



Aviation Investigation Final Report

Location:	Durham, California	Accident Number:	WPR12LA406
Date & Time:	September 8, 2012, 12:15 Local	Registration:	N395AA
Aircraft:	AVIAT AIRCRAFT INC A-1B	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot reported that, shortly after taking off for the personal flight, he heard a "pop" sound emanate from the engine, followed by a loss of engine power and subsequent loss of lift. The pilot maintained level forward flight until the airplane impacted an orchard. A postimpact fire ensued, and the airplane was partially consumed. The remainder of the airplane and the engine sustained thermal damage. An examination of the airframe and engine revealed no mechanical anomalies that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A loss of engine power during takeoff initial climb for reasons that could not be determined because postaccident examination of the engine revealed no anomalies that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined
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Factual Information

History of Flight

Initial climb	Loss of engine power (total) (Defining event)
Emergency descent	Controlled flight into terr/obj (CFIT)

HISTORY OF FLIGHT

On September 8, 2012 about 1215 Pacific daylight time, an Aviat Aircraft, Inc., A-1B, N395AA, experienced a loss of engine power immediately after takeoff from a lake, and conducted a forced landing into an orchard near Durham, California. The commercial pilot and one passenger received minor injuries; the airplane sustained substantial damage in the postcrash fire. The personal flight was operated under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed, and no flight plan had been filed.

According to the pilot's written statement, the engine start and run-up were normal. Shortly after takeoff, he heard a "pop" sound, followed by the loss of power. The pilot continued straight ahead, and the airplane impacted in an orchard adjacent to the lake. He and his passenger observed a fire that had begun after impact, and evacuated the airplane.

PERSONNEL INFORMATION

Federal Aviation Administration (FAA) records indicated that the pilot held a commercial pilot certificate with airplane single and multi-engine land, single engine sea, and instrument airplane ratings. According to information provided by the pilot, he had approximately 1,325 total hours of flight experience, which included approximately 133 hours in the accident airplane make and model. His most recent flight review was completed in December 2011, and his most recent FAA third-class medical certificate was issued in March 2011.

AIRCRAFT INFORMATION

FAA records indicated that the airplane was manufactured in 2007, and was equipped with a Lycoming O-360 series engine. The pilot reported that the airplane had accumulated 292 hours in service at the time of its most recent annual inspection, which was completed in January 2012.

METEOROLOGICAL INFORMATION

According to information provided by the pilot, the skies were clear, winds were light and variable, and the visibility was 25 miles. The 1154 automated weather observation at Chico Municipal airport (CIC), Chico, California, located about 7.3 miles north-northwest of the accident location, included wind from 220 degrees at 5 knots, visibility 25 miles, few clouds at 5,000 and 15,000 feet, temperature 28 degrees C, dew point 11 degrees C, and an altimeter setting of 29.98 inches of mercury.

AIRPORT INFORMATION

The departure lake was a man-made body of water that measured approximately 2,100 by 200 feet, with the long axis oriented east-west. Elevation was approximately 200 feet above mean sea level. The lake was located about 7.3 miles, on a true heading of 154 degrees, from Chico Municipal Airport (CIC), Chico.

TESTS AND RESEARCH INFORMATION

Examination of the recovered airframe and engine was conducted on September 28, 2012, at the facilities of Plain Parts, Pleasant Grove, California. No evidence of preimpact mechanical malfunction was noted during the examination of the recovered airframe and engine.

The airplane was a fabric covered Aviat Aircraft, Inc., Model A-1B, serial number 2395; the fabric had been consumed in the post-crash fire. The frame itself remained. Flight control continuity was established through all of the primary flight control surfaces by tracing the cables from the cockpit to the tail section and to wings.

The engine was a four-cylinder Lycoming O-360-A1B, serial number L-40758-36E. The engine remained attached to the airframe via the engine mounts, and the propeller assembly remained attached to the engine. The entire engine had sustained varying degrees of thermal damage/consumption as a result of the postcrash fire. Manual rotation of the engine produced mechanical and drive train continuity, and thumb compression was obtained at all cylinders. Both magnetos remained attached to their respective mounting pads on the engine; they had sustained thermal damage and were not tested. The P-leads remained attached to the magneto cap. However, the P-leads had sustained thermal damage as a result of the postcrash fire. According to the Champion Aviation check-a-plug chart AV-27, the spark plugs electrodes exhibited a worn out – normal condition.

Pilot Information

Certificate:	Private	Age:	49, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
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:	March 8, 2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	December 20, 2011
Flight Time:	1325 hours (Total, all aircraft), 133 hours (Total, this make and model), 1325 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AVIAT AIRCRAFT INC	Registration:	N395AA
Model/Series:	A-1B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2395
Landing Gear Type:	Tailwheel; Amphibian	Seats:	2
Date/Type of Last Inspection:	January 5, 2012 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:	43 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	292 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1P
Registered Owner:	FALCON FINANCIAL SOLUTIONS	Rated Power:	180 Horsepower
Operator:	FALCON FINANCIAL SOLUTIONS	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	CIC,240 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	11:54 Local	Direction from Accident Site:	240°
Lowest Cloud Condition:	Few / 5000 ft AGL	Visibility	25 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.97 inches Hg	Temperature/Dew Point:	28°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Durham, CA (PVT)	Type of Flight Plan Filed:	None
Destination:	Auburn, CA (AUN)	Type of Clearance:	None
Departure Time:	12:15 Local	Type of Airspace:	

Airport Information

Airport:	Lake PVT	Runway Surface Type:	Water
Airport Elevation:	200 ft msl	Runway Surface Condition:	Unknown
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	2100 ft / 200 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	39.686111,-121.793334(est)

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye
Additional Participating Persons:	Brook B Stewart; Federal Aviation Administration; Sacramento, CA
Original Publish Date:	June 16, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=84970

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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](#).