Aviation Investigation Final Report

Location:	Hilltop Lakes, Texas	**Accident Number:**	DFW07LA118
Date & Time:	May 20, 2007, 15:00 Local	**Registration:**	N28730
Aircraft:	Grumman American AA-5B	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The 300-hour private pilot reported that the airplane entered an un-commanded nose down pitch and banked to the left while the airplane was established on final approach to runway 16. The pilot and passenger were seriously injured. An examination of the engine was conducted. Examination of the engine 180-horsepower engine did not reveal any mechanical anomalies that could have prevented normal engine operation. The fuel cells were breached; however, the operator reported that the airplane departed the airport with a full load of fuel, and according to the engine tach, the flight's duration was 36 minutes. According to icing probability chart, the weather conditions at the time of the accident were favorable for the probability of "serious" carburetor icing at glide power. Examination of the airplane and engine revealed that the carburetor heat control was in the "off" or "cold" position. The pilot and passenger were seriously injured. Weather reported 30 miles south of the accident site at the time of the accident stated winds were from 120 degrees at 9 knots gusting to 14 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power due to carburetor ice. Contributing factors were the lack of suitable terrain for a forced landing and the weather conditions that were conducive to carburetor ice.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH

Findings
1. (C) FUEL SYSTEM,CARBURETOR - ICE
2. (F) CARBURETOR HEAT CONTROL - NOT ACTIVATED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - UNCONTROLLED

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. (F) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

On May 20, 2007, approximately 1500 central daylight time, a single-engine Grumman American AA-5B airplane, N28730, was substantially damaged when it collided with trees following a loss of control while on approach to the Hilltop Lakes Airport (0TE4), near Hilltop Lakes, Texas. The private pilot and his passenger were seriously injured. The airplane was registered to Cyrus Aviation Services, Inc., of Bryan, Texas, and was being operated by the pilot. Visual meteorological conditions prevailed and no flight plan was filed for the 14 Code of Federal Regulations Part 91 personal flight. The cross-country flight originated from the Coulter Field Airport (KCFD) near Bryan, Texas, at 1330.

The 300-hour private pilot reported that while on final approach to Runway 16 at the Hilltop Lakes Airport, the airplane entered an un-commanded nose down pitch and banked to the left. The pilot added that he responded by applying full power and adding back pressure; however the airplane did not respond and crashed into the trees.

The airplane came to rest suspended in the trees. Members of the local volunteer fire department removed trees to gain access to the airplane and "forcibly opened the canopy." Both occupants were assisted out of the airplane. The airplane was equipped with seat belts and shoulder harnesses. They were both being used at the time of the mishap.

According to a Federal Aviation Administration (FAA) inspector, who traveled to the accident site, both wings sustained structural damage. The nose wheel, engine firewall, engine mounts, and portions of the fuselage were also damaged. There was no fire.

An examination of the engine was conducted on June 8, 2007 by representatives of the National Transportation Safety Board. Examination of the engine 180-horsepower Lycoming O-360-A4K engine did not reveal any mechanical anomalies that could have prevented normal engine operation. The fuel cells were breached; however, the operator reported that the airplane departed the Coulter Field with a full load of fuel, and according to the engine tach, the flight's duration was 36 minutes.

According to the aircraft's performance chart, conditions were favorable for the probability of "serious" carburetor icing at glide power. Examination of the airplane and engine revealed that the carburetor heat control was in the "off" or cold position.

At 1453, the weather observation facility at Easterwood Field Airport (CLL), located near College Station, Texas, located 31 miles south of the accident site, reported wind from 120 degrees at 9 knots, gusting to 14 knots, visibility 10 statute miles, a scattered cloud layers at 4,900 feet and 10,000 feet MSL, temperature 81 degrees Fahrenheit, dew point 55 degrees Fahrenheit, and a barometric pressure of 30.07 inches of Mercury.

Pilot Information

Certificate:	Private	**Age:**	67,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	August 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	January 1, 2006
Flight Time:	300 hours (Total, all aircraft), 15 hours (Total, this make and model), 200 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman American	**Registration:**	N28730
Model/Series:	AA-5B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	AA5B0781
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 1, 2007 100 hour	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:	77 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3051 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	0-360-a4k
Registered Owner:	Cyrus Aviation Services	**Rated Power:**	180 Horsepower
Operator:	Justin Smith	**Operating Certificate(s) Held:**	None
Operator Does Business As:	Cyrus Aviation	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KCLL,321 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	195°
Lowest Cloud Condition:	Scattered / 4900 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots / 14 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	120°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	27°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bryan, TX (KCFD)	**Type of Flight Plan Filed:**	None
Destination:	Hilltop Lakes, TX (0TE4)	**Type of Clearance:**	None
Departure Time:	13:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Hilltop Lakes Airport 0TE4	**Runway Surface Type:**	Asphalt
Airport Elevation:	501 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	3000 ft / 40 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	31.029985,-96.109199(est)

Administrative Information

Investigator In Charge (IIC):	Gamble, William
Additional Participating Persons:	Paul Downs; FAA FSDO Houston, Texas; Houston, TX
Original Publish Date:	July 25, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=65822