



Aviation Investigation Final Report

Location:	Winslow, Arizona	Accident Number:	LAX08LA078
Date & Time:	March 18, 2008, 12:15 Local	Registration:	N742MJ
Aircraft:	Jenkins RV-7A	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Witnesses observed the airplane take off and climb to 700-800 feet above the ground. The airplane then banked about 90 degrees, the nose dropped, and it descended towards the ground, impacting the taxiway in a nose low attitude. Witnesses reported that it was not apparent that the pilot attempted to recover from the dive. One witness stated that they heard the engine sputter, then the engine sound increased like the pilot "gunned it." The witness saw the airplane "go straight up" after the increase in engine noise, and then roll after the nose dropped so that she was looking at the top of the wings and cockpit of the airplane as it disappeared behind buildings. Another witness reported that the engine was very loud during the dive. Post crash inspection of the wreckage found that both the airframe and engine were severely fragmented. Remains of all flight controls were within the wreckage. Continuity was established for the aileron controls, but extensive damage to the fuselage precluded any determination for the elevator controls. The engine exhibited extensive impact damage and fragmentation; however, signatures consistent with power production were observed on the propeller. This was the pilot's second flight in the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain an adequate airspeed that resulted in a stall/spin.

Findings

Aircraft	Airspeed - Not attained/maintained
Environmental issues	Taxiway condition - Not specified

Factual Information

History of Flight

Initial climb	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On March 18, 2008, about 1215 mountain standard time, an experimental Jenkins RV-7A, N742MJ, collided with terrain at Winslow, Arizona. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The certificated private pilot was killed. The airplane sustained substantial damage to all components. The local personal flight departed Winslow-Lindbergh Regional Airport (KINW) at 1205. Visual meteorological conditions prevailed, and no flight plan had been filed.

In an interview with a Federal Aviation Administration (FAA) inspector, a family member of the pilot stated that they had observed the pilot take off. The airplane climbed until it was behind a building, and then the airplane went straight down. According to the witness, "the engine sounded like it sputtered, then like he gunned it, then the plane went straight up, and that's when he did the loopdy loo, then hit the ground." The inspector identified the "loopdy loo" to be a nose-low longitudinal roll. The witness saw the airplane roll so that she was looking at the top of the wings and cockpit of the airplane as it disappeared behind buildings.

According to the family member, this was the second time the pilot had flown the airplane. When the pilot returned from the first flight, he stated that there was something wrong with the engine, and that it was leaking oil. The pilot then removed the engine from the airplane, brought it to his garage, and took it apart. He told the witness that the bearings were okay, and then stuck a pen into a hole and stated that he saw where the oil was going. He then screwed a plug into the hole, and put the engine back together.

In an interview with the Winslow Police Department, a witness stated that they observed the airplane from their residence, about 1 mile from the accident site. The witness first saw the airplane coming out of the west. It was about 500 feet above the ground, in an estimated 90-degree bank. Then the nose of the airplane dropped down, and the airplane went straight down. The airplane was over the taxiway, near runway 29/11. According to the witness, "it was like either he [the pilot] wasn't working or the plane wasn't working."

An FAA inspector interviewed a line service technician at the airport. He reported that this was the first takeoff of the day for the airplane, and he had seen the pilot taxi out to the runway just before it crashed. He witnessed the airplane fly about 700-800 feet above the runway. Then it nose-dived into taxiway alpha, almost perpendicular to the ground. The witness reported that

the engine was very loud during the dive, and the pilot made no effort to recover from the dive.

FAA investigators noted and photographed a substance similar to the smell and consistency of oil near the accident site. They found a trail of this substance that continued from the door of hangar number six along taxiways to the runway. According to FAA records, N742MJ was housed in hangar six at the Winslow-Lindbergh Regional Airport.

PERSONNEL INFORMATION

A review of FAA airman records revealed that the 84-year-old pilot held a private pilot certificate with a rating for airplane single engine land. The pilot held a third-class medical certificate issued on February 21, 2007. It had no limitations or waivers.

The National Transportation Safety Board investigator-in-charge obtained the aeronautical experience listed in this report from a review of the FAA airmen medical records on file in the Airman and Medical Records Center located in Oklahoma City. The pilot reported on his medical application that he had a total time of 1,500 hours with 3 to 4 hours logged in the last 6 months.

