Aviation Investigation Final Report

Location:	Truckee, California	**Accident Number:**	WPR10LA082
Date & Time:	December 13, 2009, 17:38 Local	**Registration:**	N850MT
Aircraft:	EADS SOCATA TBM 700	**Aircraft Damage:**	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the flight, the instrument-rated private pilot was monitoring the weather at his intended destination. He noted the weather and runway conditions and decided to conduct a global-positioning-system instrument approach to a known closed runway with the intention of circling to a different runway. As the airplane neared the missed approach point, the pilot established visual contact with the airport's runway environment and canceled his instrument flight rules clearance. As he entered the left downwind leg of the traffic pattern for his intended runway, the pilot noticed that the first part of the runway was covered in fog and that the visibility was 0.75 of a mile with light snow. With at least 5,000 feet of clear runway, he opted to land just beyond the fog. Prior to touchdown, the pilot concluded that there was not enough runway length left to make a landing and performed a go-around by applying power, pitching up, and retracting the landing gear. During the go-around, the pilot focused outside the airplane cockpit but had no horizon reference in the dark night conditions. He heard the stall warning and realized that the aircraft was not climbing. The pilot pitched the nose down and observed only snow and trees ahead. Not being able to climb over the trees, the airplane subsequently impacted trees and terrain, coming to rest upright in a wooded, snow-covered field. The pilot stated that there were no anomalies with the engine or airframe that would have precluded normal operation of the airplane.

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 an adequate airspeed and clearance from terrain during an attempted go-around. Contributing to the accident was the pilot's decision to land on a partially obscured runway.

Findings

Aircraft	Altitude - Attain/maintain not possible
Personnel issues	Monitoring environment - Pilot
Personnel issues	Decision making/judgment - Pilot
Environmental issues	Mountainous/hilly terrain - Response/compensation
Aircraft	Airspeed - Not attained/maintained

Factual Information

History of Flight

Approach-VFR go-around	Collision with terr/obj (non-CFIT) (Defining event)

On December 13, 2009, about 1738 Pacific standard time, an EADS Socata TBM-700 airplane, N850MT, was substantially damaged when it impacted terrain following an aborted landing near the Truckee-Tahoe Airport (TRK), Truckee, California. The airplane was registered to Tahoe Investments, Los Altos Hills, California, and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The instrument-rated private pilot and his passenger received minor injuries. Instrument meteorological conditions prevailed and an instrument flight rules (IFR) flight plan was filed for the personal flight. The cross-country flight originated from the San Carlos Airport (SQL), San Carlos, California, at 1630, with an intended destination of TRK.

In a written statement, the pilot reported that prior to the flight he obtained a weather briefing for the intended route of flight and destination. He also continuously checked the TRK weather prior to departure. He recalled that prior to departure the TRK weather indicated visibility greater than 7 miles, overcast clouds at 2,000 feet, wind calm, and that runway 19 was closed. During the flight, he monitored the weather conditions at TRK and decided to conduct the Global Positioning System (GPS) Runway 19 instrument approach with the intention of circling to a different runway. The pilot reported that the passenger saw the airport as they passed over it, but he could not see it and continued IFR flight.

As the pilot initiated the instrument approach, he continued to monitor the weather conditions at the airport and noted that the visibility had decreased to 7 miles. The pilot stated that during the approach he activated all of the airplane's deicing equipment, as the airplane had "picked up some light rime ice." The pilot was unsure at what altitude the airplane broke out of the clouds because the ground was visible throughout the approach. As the airplane approached the published missed approach point (MAP), the pilot established visual contact with the runway lighting for runway 28 and subsequently canceled his IFR clearance.

As the pilot entered a left downwind for runway 28, he noticed "the first part of [runway] 28 was covered in fog." The pilot checked the reported weather conditions via the Automated Surface Observing System (ASOS) located at TRK and noted that the visibility was three-quarters of a mile with light snow. The pilot reported that there was at least 5,000 feet of clear runway and he decided to make a mid-field landing, just beyond the fog. Prior to touchdown the pilot decided that there was not enough runway to land, as the airplane was "too high and fast." The pilot initiated a go-around by applying power, pitching up, and retracting the landing gear.

During the go-around the pilot reported that he "was totally focused outside the plane because

of the clouds and mountains, but had no horizon reference in the dark." He also stated that he heard an audible warning horn, which he thought was activated because he had failed to raise the landing flaps before retracting the gear. As the audible horn warning continued, the pilot observed that the airplane was not climbing; he then realized that the sound was the stall warning horn. The pilot stated that when he pitched the nose down, he immediately saw only snow and trees ahead. Not being able to climb over the trees, the airplane subsequently impacted trees and terrain about 0.5 miles northwest from the departure end of runway 28.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that the airplane came to rest upright within a wooded snow covered field. The left and right wings were structurally damaged. The propeller assembly was separated from the engine and located adjacent to the main wreckage. A strong odor of jet fuel was also present at the accident site.

The pilot reported that there were no pre-existing mechanical problems with the engine or airframe.

Pilot Information

Certificate:	Private	**Age:**	61,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	September 19, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 4, 2009
Flight Time:	1738 hours (Total, all aircraft), 1098 hours (Total, this make and model), 1547 hours (Pilot In Command, all aircraft), 41 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	EADS SOCATA	**Registration:**	N850MT
Model/Series:	TBM 700	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	489
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	December 11, 2009 Annual	**Certified Max Gross Wt.:**	7493 lbs
Time Since Last Inspection:	4 Hrs	**Engines:**	1 Turbo prop
Airframe Total Time:	196 Hrs at time of accident	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	PT6A-66D
Registered Owner:	TAHOE INVESTMENTS INC	**Rated Power:**	850 Horsepower
Operator:	TAHOE INVESTMENTS INC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	TRK,5900 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	17:30 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Scattered / 100 ft AGL	**Visibility**	1 miles
Lowest Ceiling:	Broken / 1500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	90°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	-2°C / -3°C
Precipitation and Obscuration:	Light - None - Snow		
Departure Point:	San Carlos, CA (SQL)	**Type of Flight Plan Filed:**	IFR
Destination:	Truckee, CA (TRK)	**Type of Clearance:**	IFR
Departure Time:	16:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Truckee-Tahoe Airport TRK	**Runway Surface Type:**	Asphalt
Airport Elevation:	5900 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	28	**IFR Approach:**	Global positioning system
Runway Length/Width:	7000 ft / 100 ft	**VFR Approach/Landing:**	Go around;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	39.319999,-120.139442(est)

Administrative Information

Investigator In Charge (IIC):	Cawthra, Joshua
Additional Participating Persons:	Donald Morgan; Federal Aviation Administration; Reno, NV
Original Publish Date:	March 16, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75166