



National Transportation Safety Board Aviation Accident Final Report

Location:	Rio Linda, CA	Accident Number:	LAX08LA128
Date & Time:	05/02/2008, 1215 PDT	Registration:	N7059E
Aircraft:	CESSNA 175A	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot and owner of the airplane reported that during cruise flight, the engine partially lost power followed by several backfires. The pilot was unable to maintain altitude at the reduced power setting, and initiated a forced landing to a gravel road. During the landing roll on the gravel road, the left and right wings struck trees located on the edge of the road, resulting in structural damage to both wings. The owner of the airplane reported that during disassembly of the engine, the number four cylinder exhibited "signs of detonation." The number four piston head was "eaten away" to the top ring land. No additional anomalies were noted with the engine. The underlying reason for the detonation was undetermined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The partial loss of engine power due to detonation. Contributing to the accident was trees in the landing area.

Findings

Aircraft	Recip eng cyl section - Damaged/degraded (Cause)
Environmental issues	Tree(s) - Contributed to outcome

Factual Information

On May 2, 2008, about 1215 Pacific daylight time, a Cessna 175A single-engine airplane, N7059E, made a forced landing following a partial loss of engine power near Rio Linda, California. The airplane was registered to, and operated by, the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The private pilot and passenger/owner of the airplane were not injured; the airplane sustained substantial damage. Visual meteorological conditions prevailed, and no flight plan had been filed for the personal flight. The cross-country flight originated from Rio Linda about 35 minutes prior to the accident with an intended destination of Medford, Oregon.

The owner of the airplane reported that he had recently purchased the airplane, and was moving the airplane to his home field. The pilot and owner departed from Rio Linda and climbed to an altitude of 1,500 feet mean sea level (msl). About 20 to 30 minutes after departure, the engine began losing power followed by several backfires. The pilot reported that he observed blue smoke originating from the engine cowling, and noted that the engine revolutions per minute (rpm) was reduced to about 1,500 to 2,000 rpm. The pilot stated that he was unable to maintain altitude at the reduced power setting, and initiated a forced landing to a gravel road. During the landing roll, the left and right wings struck trees located on the edge of the gravel road.

Examination of the airplane by the pilot revealed that the left and right wings were structurally damaged. During a telephone conversation, the owner of the airplane reported that during disassembly of the engine, the number four cylinder exhibited "signs of detonation." The number four piston head was "eaten away" to the top ring land. No additional anomalies were noted with the engine. The reason for the detonation was undetermined.

History of Flight

Enroute-cruise	Powerplant sys/comp malf/fail (Defining event) Loss of engine power (partial)
Emergency descent	Off-field or emergency landing
Landing-landing roll	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	33, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last Medical Exam:	05/01/2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	05/01/2007
Flight Time:	147 hours (Total, all aircraft), 1 hours (Total, this make and model), 83 hours (Pilot In Command, all aircraft), 2 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 Manufacturer:	CESSNA	Registration:	N7059E
Model/Series:	175A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	56559
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	05/01/2008, Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:	0.5 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1947.5 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-300
Registered Owner:	On file	Rated Power:	175 hp
Operator:	On file	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KSMF, 27 ft msl	Observation Time:	1153 PDT
Distance from Accident Site:	11 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	325°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	21° C / 7° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	8 knots, 170°	Visibility (RVR):	
Altimeter Setting:	30.04 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Rio Linda, CA (L36)	Type of Flight Plan Filed:	None
Destination:	Willows, CA (WLW)	Type of Clearance:	None
Departure Time:	1230 PDT	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None		

Administrative Information

Investigator In Charge (IIC):	Howard D Plagens	Adopted Date:	12/24/2008
Additional Participating Persons:	Jim Henson; Federal Aviation Administration; Sacramento, CA		
Publish Date:	12/24/2008		
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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