



# Aviation Investigation Final Report

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<b>Location:</b>	Saint Johns, Arizona	<b>Accident Number:</b>	LAX03LA260
<b>Date &amp; Time:</b>	August 22, 2003, 06:30 Local	<b>Registration:</b>	N3182H
<b>Aircraft:</b>	Ercoupe 415-C	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The airplane lost engine power and collided with a ditch while executing a forced landing to a dirt road. Just before the pilot turned on to an extended final approach to the runway, the "engine started hammering." The pilot was not able to increase the engine power enough to maintain level flight. He landed on a dirt road one and a half miles east of the airport. Upon landing, the airplane veered off a curve in the road into a drainage ditch, collapsing the nose gear. The airplane then nosed over on the other side of the ditch. Examination of the engine revealed a failed exhaust valve on the number two cylinder.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the exhaust valve on the number two engine cylinder, which resulted in a partial loss of engine power during the final approach to land, and an on ground collision with a ditch during the subsequent off-airport landing roll.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF  
Phase of Operation: APPROACH - VFR PATTERN - BASE LEG/BASE TO FINAL

Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE, TOTAL

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY LANDING

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

Phase of Operation: LANDING - ROLL

Findings

2. TERRAIN CONDITION - DITCH

## Factual Information

On August 22, 2003, at 0630 mountain standard time, an Ercoupe 415-C, N3182H, collided with a drainage ditch during a forced landing following a loss of engine power near Saint Johns, Arizona. The student pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. The pilot was not injured, and the airplane sustained substantial damaged. Visual meteorological conditions prevailed, and no flight plan had been filed. The local flight originated at Saint Johns Industrial Airpark about 0545.

The pilot reported to the National Transportation Safety Board investigator-in-charge (IIC) that he had been flying south east of Saint Johns Industrial Airpark, and was approaching runway 32 for landing. Just before he turned onto an extended final approach the "engine started hammering." The pilot was not able to increase the engine power enough to maintain level flight. He executed a forced landing on a dirt road one and half miles east of the airport. Upon landing, the airplane veered off a curve in the road into a drainage ditch, which collapsed the nose gear. The airplane then nosed over on the other side of the ditch.

### Engine data

The Teledyne Continental C-75-12 engine received its last annual inspection on November 7, 2002. The number 1 cylinder assembly had been replaced on January 18, 2003. The engine logbook records that on January 18, 2003, the time since overhaul was 899.39 hours, and the total engine time was 2,538.38 hours. The date of the last engine overhaul was July 20, 1967.

The airplane had a Federal Aviation Administration Supplemental Type Certificate (SE634GL) approving the use of unleaded automotive gasoline.

A Teledyne Continental Service Information Letter, SIL98-9A, specifies the recommended time between engine overhauls. For the C75 engine, it listed the time between overhaul (TBO) as 1,800 hours or 12 years, which ever occurred first.

### Engine Examination

A Federal Aviation Administration inspector examined the airplane's engine and reported that the exhaust valve on the number two cylinder had separated at the stem. The spark plug on the number four cylinder was loose.

## Pilot Information

<b>Certificate:</b>	Student	<b>Age:</b>	45, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	March 3, 2003
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	25 hours (Total, all aircraft), 23 hours (Total, this make and model), 14 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Ercoupe	<b>Registration:</b>	N3182H
<b>Model/Series:</b>	415-C	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	3807
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	November 7, 2002 Annual	<b>Certified Max Gross Wt.:</b>	1260 lbs
<b>Time Since Last Inspection:</b>	103.8 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2659.4 Hrs at time of accident	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	C-75-12
<b>Registered Owner:</b>	John B Richardson	<b>Rated Power:</b>	85 Horsepower
<b>Operator:</b>	Robert Greenwade	<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>	KSJN,5733 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	06:54 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<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>	160°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.26 inches Hg	<b>Temperature/Dew Point:</b>	19°C / 15°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Saint Johns, AZ (SJN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	(SJN )	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>	05:45 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	St Johns Airport KSJN	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	5736 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	32	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5323 ft / 75 ft	<b>VFR Approach/Landing:</b>	Unknown

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	34.516666,-109.366668

## Administrative Information

**Investigator In Charge (IIC):** McKenny, Van

**Additional Participating Persons:** John Eller; Federal Aviation Administration Scottsdale FSDO; Scottsdale, AZ

**Original Publish Date:** December 28, 2004

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=57772>

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