 National Transportation Safety Board <b>FACTUAL REPORT</b> AVIATION		NTSB ID: WPR12FA339		Aircraft Registration Number: N8218P	
		Occurrence Date: 08/02/2012		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Truckee	State CA	Zip Code 96161	Local Time 0814	Time Zone PDT	
Airport Proximity: On Airport/Airstrip		Distance From Landing Facility: 0			
Aircraft Information Summary					
Aircraft Manufacturer PIPER		Model/Series PA-24-250		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***</p> <p><b>HISTORY OF FLIGHT</b></p> <p>On August 2, 2012, about 0814 Pacific daylight time, a Piper PA-24-250, N8218P, sustained substantial damage when it impacted a hangar during takeoff initial climb from Truckee-Tahoe Airport (TRK), Truckee, California. The airplane was registered and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The commercial pilot, sole occupant of the airplane, was fatally injured. Visual meteorological conditions prevailed and no flight plan was filed for the local flight which was originating at the time of the accident.</p> <p>Representatives from Los Medicos Voladores reported to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) that the pilot was participating in a flight to Baja, Mexico for medical outreach along with two passengers. As part of their flight, they were transporting medical supplies.</p> <p>Two witnesses, who were previously onboard the airplane reported that the accident flight was the second attempted takeoff by the pilot. Prior to the first takeoff, the pilot and passengers loaded baggage into the aft baggage compartment and rear seat area. After a normal taxi out and pre-takeoff checks, the pilot initiated takeoff on runway 19. The passengers stated that the airplane appeared to have accelerated and lifted off normally, however, as the airplane ascended through about 20 feet above the runway, the airplane wobbled to the left and right, and drifted slightly to the left. The pilot told the passengers that something did not feel right and that the airplane was not climbing. Subsequently, the pilot aborted the takeoff and landed uneventfully on the remaining runway.</p> <p>During the taxi back to the terminal area, the pilot and his two passengers discussed various ideas why the airplane was not climbing, including potential weight and balance issues and center of gravity issues. The witnesses further reported that the pilot told them that he was going to try and takeoff alone in order to troubleshoot. Upon returning to the terminal area, the pilot had both passengers exit the airplane while the engine was still running, and the pilot taxied back to runway 19.</p> <p>The witnesses further stated that while observing the airplane takeoff a second time from runway 19, the takeoff roll seemed to be uneventful and the airplane lifted off about one-third down the runway and entered a nose high attitude. The witnesses said that the airplane seemed to wobble back and forth several times as it was ascending. One witness said that as the airplane was over the departure end of the runway, at an altitude of about 150 feet above the runway, it appeared to enter a right turn and bank.</p>					
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**Narrative** (Continued)

As the turn continued, the bank angle of the airplane increased beyond 90-degrees as it descended behind a hangar.

Additional witnesses located within the vicinity of the accident site reported that the airplane lifted off normally and entered a nose high attitude as if it was going to "stall." The witnesses continued to watch the airplane continue its takeoff initial climb and noticed that it began to wobble back and forth prior to entering a right turn. Subsequently, witnesses observed the airplane descend into a hangar. All witnesses reported that during the takeoff and accident sequence, the engine sounded normal and appeared to be producing power.

**PERSONNEL INFORMATION**

The pilot, age 66, held a commercial pilot certificate with an airplane single-engine land, multi-engine land and an instrument rating. A second-class airman medical certificate was issued on February 13, 2012, with no limitations stated. The pilot reported on his most recent medical certificate application; that he had accumulated 2,000 total flight hours. Review of the pilot's logbooks revealed that as of the most recent entry dated July 7, 2012, he had accumulated a total of 1,736 hours of flight time of which 339.3 hours were in the accident make/model airplane, 2.7 hours within the previous 30 days, 7.3 hours within the previous 60 days, and 24.1 hours within the previous 90 days to the accident.

**AIRCRAFT INFORMATION**

The four-seat, low-wing, retractable-gear airplane, serial number (S/N) 24-3471, was manufactured in 1963. It was powered by a Lycoming O-540-A1D5 engine, serial number L-5889-40, rated at 250 horse power. The airplane was also equipped with a McCauley model B3D32C412 adjustable pitch propeller. Review of the Pilot Operating Handbook (POH) revealed that section IV, General Maintenance, part VI. Fuel Requirements, states in part "...Aviation Grade 91/96 Octane (minimum) fuel must be used in the Comanche. The use of lower grades of fuel can cause serious engine damage in a very short period of time."

The POH further states in section II, part IV., Take-Off, Climb and Stalls:, that prior to takeoff, flaps should be in the "UP" position. Using the rate of climb vs. standard altitude performance chart for the PA24 with a 250 horse power engine, elevation of 5,900 feet msl, at gross weight, the calculated rate of climb was about 1,000 feet per minute.

