Aviation Investigation Final Report

Location:	Miami, Oklahoma	**Accident Number:**	DFW08LA121
Date & Time:	April 28, 2008, 14:30 Local	**Registration:**	N747CT
Aircraft:	TROMSNESS ENTERPRISES INC TURBINE LE	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Shortly after departure, the single-engine, turbo propeller equipped airplane was observed in a spiraling descent before it impacted the center median of a major interstate and exploded. An on-scene examination of the airplane revealed that the only identifiable parts of the airplane that remained were the propeller, the engine, a flap, a section of the vertical stabilizer, the elevator, the landing gear and both wing spars. The three-bladed propeller remained attached to the engine; however, one blade had separated from the hub. Examination of the blades revealed that they were curled aft, exhibited leading edge damage and deep gouging from impact with the concrete barrier. The pilot had a history of anxiety, depression, muscle pain, severe headaches, obstructive sleep apnea (OSA), and memory loss, and had recently and regularly been using multiple prescription medications, including three medications for pain, two antidepressants, and a sleep aid, each of which had the potential to adversely affect performance. The pilot was likely suffering from medication-overuse headache, in which overly frequent use of pain medications to control intermittent migraine or tension headaches over time results in a continuous or very frequently recurring headache; his medication combination may have substantially increased his risk for seizure activity; and his OSA may have raised the likelihood of accident involvement. The pilot had not admitted to most of the medications he was using or the medical conditions with which he had been diagnosed on his applications for airman medical certificate, though on one application the pilot had indicated occasional use of a prescription pain medication, and no additional detail was pursued by the FAA.

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 control of the airplane for undetermined reasons. Contributing to the accident included his extensive use of medications and/or his multiple medical conditions and the failure of the FAA to follow up on his reported medication use.

Findings

Personnel issues	Prescription medication - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained
Personnel issues	(general) - Pilot
Organizational issues	Oversight of personnel - FAA/Regulator

Factual Information

History of Flight

Maneuvering	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On April 28, 2008, at 1430 central daylight time, an experimental Tromsness Enterprises, Incorporated Turbine Legend, N747CT, a single-engine turbo prop airplane, was destroyed by post-impact fire when it collided with a concrete barrier in the center median of Interstate 44 in Miami, Oklahoma. The certified private pilot, and sole occupant, was fatally injured. The airplane was registered to and operated by the pilot. No flight plan was filed for the local flight that departed the Miami Municipal Airport (MIO), Miami, Oklahoma, between 1400 and 1415. Visual meteorological conditions prevailed for the personal flight conducted under 14 Code of Federal Regulations Part 91.

Several witnesses observed the airplane prior to the accident and stated that it was spiraling as it descended to the ground. One witness said the airplane was approximately 500 feet above the ground and was heading southeast as it descended in an approximately 80 degree nose down attitude before it hit the median barrier and exploded into flames.

A second witness was traveling westbound on the interstate when he first observed the airplane. He said. "I saw the airplane moving in an unstable manner when it went totally out of control heading in a [southwest] direction. It started losing altitude fast, rolled over three times then hit the road left wing first, nose slightly upward. The plane burst into flames upon impact as it hit the center road barrier."

A third witness was also traveling west on the interstate when he first noticed "a small single engine airplane" that seemed to be "too low." The witness said, "I watched as the airplane suddenly dipped right then dipped left and did a complete roll. It managed to get upright just when it hit the interstate...."

An on-scene examination of the airplane was conducted by the Federal Aviation Administration (FAA). According to an FAA inspector, the airplane, which is comprised mostly of composite material, was destroyed by fire. The only identifiable parts of the airplane that remained were the propeller, the engine, a flap, a section of the vertical stabilizer, the elevator, the landing gear and both wing spars. The three-bladed propeller remained attached to the engine; however, one blade had separated from the hub. Examination of the blades revealed that they were curled aft, exhibited leading edge damage and deep gouging from impact with the concrete barrier. The cockpit area, including the instrument panel, avionics and radios, were also destroyed by fire. External examination of the engine revealed no pre-mishap anomalies.

