



Aviation Investigation Final Report

Location:	Leicester, Massachusetts	Accident Number:	ERA22LA187
Date & Time:	April 10, 2022, 11:08 Local	Registration:	N7KJ
Aircraft:	Lancair IV	Aircraft Damage:	Substantial
Defining Event:	Part(s) separation from AC	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While en route the pilot reported there was a sudden explosion and the right window and portion of the right roof separated from the airplane. He performed an emergency descent and landed uneventfully.

The airplane was initially documented but was repaired before a detailed postaccident examination could be completed. The airframe could not be examined, and the separated window was not located; therefore, the reason for the separation could not be determined.

Probable Cause and Findings

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

A separation of the window from the airframe for undetermined reasons.

Findings

Aircraft	Door windows - Failure
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Enroute	Part(s) separation from AC (Defining event)
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On April 10, 2022, about 1108 eastern daylight time, an experimental, amateur-built Lancair IVP, N7KJ, was substantially damaged when it was involved in an accident near Leicester, Massachusetts. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, about 40 minutes after departure, during a cross-country flight at 16,500 ft mean sea level, there was a “sudden explosion and the right window was gone.” He performed an emergency descent and landed uneventfully. He noted that during the flight there were no pressurization issues before the window separated from the airplane.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that the right front window and portions of the roof fractured and separated from the fuselage, resulting in substantial damage (see Figure 1.)



Figure 1- View of missing right front window and roof structure. (Photo courtesy of FAA)

The separated window was not located; however, a FAA inspector initially documented the airplane. Before a detailed examination could be completed, repairs were made on the airplane and the original fracture surfaces were not available for examination. No maintenance records were provided. The pilot/owner stated he had ordered replacement windows, but the accident occurred before he could get them installed.

Pilot Information

Certificate:	Airline transport; Commercial; Private	Age:	80, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	BasicMed Without waivers/limitations	Last FAA Medical Exam:	February 7, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	September 3, 2021
Flight Time:	(Estimated) 5500 hours (Total, all aircraft), 160 hours (Total, this make and model), 11 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 5.1 hours (Last 30 days, all aircraft)		

Passenger Information

Certificate:		Age:	79, Female
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	3-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Lancair	Registration:	N7KJ
Model/Series:	IV P	Aircraft Category:	Airplane
Year of Manufacture:	1994	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	JP1994
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	April 1, 2021 Condition	Certified Max Gross Wt.:	3700 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	C126 installed, not activated	Engine Model/Series:	TSIO-550E
Registered Owner:	On file	Rated Power:	350 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:	0 Nautical Miles
Observation Time:	11:56 Local	Direction from Accident Site:	32°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 4700 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 23 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.53 inches Hg	Temperature/Dew Point:	10°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lewiston, ME (LEW)	Type of Flight Plan Filed:	IFR
Destination:	Jacksonville, FL (CRG)	Type of Clearance:	VFR
Departure Time:	10:28 Local	Type of Airspace:	Class E

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:	42.276406,-71.930749

Administrative Information

Investigator In Charge (IIC):	Hill, Millicent
Additional Participating Persons:	Joshua Trickey; FAA/FSDO; Portland, ME
Original Publish Date:	May 2, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=104933

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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](#).