



National Transportation Safety Board Aviation Accident Final Report

Location:	TUCSON, AZ	Accident Number:	LAX94LA001
Date & Time:	10/01/1993, 1220 MST	Registration:	N5151A
Aircraft:	CESSNA O-2A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Ferry

Analysis

The front and then rear engines lost partial power during initial climb from the Ryan Field near Tucson, Arizona. Unable to continue climbing, the pilot made a forced landing in rough terrain about two miles east of the airport. An examination of the airplane's fuel system revealed two of the front engine's six fuel injectors were partially clogged with a foreign substance. No clogging of the rear injectors was found. Prior to the accident (ferry) flight, the airplane had been idle for several years. In preparation for the flight, recent maintenance which included limited purging of the fuel system had reportedly been accomplished by contractor maintenance personnel.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: was the partial loss of engine power during initial climb due to partial clogging of the engine's fuel injectors. Blockage of the fuel injectors was due to inadequate maintenance of the fuel system by contract maintenance personnel.

Findings

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

Findings

1. (C) FUEL SYSTEM,INJECTOR - BLOCKED(PARTIAL)
2. (C) MAINTENANCE - INADEQUATE - OTHER MAINTENANCE PERSONNEL

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

On October 1, 1993, at 1220 mountain standard time, a Cessna O- 2A, N5151A, experienced a partial loss of engine power to the front and rear engines during initial climb from the Ryan Field near Tucson, Arizona. The pilot made a forced landing in an open field about two miles east of the airport. The airplane was substantially damaged upon impacting the rough, desert terrain. The commercial pilot was not injured. The flight was originating at the time of the mishap.

The pilot verbally reported that prior to the accident flight the airplane had been idle for several years. The pilot had been hired to ferry the airplane from Arizona to the southeast United States. In preparation for the flight, a contractor had performed limited maintenance on the airplane.

According to the pilot, during takeoff the airplane's front engine suddenly lost power. Its rpm reduced from full power to about 1,600 rpm, and then the rear engine lost power. The fuel flow became "low and intermittent" and the airplane stopped climbing. The pilot further reported that because the engines' oil temperature and pressure remained in the normal operating range, he believed both engines had experienced fuel starvation.

On October 7, 1993, a Federal Aviation Administration (FAA) airworthiness inspector verbally reported to the National Transportation Safety Board that its examination of the airplane revealed two of the front engine's six fuel injectors were found partially clogged with a foreign substance. The FAA inspector stated that the contractor had evidently not completely purged the airplane's entire fuel system during efforts at preparing the airplane for the ferry flight.

In October of 1993 and in May of 1994, the pilot was requested to complete the required Safety Board "Aircraft Accident Report," NTSB Form 6120.1. When the Board receives the pilot's form, it will be appended to this report.

Pilot Information

Certificate:	Commercial	Age:	39, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	11/25/1992
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	5000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N5151A
Model/Series:	O-2A O-2A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Special Flight	Serial Number:	68-6873
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	4400 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	CONTINENTAL
ELT:		Engine Model/Series:	IO-360
Registered Owner:	SECO AVIATION COMPANY	Rated Power:	210 hp
Operator:	NAT. MUSEUM OF NAVAL AVIATION	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	50 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	33° C
Precipitation and Obscuration:			
Departure Point:	(RYN)	Type of Flight Plan Filed:	None
Destination:	NOT REPORTED	Type of Clearance:	None
Departure Time:	1220 MST	Type of Airspace:	Class G

Airport Information

Airport:	RYAN FIELD (RYN)	Runway Surface Type:	Asphalt
Airport Elevation:	2415 ft	Runway Surface Condition:	Dry; Rough
Runway Used:	6R	IFR Approach:	None
Runway Length/Width:	5500 ft / 75 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	WAYNE POLLACK,	Report Date:	09/13/1994
Additional Participating Persons:	STEVEN E LEEPER; SCOTTSDALE, AZ		
Publish Date:			
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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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).