



# Aviation Investigation Final Report

<b>Location:</b>	Waller, Texas	<b>Accident Number:</b>	DFW05CA146
<b>Date &amp; Time:</b>	June 5, 2005, 13:30 Local	<b>Registration:</b>	N7220Z
<b>Aircraft:</b>	Piper PA-25-235	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Glider tow		

## Analysis

The 563-hour private pilot completed 11 glider tows prior to the accident. Prior to the twelfth flight, he determined that he had enough fuel to complete one or two more flights, based on the how the fuel gauge needle was fluctuating in the cockpit. The pilot departed on his twelfth flight, and towed a glider to 3,000 feet mean sea level (msl) about three miles west of the glider port. After releasing the glider, he turned east toward the glider port. When the airplane was approximately two miles from the glider port, the engine stopped producing power. The pilot entered a left downwind, and when he arrived at the north end of the glider port he felt he was too high and initiated a right 360-degree turn to lose altitude. However, the pilot said that his airspeed and altitude deteriorated quickly and he either "stalled the plane or entered an incipient spin." The pilot recovered near ground level and subsequently struck a tree with the left wing, which spun the airplane around before it came to rest. Examination of the fuel system revealed there was no fuel onboard the airplane.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight planning/decision and his failure to maintain adequate airspeed resulting in fuel exhaustion and a stall.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL  
Phase of Operation: DESCENT - NORMAL

### Findings

1. (F) FLUID,FUEL - EXHAUSTION
  2. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: DESCENT - EMERGENCY

### Findings

3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
  4. STALL/SPIN - INADVERTENT - PILOT IN COMMAND
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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: EMERGENCY DESCENT/LANDING

### Findings

5. OBJECT - TREE(S)

## Factual Information

On June 5, 2005, at 1330 central daylight time, a single-engine Piper PA-25-235 airplane, N7220Z, was substantially damaged during a forced landing following a loss of engine power near the Soaring Club of Houston Glider port (89TA), Waller, Texas. The instrument rated private pilot, sole occupant of the airplane, was not injured. The airplane was owned by B & I Aircraft LLC, and was being operated by the Soaring Club of Houston. Visual meteorological conditions prevailed for the local glider tow flight being conducted under 14 Code of Federal Regulations Part 91. The flight originated from the glider port about 10 minutes prior to the accident.

In a written statement, the 563-hour pilot stated that on the day of the accident, he had completed 11 glider tows prior to the accident. Prior to the twelfth flight, he determined that he had enough fuel to complete one or two more flights based on the how the fuel gauge needle was fluctuating in the cockpit. The pilot departed on his twelfth flight, and towed a glider to 3,000 feet mean sea level (msl) about three miles west of the glider port.

The pilot added that after releasing the glider, he turned east toward the glider port. When the airplane was approximately two miles from the glider port, the engine stopped producing power. The pilot entered a left downwind for runway 17, and when he arrived at the north end of the glider port he felt he was "too high" and initiated a right 360-degree turn to lose altitude. However, the pilot said that his airspeed and altitude deteriorated quickly and he either "stalled the plane or entered an incipient spin." The pilot recovered near ground level and subsequently struck a tree with the left wing, which spun the airplane around before it came to rest.

A Federal Aviation Administration (FAA) inspector performed an examination of the airplane. According to the inspector, the airplane came to rest about one mile from the airport, and had structural damage to the left wing and the left wing strut. Additionally the left main landing gear had collapsed. Examination of the fuel system revealed there was no fuel onboard.

The pilot reported that the airplane was equipped with a float gage featuring a float-pointer arrangement which was installed on the engine cowling.

The pilot reported the weather as wind from 180 degrees at 10 knots, gusting to 12 knots, visibility 10 miles, and scattered clouds at 3,000 feet above ground level. In addition, he reported that there were no mechanical deficiencies with the airplane.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	56,Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3	<b>Last FAA Medical Exam:</b>	November 1, 2003
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	563 hours (Total, all aircraft), 46 hours (Total, this make and model), 21 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N7220Z
<b>Model/Series:</b>	PA-25-235	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	25-3137
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>		<b>Engine Model/Series:</b>	0-540-B2C2
<b>Registered Owner:</b>	B & I Aircraft LLC	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	Waller , TX (89TA)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	13:20 Local	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	1 None	Latitude, Longitude:	30.192499,-95.963058

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Yeager, Leah
<b>Additional Participating Persons:</b>	Carl Thomas; Houston, Texas
<b>Original Publish Date:</b>	September 13, 2005
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=61635">https://data.nts.gov/Docket?ProjectID=61635</a>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).