



National Transportation Safety Board Aviation Accident Data Summary

Location:	Fishers, IN	Accident Number:	CEN17FA334
Date & Time:	08/31/2017, 1125 EDT	Registration:	N212ZF
Aircraft:	VANS AIRCRAFT INC RV-12	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

A private pilot departed on a local flight in his experimental, amateur-built airplane equipped with a tip-up (forward-opening) canopy. A witness saw the airplane during its initial climb after takeoff and stated that it descended "straight down and burst into a ball of flames" upon impact. Examination of the accident site revealed that items from the cabin were found on the ground near the runway threshold and before the impact site. There were no preimpact anomalies of the airframe or engine and kit manufacturer fuel tank Service Bulletins were compiled with.

The airplane's before takeoff checklist stated, "Canopy – CHECK Latched." However, the metal canopy latching mechanisms on the roll bar frame exhibited soot-colored discoloration and its polyethylene latch block was not present, and the latch handle on the canopy was intact, not deformed, and not discolored, consistent with the latch being unsecured at the time of impact. Additionally, the presence of items from the cockpit before the impact site is consistent with the canopy opening in flight.

About 9 months before the accident, the kit manufacturer published a service letter regarding the in-flight opening of tip-up canopies. The letter stated that, based on previous events, the aircraft will most likely pitch nose down abruptly if the canopy opens in flight. The severity of the pitching moment can depend on speed, attitude, and weight and balance. The letter further stated that most instances of in-flight canopy openings were the result of the pilot forgetting to latch the canopy properly before takeoff, and cautioned pilots to ensure that the latching mechanism fully engaged as designed. Based on the available evidence, it is likely that the accident pilot failed to properly latch the canopy before takeoff, did not maintain airplane control following the canopy opening, and the airplane subsequently impacted terrain to the extent that the incorporated service bulletins remedies did not keep the fuel tank from breaching, causing the ground fire.

Flight Events

Initial climb - Loss of control in flight
Uncontrolled descent - Collision with terr/obj (non-CFIT)
Post-impact - Fire/smoke (post-impact)

Probable Cause

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

The pilot's failure to latch the canopy before takeoff, and his failure to maintain pitch control following the in-flight opening of the canopy during the initial climb resulting in a subsequent impact with terrain and ground fire.

Findings

Aircraft-Aircraft structures-Doors-Passenger/crew doors-Incorrect use/operation - C
 Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Pitch control-Not attained/maintained - C
 Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C
 Personnel issues-Action/decision-Action-Incomplete action-Pilot - C

Pilot Information

Certificate:	Private	Age:	78
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	(Estimated) 1200 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	VANS AIRCRAFT INC	Registration:	N212ZF
Model/Series:	RV-12 NO SERIES	Engines:	1 Reciprocating
Operator:	On file	Engine Manufacturer:	Rotax
Operating Certificate(s) Held:	None	Engine Model/Series:	912ULS
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KMQJ, 862 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	5 knots / , 70°
Temperature:	21° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	INDIANAPOLIS, IN (UMP)	Destination:	INDIANAPOLIS, IN (UMP)

Airport Information

Airport:	INDIANAPOLIS METROPOLITAN (UMP)	Runway Surface Type:	N/A
Runway Used:	N/A	Runway Surface Condition:	Dry
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	39.930000, -86.040278 (est)		

Administrative Information

Investigator In Charge (IIC):	Edward F Malinowski	Adopted Date:	11/06/2019
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=95929		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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.