The pilot held a private pilot certificate for airplane single-engine land and glider. His last FAA third class medical was issued on November 27, 2007. At that time, he reported a total of 3,012 flight hours.

Toxicological testing was conducted by the FAA Accident Research Laboratory, Oklahoma City, Oklahoma. Blood submitted for that testing is noted in the pilot's autopsy report to have been collected from the chest cavity. The toxicology report noted:

>> 3.126 (ug/mL, ug/g) TRAMADOL detected in Blood
>> TRAMADOL present in Urine
>> 0.343 (ug/ml, ug/g) HYDROCODONE detected in Urine
>> HYDROCODONE NOT detected in Blood
>> 0.084 (ug/mL, ug/g) DIHYDROCODEINE detected in Urine
>> DIHYDROCODEINE NOT detected in Blood
>> GABAPENTIN present in Urine
>> GABAPENTIN NOT detected in Blood
>> BUPROPION detected in Blood
>> BUPROPION present in Urine
>> BUPROPION METABOLITE present in Blood
>> BUPROPION METABOLITE present in Urine
>> 0.011 (ug/mL, ug/g) TRAZODONE detected in Blood
>> TRAZODONE present in Urine
>> 8.403 (ug/ml, ug/g) ACETAMINOPHEN detected in Blood
>> 55.48 (ug/ml, ug/g) ACETAMINOPHEN detected in Urine

Review of the pilot's personal medical records revealed a history of anxiety, depression, muscle pain, severe headaches most mornings, obstructive sleep apnea (OSA), and memory loss since at least 1999. He noted "spells" of weakness during this period, and episodes of "shaking" in February of 2007. He had been regularly using multiple medications, including tramadol, gabapentin, trazadone, and flurazepam since at least 2006, and hydrocodone and bupropion since at least early 2007, with prescriptions documented for each of the medications in the months leading up to the accident. He had intermittently used a CPAP (continuous positive airway pressure) device to treat his OSA.

The pilot had specifically denied any history of "Frequent or severe headaches," "Mental disorders of any sort; depression, anxiety, etc.," "Admission to hospital," and "Other illness, disability, or surgery" on his two most recent applications for airman medical certificate in October 2005 and November 2007. He indicated the use only of "Excedrin - over the counter" in response to "Do You Currently Use Any Medication" on his 2007 application. In response to the same question on the 2005 application, the pilot had noted the use of tramadol "occasionally," without any other indication of the frequency, amount, or reasons for its use, and the FAA did not request any additional information regarding the use of the medication.

Weather reported at Grove Municipal Airport (KGMJ), about 20 miles south of the accident site,

at 1432, was reported as wind from 330 degrees at 11 knots gusting to 15 knots, visibility 10 miles, clear skies, and a barometric pressure setting of 30.12 inches of Mercury. The temperature was 63 degrees Fahrenheit and the dewpoint was 41 degrees Fahrenheit.

Pilot Information

Certificate:	Private	**Age:**	72,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Unknown	**Last FAA Medical Exam:**	November 27, 2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	3012 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	TROMSNESS ENTERPRISES INC	**Registration:**	N747CT
Model/Series:	TURBINE LE	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	137T
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Turbo prop
Airframe Total Time:		**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	TROMSNESS ENTERPRISES INC	**Rated Power:**	760 Horsepower
Operator:	TROMSNESS ENTERPRISES INC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	
Observation Facility, Elevation:	GMJ	**Distance from Accident Site:**	
Observation Time:	14:32 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots / 15 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	17°C / 5°C
Precipitation and Obscuration:			
Departure Point:	Miami, OK (MIO)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Miami Municipal Airport KMIO	**Runway Surface Type:**	
Airport Elevation:	808 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	36.905555,-94.885833

Administrative Information

Investigator In Charge (IIC):	Yeager, Leah
Additional Participating Persons:	Ernest J Holdsclaw; Oklahoma FAA/FSDO
Original Publish Date:	January 29, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=67901