



# Aviation Investigation Final Report

<b>Location:</b>	Winslow, Arizona	<b>Accident Number:</b>	LAX01LA254
<b>Date &amp; Time:</b>	July 21, 2001, 07:20 Local	<b>Registration:</b>	N222RW
<b>Aircraft:</b>	Watkins Velocity	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor, 4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

During cruise flight, the engine lost power, followed by an off-airport forced landing. The airplane collided with obstacles on the ground. The pilot, who was receiving flight following advisories, reported a loss of engine oil pressure to the air traffic controller. During the flight's diversion to an airport, the engine continued to lose power and the pilot was unable to maintain altitude and reach the divert airport. Local police reported that the pilot subsequently returned to the airplane, chopped it up with an axe, and transported it from the site in a truck. Subsequently, repair personnel examined the engine noting that the number three cylinder head had separated from the cylinder barrel allowing the engine oil to drain from the engine during flight. Engine records indicated the last engine overhaul was January 1988. The pilot reported the engine had 1,275 hours since overhaul with 38 hours since the airplane's last annual inspection in May 2001.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The separation of the number three cylinder head from the barrel resulting in a loss of engine oil during flight. Factors were the lack of suitable terrain for the forced landing, and the rough uneven ground of the forced landing site.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: CRUISE

Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - SEPARATION
2. (C) FLUID,OIL - EXHAUSTION

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

3. (F) TERRAIN CONDITION - NONE SUITABLE

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: EMERGENCY LANDING

Findings

4. (F) TERRAIN CONDITION - ROUGH/UNEVEN

## Factual Information

On July 21, 2001, at 0720 hours mountain standard time, an experimental Velocity, N222RW, reported a loss of engine oil pressure and made an emergency forced landing 8 to 10 miles north of Winslow, Arizona. The airplane was substantially damaged during the ensuing ground obstacle collision sequence. One passenger received minor injuries, and the certificated private pilot and remaining three passengers were not injured. The airplane was being operated as a personal flight by a private owner under the provisions of 14 CFR Part 91 when the accident occurred. The flight had originated earlier that morning from Grand Canyon, Arizona, and was en route to Albuquerque, New Mexico, at the time of the accident. Visual meteorological conditions prevailed at the time and an IFR flight plan had been filed, but not activated.

According to Albuquerque center air traffic controllers, at 0720, the pilot, who had been flight following with center, requested airport location information as the result of an in-flight maintenance problem. At 0729, the pilot reported that he had experienced a loss of engine oil pressure, and that he was proceeding to the Winslow-Lindbergh Regional Airport. At 0733, he advised air traffic controllers that he would be unable to reach Winslow, and that he was "going down." Controllers advised the pilot the location of an emergency landing strip 15 miles north of the airport. Subsequently, controllers lost all radio and radar contact with the airplane.

At 0919, Arizona Department of Public Safety Air Range No. 42 located the accident site. All the occupants were transported to Winslow Memorial Hospital, Winslow, treated, and released.

Navajo County sheriff deputies reported that the pilot later returned to the site with a pickup truck and an ax. He chopped up the airplane, loaded it in the truck, and departed the area.

On November 19, 2001, the Safety Board hired a representative from D and B Aircraft Engines of Bethany, Oklahoma, to travel to Cashion, Oklahoma, and inspect the wreckage at its storage location. The examination revealed that the engine number three cylinder head had separated from the cylinder barrel, causing a gradual loss of engine oil. The details of the examination are included in this report.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	43, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical—no waivers/lim.	<b>Last FAA Medical Exam:</b>	October 11, 2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	October 26, 1999
<b>Flight Time:</b>	1677 hours (Total, all aircraft), 1130 hours (Total, this make and model), 1533 hours (Pilot In Command, all aircraft), 39 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Watkins	<b>Registration:</b>	N222RW
<b>Model/Series:</b>	Velocity	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	DM101
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	May 18, 2001 Annual	<b>Certified Max Gross Wt.:</b>	2250 lbs
<b>Time Since Last Inspection:</b>	38 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1130 Hrs at time of accident	<b>Engine Manufacturer:</b>	Avco Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-360-C1C
<b>Registered Owner:</b>	Billy Ray Watkins, Jr.	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	INW	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	06:56 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Scattered / 10000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.14 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 11°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Grand Canyon, AZ (GCN )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Albuquerque, NM (ABQ )	<b>Type of Clearance:</b>	
<b>Departure Time:</b>	06:45 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Minor, 3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Minor, 4 None	<b>Latitude, Longitude:</b>	35.100551,-110.640502(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Crispin, Robert
<b>Additional Participating Persons:</b>	JAMES W KERR; FAA - FLIGHT STANDARDS DIST OFFICE; SCOTTSDALE, AZ
<b>Original Publish Date:</b>	October 24, 2002
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=52789">https://data.ntsb.gov/Docket?ProjectID=52789</a>

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](#).