor/check pilot
Aircraft	Fuel - Not specified
Personnel issues	Knowledge of equipment - Pilot
Personnel issues	Knowledge of equipment - Instructor/check pilot

Factual Information

History of Flight

Prior to flight	Aircraft maintenance event
Enroute-cruise	Fuel starvation (Defining event)
Enroute-cruise	Attempted remediation/recovery
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)

On July 12, 2018, about 1625 eastern daylight time, an experimental amateur-built Whittman Tailwind, N619NT, impacted terrain during a forced landing following a total loss of engine power near Orient, Ohio. The airplane sustained substantial damage to the fuselage. The private pilot/airplane owner and a flight instructor were uninjured. The airplane was registered to the previous owner and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as an instructional flight that was not operating on a flight plan. Day visual meteorological conditions prevailed at the time of the accident. The local flight departed from the Bolton Field Airport, near Columbus, Ohio, about 1610.

The pilot, who was the airplane owner, stated the flight was a familiarization flight for him for the purpose of meeting insurance requirements.

The flight instructor stated the preflight and runup for the familiarization flight was normal. After the departure and level off at 2,000 ft msl, the engine began to "surge and then quit running". He turned on carburetor heat and the fuel pump, but engine power was not regained, and the propeller kept windmilling. He then performed a forced landing to a field.

The flight instructor did not provide his total flight time in the accident airplane make and model in his National Transportation Safety Board Pilot/Operator Aircraft Accident Report, Form 6120. The flight instructor entered "all types" in the flight time matrix of Form 6120. The flight instructor's experience in the accident airplane make and model was unknown.

The pilot stated the airplane was equipped with an unconventional mixture control that was improperly used during flight and caused the engine to quit running. The pilot's recommendation was: "Better and more thorough cockpit familiarization would have prevented the accident from occurring."

According to the Federal Aviation Administration inspector from the Columbus Flight Standards District Office, the post-accident examination of the airplane revealed the mixture control had been modified from its original configuration that was opposite of a configuration in which a full forward position of the mixture control would have provided a full rich mixture. As a result, the fuel was inadvertently cut-off during flight. There were no other mechanical anomalies reported that would have precluded normal operation.

Pilot Information

Certificate:	Private	Age:	58,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	February 10, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 1, 2017
Flight Time:	800 hours (Total, all aircraft), 1 hours (Total, this make and model)		

Flight instructor Information

Certificate:		Age:	72,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
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:	September 21, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 19, 2018
Flight Time:	30000 hours (Total, all aircraft), 0 hours (Total, this make and model), 29800 hours (Pilot In Command, all aircraft), 180 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	WHITTMAN	Registration:	N619NT
Model/Series:	Tailwind	Aircraft Category:	Airplane
Year of Manufacture:	2013	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	4039
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	July 7, 2018 Condition	Certified Max Gross Wt.:	1235 lbs
Time Since Last Inspection:	16 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	15 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320-E2D
Registered Owner:		Rated Power:	150 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	TZR,904 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	17:45 Local	Direction from Accident Site:	45°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.17 inches Hg	Temperature/Dew Point:	28°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Columbus, OH (TZR)	Type of Flight Plan Filed:	None
Destination:	Columbus, OH (TZR)	Type of Clearance:	None
Departure Time:	16:10 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	39.805831,-83.152221(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Steven Ronshausen; Federal Aviation Administration; Columbus FSDO; Columbus, OH
Original Publish Date:	April 20, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97807

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](#).