Review of the airframe and engine maintenance records revealed that the most recent annual inspection was completed on January 12, 2012, at a tachometer hour reading of 1,804.6 hours and engine time since major overhaul of 438.6 hours.

The maximum gross weight for the airplane per Piper's operating limitations is 2,900 pounds. The maximum weight for the aft baggage area is 200 pounds. Various items removed from the accident site were weighed using a kitchen scale. The items located within the aft baggage area totaled 122 pounds and the items within the left rear seat totaled 18 pounds. Three bags, totaling 48 pounds were removed prior to investigational personnel arriving on scene by previous passengers on the airplane. The weight of the bags was not verified by the NTSB IIC.

Using the last reported aircraft weight that was on file with the Federal Aviation Administration (FAA) from 1977 of 1,798 pounds (83.63 arm), 85 gallons of fuel, pilot weight of 190 pounds, weighed items within the baggage compartment and removed bags (170 pounds total), and rear seat baggage of 18 pounds, the airplane weighed about 2,709 pounds at the time of takeoff with a moment of 239345.4. This calculated to a CG of 88.33 inches, which was within the limits of the airplane.

Refueling records obtained from the Truckee-Tahoe Airport revealed that the airplane was topped off with 33.5 gallons of 100 low lead (LL) fuel. Samples of the fuel were taken by airport personnel following the accident and were found to be free of contaminants. Fuel samples were subsequently shipped to a laboratory for further examination. Analysis of the fuel samples revealed that the octane level of the fuel was 97.1. No additional anomalies were noted.

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**Narrative (Continued)****METEOROLOGICAL INFORMATION**

A review of recorded data from the Truckee-Tahoe Airport automated weather observation station revealed at 0755 conditions were wind calm, visibility 10 statute miles, clear sky, temperature 6 degrees Celsius, dew point -4 degrees Celsius, and an altimeter setting of 30.33 inches of Mercury. Using the reported weather conditions and field elevation, the calculated density altitude was about 5,842 feet and a pressure altitude of about 5,523 feet.

**AIRPORT INFORMATION**

The Truckee-Tahoe Airport is a non-tower controlled airport with a reported field elevation of 5,901 feet. The airport was equipped with two asphalt runways, runway 10/28 (7,000 feet long by 100 feet wide) and runway 01/19 (4,630 feet long by 75 feet wide). Airport personnel reported that runway 10/18 was closed due to runway resurfacing and an active Notice to Airmen (NOTAM) was in effect during the time of the accident. Investigative personnel noted that rising terrain was present in all quadrants of the airport, including the departure end of runway 19.

**WRECKAGE AND IMPACT INFORMATION**

Examination of the accident site revealed the airplane impacted an enclosed airplane hangar on row E, about 924 feet northwest of runway 19, and about 4,166 feet from the approach end of the runway. Wreckage debris was located within about 350 feet of the main wreckage. The fuselage came to rest inverted on a heading of about 351 degrees magnetic along with the left wing and engine, within the hangar. A small portion of the fuel bladder and associated wing structure remained lodged within the roof structure on top of the hangar. The outer portion of the right wing was located outside of the hangar about 50 feet to the east. Portions of the right wing structure were found about 75-feet on the northwest side of the main wreckage. A propeller tip was located northwest of the accident hangar about 350 feet from the main wreckage.


An impact crater was observed within the asphalt hangar floor which measured about 18 inches by 18 inches and was about 7 inches deep. Rotational ground scarring was observed extending from the crater. The hangar and ground impressions were found to be consistent with an almost vertical impact angle. The measured elevation of the accident site was about 5,901 feet.

Examination of the wreckage revealed that the left wing was partially separated from the fuselage at the wing root area. The aileron remained attached to the wing via its respective mounts. The flap actuator jackscrew showed an extension of 15 threads which was consistent with a flap setting of about 10 degrees flaps down. Flight control continuity was established from the left aileron to the cockpit controls. However, the control cables were separated at an area near the control column. The separated control cables exhibited splayed signatures, consistent with overload. The left main landing gear was found in the extended and locked position. In addition, the landing actuator cable was found in the extended position.

The right wing was separated in two main sections. One section separated outboard of the main landing gear. The inboard section including the main landing gear and fuel tank was found within the hangar adjacent to the fuselage. The outboard section of the right wing was found outside the hangar and exhibited a large impact impression on the leading edge about mid span of the flap. The impression extended aft to the flap structure. The flap actuator jackscrew exhibited an extension of 15 threads which is consistent with an approximate 10 degree flap down setting. The right aileron remained attached to its respective mounts. The aileron balance cable was separated near the center fuselage section and exhibited splayed signatures consistent with overload. The right aileron control cable was found secured to the bell crank and continuous to the wing root. The right main landing gear extension cable was in the extended position.

