



Aviation Investigation Final Report

Location:	GODLEY, Texas	Accident Number:	FTW93LA069
Date & Time:	January 15, 1993, 16:39 Local	Registration:	N22R
Aircraft:	PITTS S1C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

DURING AEROBATIC MANEUVERS THE ENGINE BEGAN TO RUN ROUGH AND EXPERIENCED A PARTIAL LOSS OF POWER. TEMPERATURE AND DEW POINT WERE 53 AND 46 DEGREES RESPECTIVELY. ICING PROBABILITY CHARTS SHOW THAT THE AIRPLANE WAS OPERATING IN A REGION CONDUCIVE TO SERIOUS ICING FOR CARBURETOR EQUIPPED AIRPLANES, BOTH PRESSURIZED AND UNPRESSURIZED. THE PILOT SELECTED AN OPEN FIELD TO PERFORM THE LANDING; HOWEVER, IT SLOPED AWAY FROM THE INITIAL TOUCHDOWN. DURING THE INITIAL TOUCHDOWN THE AIRPLANE NOSED OVER AND CARTWHEELED ONCE TO ITS FINAL RESTING PLACE

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PARTIAL POWER LOSS DUE TO THE PILOT'S DELAYED APPLICATION OF CARBURETOR HEAT. FACTORS WERE CARBURETOR ICE, AND THE SLOPING TERRAIN

Findings

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

Findings

1. WEATHER CONDITION - CARBURETOR ICING CONDITIONS
2. (F) FUEL SYSTEM,CARBURETOR - ICE

3. (C) CARBURETOR HEAT - DELAYED - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - EMERGENCY

Findings

4. (F) TERRAIN CONDITION - DOWNHILL

Factual Information

On January 15, 1993, at 1639 central standard time, a Pitts S1C, N22R, was substantially damaged when it impacted the ground near Godley, Texas. The private pilot (owner) sustained minor injuries. Weather for the 14 CFR Part 91 flight was visual meteorological conditions.

During an interview with the pilot conducted by the investigator in charge and in a written statement, the pilot reported the information in this paragraph. He departed a local private grass strip to practice aerobatic maneuvers. "Prior to entering the designated aerobatic block the pilot decided to perform some flight maneuvers, so as to warm up the airplane." During the warmup maneuvers he stated that the "engine began to cough." He cycled the throttle lever in an attempt to clear the engine and applied carburetor heat. He further reported that the engine never lost complete power. The pilot selected what he thought was a suitable area to land and executed a forced landing.

An inspection of the accident site revealed that the airplane impacted the ground on terrain that was sloping downward and away from the direction of the approach. Physical evidence at the scene revealed that the airplane left impressions of the tail landing gear, main landing gear, and propeller at the initial ground contact (144 feet prior to it's final resting place). The ground signatures were measured and they matched the dimensions of the distance from the tail landing gear to the main landing gear and from the main landing gear to the propeller of a normally configured airplane. The main landing gear collapsed and the propeller mounting flange was sheared opposite the direction of rotation. Examination of the airplane revealed that the engine did not have a data plate installed and the owner stated it was not present when he purchased the airplane. The normal engine configuration for this airplane is a 140 horsepower, this airplane had a 180 horsepower engine installed. The propeller had separated from the mounting flange and each blade exhibited equal distortion. An examination of the propeller mounting flange revealed that it had sheared opposite the direction of rotation. Soil and grass were embedded in the remaining flange in a twisting motion. The propeller assembly was located 44 feet from the initial ground contact. Five propeller strike marks were found four feet in front of the initial ground contact. Physical evidence indicated that the airplane cartwheeled one time prior to reaching it's final resting place. There was a large quantity of fuel present at impact (amount undetermined due to spillage).

A witness at the scene reported that the airplane performed low level aerobatic maneuvers over his house and another adjoining house. The same witness saw the airplane impact the ground.

A review of the icing probability charts indicated that the airplane was operating in an area conducive to serious icing in pressure type carburetors.

Pilot Information

Certificate:	Private	Age:	40, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	September 10, 1992
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	492 hours (Total, all aircraft), 148 hours (Total, this make and model), 390 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PITTS	Registration:	N22R
Model/Series:	S1C S1C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	June 1, 1992 Annual	Certified Max Gross Wt.:	900 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	O-360-A3A
Registered Owner:	BLAIR, GEARY L.	Rated Power:	180 Horsepower
Operator:	BLAIR, GEARY L.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	FTW ,698 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	17:54 Local	Direction from Accident Site:	215°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	Broken / 3000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	12°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(NONE)	Type of Flight Plan Filed:	None
Destination:	(NONE)	Type of Clearance:	None
Departure Time:	16:40 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	32.439891,-97.520736(est)

Administrative Information

Investigator In Charge (IIC):	Ellis, Matthew
Additional Participating Persons:	CURT MAHAFFEY; FORT WORTH , TX WILLIAM GAMBLE; ARLINGTON , TX
Original Publish Date:	October 25, 1993
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=18686

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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](#).