



Aviation Investigation Final Report

Location:	Amarillo, Texas	Accident Number:	CEN10LA295
Date & Time:	May 29, 2010, 18:54 Local	Registration:	N260PK
Aircraft:	PITTS AEROBATICS S-2B	Aircraft Damage:	Destroyed
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the initial climb following an engine teardown, inspection, and engine reinstallation, the airplane’s engine experienced a partial loss of power. The pilot initiated a 180-degree turn and performed a downwind landing on the runway from which he had just departed. Following the landing, and while taxiing, the pilot observed flames emanating from the engine cowling area. The pilot shut down the engine and exited the airplane. Moments later the airplane was engulfed in flames. An examination of the airplane’s engine revealed that the engine-driven fuel pump housing had fractured where the fuel line fitting had been inserted. The fitting, with its pipe thread, was the correct fitting; however, its preaccident torque value is unknown. Due to thermal damage to the pump housing the reason for the failure could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The fracture of the fuel pump housing for undetermined reasons.

Findings

Aircraft	Fuel pumps - Failure
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Powerplant sys/comp malf/fail (Defining event)
Initial climb	Loss of engine power (partial)
Emergency descent	Loss of engine power (partial)
Landing-landing roll	Fire/smoke (non-impact)

On May 29, 2010, about 1854 central daylight time, a Pitts Aerobatics S-2B airplane, N260PK, was destroyed by fire during a post maintenance flight at the Blue Sky Airfield (2TX0), in Amarillo, Texas. The pilot, the sole occupant, sustained minor injuries. The airplane was registered to and operated by the pilot. Visual meteorological conditions prevailed and no flight plan was filed for the 14 Code of Federal Regulations Part 91 local flight. The flight originated moments before the accident.

Reportedly, the purpose for the flight was a test flight following an engine tear down, inspection, and engine reinstallation. During the initial climb, while at an altitude of 700 feet above ground level (agl), the engine experienced a partial loss of power. The pilot initiated a 180 degree turn and performed a downwind landing on the runway he had just departed from. Following the landing, and while taxiing, the pilot observed flames emanating from the engine cowling area. The pilot shut down the engine and exited the airplane. Moments later the airplane was engulfed in flames.

An examination of the airplane's engine conducted by a Federal Aviation Administration (FAA) inspector who responded to the accident site, revealed that the engine driven fuel pump housing had fractured where the fuel line fitting had been inserted. The fitting, with its pipe thread, was the correct fitting; however, its pre-accident torque value is unknown. Due to thermal damage to the pump housing, the reason for the failure could not be determined.

Pilot Information

Certificate:	Private	Age:	53, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	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:	February 12, 2009
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 29, 2008
Flight Time:	720 hours (Total, all aircraft), 346 hours (Total, this make and model), 1 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PITTS AEROBATICS	Registration:	N260PK
Model/Series:	S-2B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Aerobatic	Serial Number:	5034
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	May 29, 2010 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	AEIO-540 SER
Registered Owner:	On file	Rated Power:	260 Horsepower
Operator:	On file	Operating Certificate(s) Held:	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:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Amarillo, TX (2TX0)	Type of Flight Plan Filed:	None
Destination:	Amarillo, TX (2TX0)	Type of Clearance:	None
Departure Time:	15:52 Local	Type of Airspace:	

Airport Information

Airport:	Blue Sky Airfield 2TX0	Runway Surface Type:	Grass/turf
Airport Elevation:	3615 ft msl	Runway Surface Condition:	Dry
Runway Used:	35	IFR Approach:	None
Runway Length/Width:	4800 ft / 60 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	35.064445,-101.849441(est)

Administrative Information

Investigator In Charge (IIC):	LeBaron, Timothy
Additional Participating Persons:	Gordon Morris; Federal Aviation Administration; Lubbock, TX
Original Publish Date:	December 20, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=76209

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).