The fuselage was in an inverted position. The right door structure was damaged and separated from the fuselage. The fuselage structure surrounding the cabin area was compressed.

The left and right stabilators, rudder, and vertical stabilizer remained attached to the empennage. The stabilator trim tab remained attached via respective mounts. The stabilator trim actuator was measured and found to be in a position consistent with slightly nose up.

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**Narrative** (Continued)

Control continuity was established from the stabilator balance tube to the cockpit controls. The vertical stabilizer and rudder were in place and secure. Continuity was established from the rudder bell crank to the cockpit controls.

The engine remained attached to the fuselage via the two upper engine attachments mounts. The two lower engine mounts were separated. All engine accessories remained attached to the engine via their respective mounts with the exception of the carburetor. The top spark plugs were removed and exhibited light gray color deposits within the electrode area. The top spark plugs exhibited normal wear signatures when compared to the Champion Check-A-Plug comparison chart.

The internal areas of the cylinders were examined using a lighted borescope. All of the piston heads, cylinder combustion chambers, intake, and exhaust valves were unremarkable. The rocker arm covers were removed. The crankshaft propeller flange was bent and a portion was cut in order to rotate the crankshaft by hand. Rotational continuity was established throughout the engine and valve train. Thumb compression and suction was obtained on all cylinders. When the engine crankshaft was rotated by hand, equal movement of all of the intake and exhaust rocker arms was observed.

The propeller hub assembly was fractured and all three propeller blades were separated. About 6 inches of the outboard tips of all three propeller blades. All three propeller blades exhibited blade twisting, chordwise scratching, and "S" bending.

Postaccident examination of the airframe and engine revealed no evidence of preexisting mechanical malfunctions or failures that would have precluded normal operation.

During the on-scene examination of the wreckage, prescription bottles of Zolipdem, Losartan, and Buprenorphine prescribed to the pilot were located within the wreckage.


**MEDICAL AND PATHOLOGICAL INFORMATION**

The Nevada County Coroner conducted an autopsy on the pilot on August 3, 2012. The medical examiner determined that the cause of death was "...Multiple blunt force injuries."

The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on the pilot. According to CAMI's report, carbon monoxide, cyanide, volatiles, and drugs were tested with negative results, and had positive results for 0.046 (ug/mL, ug/g) Buprenorphine detected in Liver, 0.011 (ug/mL, ug/g) Buprenorphine detected in Blood (Aortic), Losartan detected in Urine, Losartan detected in Liver, 0.026 (ug/mL, ug/g), Norbuprenorphine detected in Blood (Aortic), Norbuprenorphine detected in Liver, Zolpidem detected in Liver, and Zolpidem detected in Muscle.

The FAA blue ribbon medical file, autopsy results, toxicology report, investigator's report, and personal medical records were reviewed by the Chief Medical Officer for the National Transportation Safety Board.

According to the FAA blue ribbon medical file, this pilot was first medically certified in 1971, limited by a requirement for corrective lenses. In 1988, he returned his medical certificate to the FAA because of ongoing treatment for drug and alcohol addiction. The pilot participated in a diversion program for physicians which required routine drug and alcohol testing in addition to treatment and support group attendance, which ended 5 years later. By 1990 he had two years of sobriety and was again granted a second class medical certificate. In 1992, he reported having completed five years of sobriety in California's diversion program for physicians. In 2005 he reported treatment for hypertension and high cholesterol. His most recent medical certification was issued February 13, 2012; at that time he reported only using Diovan (Valsartan, a blood pressure medication).

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**Narrative** (Continued)


The toxicology results from the Civil Aeromedical Institute revealed Losartan (marketed under the trade name Cozaar and used to treat hypertension) in liver and urine; zolpidem (marketed under the trade name Ambien and used to treat insomnia) in liver and muscle; 0.011ug/mL of buprenorphine in the blood and 0.046ug/mL in liver, and its primary active metabolite norbuprenorphine in blood at 0.026ug/mL. Buprenorphine is a semi-synthetic opioid analgesic prescribed as a schedule III controlled substance and used in the treatment of severe pain (marketed under the brand name Subutex). The therapeutic range for buprenorphine is 0.0003 to 0.0080ug/mL and it carries a warning from the FDA: "may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery)." No ethanol was found in the vitreous.


Review of the pilot's personal primary care medical records revealed treatment for shift work sleep disturbance with Zolpidem and treatment of hypertension with Diovan (valsartan). His primary care records made no mention of acute or chronic pain or its treatment. However, records received from a second physician indicate the chronic use of prescribed buprenorphine for neck pain.

**TESTS AND RESEARCH**


Two Apple iPads, one Stratus Foreflight GPS device, a handheld spot device and a spot connect device were shipped to the NTSB Vehicle Recorders Laboratory, Washington, DC, for further examination. No data was recovered from any of the recovered devices.