AIRCRAFT INFORMATION

The accident pilot built the experimental RV-7A, single engine kit airplane, serial number 71128. The airplane was equipped with a Lycoming IO-360 engine, which was also built by the accident pilot.

According to the FAA, inspectors had looked at the airplane on January 31, 2007, with the intent of certificating it in the "Experimental Amateur Built" category. An airworthiness certificate was not issued at the time, and the FAA provided the pilot with a list of 44 discrepancies revealed by their inspection.

The FAA representatives who had inspected the airplane provided written reports of this inspection. They reported that the pilot seemed confused and had a hard time hearing and understanding their findings. According to their reports, the pilot "admitted to having problems remembering his left from his right." All of the inspectors explained the discrepancies they found to the pilot, but reportedly they all later agreed that it was "questionable if [the pilot] fully understood what had been communicated to him."

On February 18, 2007, the FAA received a fax from the pilot containing his corrective actions to the list of discrepancies they had originally provided. The inspectors found that they could not issue an airworthiness certificate due to the seriousness of some of the discrepancies, as well as some of the unacceptable corrective actions provided.

A designated airworthiness representative (DAR) issued the special airworthiness certificate

on November 23, 2007. Phase one of the experimental operating limitations applied for the airplane.

METEOROLOGICAL INFORMATION

The closest official weather observation station was at KINW. An aviation routine weather report (METAR) for KINW was issued at 1156. It stated: winds from 340 degrees at 11 knots gusting to 21 knots; visibility 10 miles; skies clear; temperature 12 degrees Celsius; dew point - 8 degrees Celsius; altimeter 30.18 inches of mercury.

MEDICAL AND PATHOLOGICAL INFORMATION

The FAA Bioaeronautical Sciences Research Laboratory Forensic Toxicology Research Team, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot.

Analysis of the specimens for the pilot contained no findings for tested drugs. They did not perform tests for carbon monoxide or cyanide. The report contained the following findings for volatiles: 16 (mg/dL, mg/hg) ethanol detected in muscle.

The report noted that putrefaction was present in the specimens.

TESTS AND RESEARCH

A Safety Board investigator examined the airframe and engine, which were severely fragmented. Remains of all flight controls were within the wreckage, and the investigator established aileron control continuity. There were multiple fractures within the torque tubes; the fracture surfaces were angular and irregular. Recovery personnel cut the right outboard torque tube. The investigator did not establish control continuity to the elevator and rudder surfaces due to the extent of the damage. A portion of crushed control torque tube remained attached to the elevator bellcrank.

The investigator noted that the engine was highly fragmented, and separated from the engine mount. The wreckage included all four cylinders. All four pistons and connecting rods remained attached to various pieces of the separated crankshaft.

The investigator observed that one of the two propeller blades separated from the propeller hub. The separated blade was bent forward throughout the span of the blade. The investigator noted chordwise scratching on the forward side of the blade with numerous nicks and gouges. The other propeller blade remained attached to the propeller hub. The outboard portion of this propeller blade tip separated. The remainder of the propeller blade exhibited chordwise scratching, blade twisting, and leading edge gouging. The crankshaft propeller flange remained attached to the propeller hub.

Pilot Information

Certificate:	Private	Age:	84, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	February 1, 2007
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1500 hours (Total, all aircraft), 1 hours (Total, this make and model), 3 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Jenkins	Registration:	N742MJ
Model/Series:	RV-7A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	71128
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	IO-360
Registered Owner:	On file	Rated Power:	200 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:	INW	Distance from Accident Site:	
Observation Time:	11:56 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	340°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.18 inches Hg	Temperature/Dew Point:	12°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WINSLOW, AZ (INW)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	12:05 Local	Type of Airspace:	

Airport Information

Airport:	WINSLOW MUNI INW	Runway Surface Type:	Asphalt
Airport Elevation:	4941 ft msl	Runway Surface Condition:	Dry
Runway Used:	29	IFR Approach:	None
Runway Length/Width:	7100 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	35.021945,-110.722503

Administrative Information

Investigator In Charge (IIC):	Plagens, Howard
Additional Participating Persons:	Steve Meisner; Federal Aviation Administration; Scottsdale
Original Publish Date:	August 28, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=67697

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).