Aviation Investigation Final Report

Location:	Echo Bay, Nevada	**Accident Number:**	WPR14FA243
Date & Time:	June 12, 2014, 21:05 Local	**Registration:**	N55GM
Aircraft:	DITTENBER THOMAS J AURIGA	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

At the end of a personal cross-country flight, the private pilot was attempting to land at night on a dark unlit runway. A witness reported that the airplane made a low pass to the east of the airport and then reversed course to presumably land on runway 24. The witness lost site of the airplane and, shortly thereafter, observed a column of smoke.

The airplane impacted terrain 50 ft lower than the runway surface, 200 yards northeast of the runway threshold, in a steep nose-down attitude. The airplane was consumed by the postimpact fire. Postaccident examination of the wreckage revealed no evidence of a mechanical malfunction or failure that would have precluded normal operation. It is likely that, while maneuvering in the dark night conditions with no ground reference or runway lighting, the pilot failed to maintain airplane control.

Toxicological testing detected methamphetamine in the pilot's tissue specimens, and the level in his liver suggested high dose use, which can cause impairment. The tests also detected tramadol, which may be sedating and is associated with an increased risk of seizure, particularly in the first days and weeks after beginning treatment or with very high doses. However, without a blood level, it could not be determined whether or not the pilot's use of tramadol or methamphetamine contributed to the accident.

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 airplane control while maneuvering for landing to an unlit runway in dark night conditions.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained
Environmental issues	Sloped/uneven terrain - Contributed to outcome
Environmental issues	Dark - Effect on personnel
Personnel issues	Use of medication/drugs - Pilot

Factual Information

History of Flight

Approach-VFR pattern final	Loss of control in flight (Defining event)

On June 12, 2014, about 2105 Pacific daylight time (PDT), an experimental Dittenber Express Auriga, N55GM, impacted terrain during landing at Echo Bay Airport (0L9), Overton, Nevada. The owner/pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot and passenger were fatally injured; the airplane was destroyed by impact forces and postcrash fire. The cross-country personal flight departed Minden, Nevada, about 1800. Visual meteorological conditions prevailed, and no flight plan had been filed.

A witness reported that the airplane made a low pass to the east of the airport and then reversed course, presumably to land at 0L9 using runway 24. The witness lost sight of the airplane as it neared the airport. A few minutes later, the witness observed a column of black smoke near the airport.

Documentation of the accident site revealed the airplane impacted terrain at a steep nose down attitude. The debris field was about 100 feet in diameter. The airplane was mostly consumed by the post-impact fire.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	December 16, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	7880 hours (Total, all aircraft)		

A review of Federal Aviation Administration (FAA) airman records revealed that the 48-year-old pilot held a private pilot certificate with ratings for airplane single-engine land and instrument airplane.

The pilot did not hold a valid medical certificate. The most recent medical held was a third-class medical certificate issued on December 16, 2011. It had the limitations that the pilot must wear corrective lenses.

No personal flight records were located for the pilot. The National Transportation Safety Board investigator-in-charge (IIC) obtained the aeronautical experience listed in this report from a review of the FAA airmen medical records on file in the Airman and Medical Records Center located in Oklahoma

City, Oklahoma. The pilot reported on his medical application that he had a total time of 7,880 hours with 190 hours logged in the last six months.

The accident pilot had previously owned a Bellanca 17-30, registration number N4785V. He owned the airplane from March 22, 1995, thru August 19, 1998.

Aircraft and Owner/Operator Information

Aircraft Make:	DITTENBER THOMAS J	**Registration:**	N55GM
Model/Series:	AURIGA NO SERIES	**Aircraft Category:**	Airplane
Year of Manufacture:	1999	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	008
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	IO-360
Registered Owner:	On file	**Rated Power:**	
Operator:	On file	**Operating Certificate(s) Held:**	None

The airplane was an experimental amateur-built Auriga manufactured in 1999 by Thomas J. Dittenber as serial number 008. The four-seat airplane was equipped with a Lycoming IO-360 reciprocating engine and a variable pitch Hartzell propeller.

The only maintenance record located was for replacing a landing light. The work order was dated March 5, 2013, at an indicated total aircraft time of 1,348.4 hours.

The accident flight departed from Reno Airport with an unknown amount of fuel on board.

The accident airplane was purchased by the accident pilot on December 19, 2006.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	KLSV,1868 ft msl	**Distance from Accident Site:**	28 Nautical Miles
Observation Time:	03:58 Local	**Direction from Accident Site:**	263°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.69 inches Hg	**Temperature/Dew Point:**	35°C / -5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	MINDEN, NV (MEV)	**Type of Flight Plan Filed:**	None
Destination:	Echo Bay, NV (0L9)	**Type of Clearance:**	None
Departure Time:	18:00 Local	**Type of Airspace:**	Class G

According to the U.S. Naval Observatory, Astronomical Applications Department, the computed sunset occurred in Overton at 1955, with civil twilight ending at 2025.