Updated on May 8 2014 10:42AM

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		Occurrence Type: <b>Accident</b>			
<b>Landing Facility/Approach Information</b>					
Airport Name <b>Truckee-Tahoe Airport</b>	Airport ID: <b>KTRK</b>	Airport Elevation <b>5901 Ft. MSL</b>	Runway Used <b>19</b>	Runway Length <b>4630</b>	Runway Width <b>75</b>
Runway Surface Type:					
Runway Surface Condition: <b>Dry</b>					
Approach/Arrival Flown: <b>NONE</b>					
VFR Approach/Landing: <b>None</b>					
<b>Aircraft Information</b>					
Aircraft Manufacturer <b>PIPER</b>		Model/Series <b>PA-24-250</b>		Serial Number <b>24-3471</b>	
Airworthiness Certificate(s): <b>Normal</b>					
Landing Gear Type: <b>Retractable - Tricycle</b>					
Amateur Built Acft? <b>No</b>	Number of Seats: <b>4</b>	Certified Max Gross Wt. <b>2900 LBS</b>		Number of Engines: <b>1</b>	
Engine Type: <b>Reciprocating</b>	Engine Manufacturer: <b>LYCOMING</b>		Model/Series: <b>O-540</b>	Rated Power: <b>250 HP</b>	
<b>- Aircraft Inspection Information</b>					
Type of Last Inspection <b>Annual</b>	Date of Last Inspection <b>01/2012</b>	Time Since Last Inspection <b>Hours</b>		Airframe Total Time <b>1804.6 Hours</b>	
<b>- Emergency Locator Transmitter (ELT) Information</b>					
ELT Installed?/Type <b>Yes / Unknown</b>		ELT Operated? <b>No</b>	ELT Aided in Locating Accident Site?		
<b>Owner/Operator Information</b>					
Registered Aircraft Owner <b>UNGAR JAMES R</b>		Street Address			
		City <b>Yreka</b>	State <b>CA</b>	Zip Code <b>96097</b>	
Operator of Aircraft <b>UNGAR JAMES R</b>		Street Address			
		City <b>Yreka</b>	State <b>CA</b>	Zip Code <b>96097</b>	
Operator Does Business As:			Operator Designator Code:		
<b>- Type of U.S. Certificate(s) Held: None</b>					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: <b>Part 91: General Aviation</b>					
Type of Flight Operation Conducted: <b>Personal</b>					
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<b>First Pilot Information</b>					
Name		City		State	Date of Birth
On File		On File		On File	On File
					Age
					66
Sex:	Seat Occupied: Left	Occupational Pilot? No		Certificate Number: On File	
Certificate(s): Commercial					
Airplane Rating(s): Multi-engine Land; Single-engine Land					
Rotorcraft/Glider/LTA: None					
Instrument Rating(s): Airplane					
Instructor Rating(s): None					
Current Biennial Flight Review?					
Medical Cert.: Class 2		Medical Cert. Status: Without Waivers/Limitations		Date of Last Medical Exam: 02/2012	
- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night
Total Time	1736	339			
Pilot In Command(PIC)					
Instructor					
Instruction Received					
Last 90 Days	24	24			
Last 30 Days	3	3			
Last 24 Hours					
Seatbelt Used? Yes		Shoulder Harness Used? N/A		Toxicology Performed? Yes	
				Second Pilot? No	
<b>Flight Plan/Itinerary</b>					
Type of Flight Plan Filed: None					
Departure Point		State	Airport Identifier	Departure Time	Time Zone
Same as Accident/Incident Location			KTRK	0814	PDT
Destination		State	Airport Identifier		
Local Flight		CA	KTRK		
Type of Clearance: None					
Type of Airspace:					
<b>Weather Information</b>					
Pilot's Source of Wx Information:					
Unknown					
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<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
TRK	0755	PDT	5901 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Day
Lowest Ceiling: None			Ft. AGL	Visibility: 10 SM	Altimeter: 30.33 "Hg
Temperature: 6 °C		Dew Point: -4 °C		Weather Conditions at Accident Site: Visual Conditions	
Wind Direction:		Wind Speed: Calm		Wind Gusts:	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration: No Obscuration; No Precipitation					


  

<b>Accident Information</b>		
Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -	1				1
Other Ground					
- GRAND TOTAL -	1				1



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Administrative Information		
<p>Investigator-In-Charge (IIC)</p> <p>Joshua Cawthra</p>		
<p>Additional Persons Participating in This Accident/Incident Investigation:</p> <p>Harry R Smith Federal Aviation Administration Reno, NV</p> <p>Troy Helgeson Lycoming Engines Williamsport, PA</p> <p>Michael McClure Piper Aircraft Vero Beach, FL</p>		
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