



Aviation Investigation Final Report

Location:	Fryeburg, Maine	Accident Number:	NYC01LA184
Date & Time:	July 23, 2001, 09:33 Local	Registration:	N488SD
Aircraft:	Pohl Lancair IV-P	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed on a cross-country flight in an experimental airplane. While climbing through 8,000 ft, the engine lost manifold pressure, and the pilot was unable to restore climb power. He headed toward a nearby airport, and planned on a straight-in approach. Due to the low altitude of the airplane, he elected to hold the landing gear until he was close to the runway. When he extended the landing gear, there was insufficient time for full extension, and the airplane touched down about 100 feet short of the runway, with partial landing gear extension. Examination of the airplane revealed the remains of a paper towel in the turbocharger and intercooler. The pilot had completed his phase 1 flight time requirements and the accident flight was the first flight following an inspection in which the engine cowling had been removed. Paper towels were used as wipes on both the engine and airframe. The pilot was assisted by several persons, some of whom were not rated aviation mechanics. The pilot later reported that a paper towel had inadvertently been left on top of the engine. The airplane was powered by a converted automotive V-8 engine. The engine was equipped with an air filter. However, there was also a 5-inch by 10-inch opening on the back of the engine which allowed unfiltered air into the air intake manifold.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A partial blockage of the air intake system, due to the pilot's failure to ensure the engine compartment was clear of paper towels after a maintenance inspection.

Findings

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

Findings

1. (C) INDUCTION AIR DUCTING - BLOCKED(PARTIAL)
2. (C) MAINTENANCE,INSPECTION - INADEQUATE - OWNER/BUILDER

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

Factual Information

On July 23, 2001, at 0933 eastern daylight time, a homebuilt Lancair IV-P, N488SD, was substantially damaged during a forced landing in Fryeburg, Maine. The certificated private pilot/builder and the passenger were not injured. Visual meteorological conditions prevailed, and a visual flight rules flight plan was filed for the personal flight conducted under 14 CFR Part 91.

The pilot/builder reported that he had departed from Lewiston, Maine, and was en route to Buffalo, New York, with a final destination of Oshkosh, Wisconsin. About 10 minutes after departure, he was climbing through 8,000 feet for 14,500 feet, when the manifold pressure, which had been about 34 inches, dropped to about 15 inches. He checked his GPS for the closest airport, which was Fryeburg, about 12 nautical miles to the north. He turned toward the airport and set up a descent at 120 KIAS. He said that he did not declare an emergency at that time and thought he would be able to make the airport.

As the airplane descended through 3,000 feet, the manifold pressure, which had been steadily decreasing, decreased to 4 inches. The pilot reported that at that point he retarded the propeller control to its maximum pitch position to reduce drag, and reduced his airspeed to about 100 KIAS.

The pilot/builder positioned the airplane for a straight-in approach to runway 32. As the airplane neared the runway, he decided to hold the landing gear due to the lower-than-anticipated altitude of the airplane. When he did extend the landing gear, there was insufficient time to complete the extension, and the airplane touched down about 100 feet short of the runway with the landing gear only partially extended. The airplane then slid onto the runway and came to a stop.

According to an inspector from the Federal Aviation Administration (FAA), the composite blades of the propeller were broken off, the bottom of the fuselage was scraped, and there was a fuel spill from where the right wing fuel tank was broken open. The remains of a paper towel were found in the turbocharger and intercoolers.

The pilot reported that he had just completed his phase 1 flight time requirements after building the airplane, and had inspected it. During the inspection, several people, some of whom were not rated mechanics, assisted. The engine cowling had been removed, and paper towels were used as wipes on various parts of the engine and airplane. Several paper towels were reported to be lying loose on the ground at the completion of the inspection. In addition, the pilot/builder told the FAA inspector that a paper towel had inadvertently been left on the top of the engine.

The FAA inspector also noted that there was a 5-inch by 10-inch opening in the back of the engine, which allowed unfiltered air into the air intake manifold.

The accident flight was the first flight following the inspection.

Pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
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 3 With waivers/limitations	Last FAA Medical Exam:	May 18, 2000
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 17, 2000
Flight Time:	393 hours (Total, all aircraft), 33 hours (Total, this make and model), 367 hours (Pilot In Command, all aircraft), 65 hours (Last 90 days, all aircraft), 39 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Pohl	Registration:	N488SD
Model/Series:	Lancair IV-P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	LIV-0008
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	July 9, 2001 Condition	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	45.1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	45.1 Hrs at time of accident	Engine Manufacturer:	Aero Engines
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	AV8-470
Registered Owner:	On file	Rated Power:	420 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:	LEW,288 ft msl	Distance from Accident Site:	29 Nautical Miles
Observation Time:	09:35 Local	Direction from Accident Site:	100°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	0 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	24°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lewiston, ME (LEW)	Type of Flight Plan Filed:	VFR
Destination:	Fryeburg, ME (IZG)	Type of Clearance:	VFR flight following
Departure Time:	09:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	Fryeburg IZG	Runway Surface Type:	Asphalt
Airport Elevation:	454 ft msl	Runway Surface Condition:	Dry
Runway Used:	32	IFR Approach:	None
Runway Length/Width:	4200 ft / 75 ft	VFR Approach/Landing:	Forced landing

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	Latitude, Longitude:	43.987499,-70.1025

Administrative Information

Investigator In Charge (IIC):	Hancock, Robert
Additional Participating Persons:	Dennis Delo; Federal Aviation Administration; Portland, ME
Original Publish Date:	December 4, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52781

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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](#).