Airport Information

Airport:	ECHO BAY 0L9	**Runway Surface Type:**	Asphalt
Airport Elevation:	1535 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	3400 ft / 50 ft	**VFR Approach/Landing:**	Straight-in

The FAA Digital Airport/Facility Directory indicated that Echo Bay Airport (0L9) runway 24 was 3,400 feet long and 50 feet wide. The runway surface was asphalt. The airport runways were unlighted.

The airport is located on top of a mesa at an elevation of 1,535 feet msl.

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:**	36.312221,-114.457496(est)

Investigators examined the wreckage at the accident scene. The first identified point of contact (FIPC) was a ground scar crater located 200 yards northeast of the runway threshold.

The impact point was on a slope at an elevation of 1,485 feet msl. The accident site was 50 feet below the runway elevation.

The wreckage was fragmented and thermally consumed by the post-impact fire.

The propeller flange was separated from the crankshaft just forward of the engine case. The crankshaft fracture surface exhibited torsional granular features on a 45-degree conical plane around its circumference.

The propeller showed S-bending, torsional twisting, bending, and scaring.

The engine exhaust system was crushed and displayed ductal deformation. The heater shroud was also crushed with ductal signatures.

Communications

The accident airplane had been in contact with Nellis Air Force Base Air Traffic Control using a registration number of N4785V, and terminated service at 2039. The radar track was observed by Terminal Radar Approach Control until about five miles west of 0L9 at 2043.

Medical and Pathological Information

According to the FAA medical case review, the pilot had reported no medications and no significant medical conditions to the FAA. He was 76 inches tall and weighed 316 lbs at his last medical exam dated December 26, 2011. At that time, he reported 7,880 total flight hours, and was issued a third-class medical certificate, limited by the need for corrective lenses. Of note, this medical certificate expired

December 31, 2013.

According to the autopsy performed by the Clark County Coroner, the pilot's cause of death was multiple blunt force injuries, and the manner of death was accident. In addition to citing blunt and thermal injuries identified during the autopsy, the medical examiner noted no natural disease, but identified methamphetamine intoxication. Toxicology testing, performed at the request of the medical examiner by NMS Labs on a specimen of the pilot's liver, identified 9,500 ng/g of methamphetamine, 640 ng/g of its active metabolite amphetamine, and 280 ng/g of tramadol. Methamphetamine is a Schedule II controlled substance available by prescription, and used to treat ADHD, ADD, and narcolepsy. However, typically in much larger doses, it is also extensively used recreationally by persons who smoke, snort, or inject it. Tramadol is an opioid analgesic available as a Schedule IV controlled substance. When issued by prescription, both drugs carry warnings about driving or operating machinery while under their influence.

Toxicology testing requested by the NTSB and performed at the FAA's Bioaeronautical Research Laboratory identified methamphetamine and amphetamine in the pilot's liver and muscle as well as tramadol in liver (0.263 ug/g), kidney (0.249 ug/g), and heart tissue (0.159 ug/g).

Illicit use of methamphetamine can cause a variety of symptoms. Including intense euphoria, rapid flight of ideas, sexual stimulation, high energy, obsessive/compulsive activity, thought blending, and dilated pupils during the first few minutes, which gradually fades.

The drug may be frequently re-administered to attempt to regain the euphoria. Between dosing(regular or binging), users may experience withdrawal symptoms including dysphoria, scattered and disorganized thought, intense craving, paranoia, anxiety, irritability, hypervigilance, auditory and tactile hallucinations, and delusions. However, there is no available information linking liver levels with the stage of symptoms or level of impairment the user may experience, and no clear evidence using blood levels either.

Tests and Research

The initial reports of this accident from air traffic control identified the airplane by the registration number of N4785V that is registered to a Bellanca 17-30. A review of the registration records for N4785V revealed that the airplane was registered to an individual who resides in Florida. The owner was contacted and advised that he had sold the airplane to another person who lived in Pennsylvania.

The accident pilot was in a property dispute with his estranged wife, and was reportedly trying to keep the location of the accident airplane from her.

The airframe and engine were examined on site with no mechanical anomalies identified that would have precluded normal operation.

Additional Information

According to FAA Advisory Circular AC 20-27F, Certification and Operation of Amateur-Built Aircraft, "Amateur builders are free to develop their own designs or build from existing designs. We do not approve these designs and it would be impractical to develop design standards for the wide variety of design configurations, created by designers, kit manufacturers, and amateur builders."

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	John Waugh; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	August 31, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89433