



# Aviation Investigation Final Report

<b>Location:</b>	DUCK CREEK, Utah	<b>Accident Number:</b>	FTW98LA404
<b>Date &amp; Time:</b>	September 18, 1998, 14:00 Local	<b>Registration:</b>	N8252S
<b>Aircraft:</b>	Piper PA-28RT-201T	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The airplane was in cruise flight at 12,500 feet when the pilot noticed the manifold pressure had dropped from 51.8 inches to 25 inches. 'The engine had poor response to throttle movement, and the engine sounded bad when I moved the throttle.' He made the decision not to proceed further due to the remote terrain. As he checked his maps for the nearest airport, the airplane lost altitude. 'The engine did not seem to have much power, and I was about 3,000 feet AGL by this time.' The pilot made a forced landing on a dirt road. During rollout the aircraft struck poles alongside of a cattle guard. According to the salvage company and the FAA inspector who examined the engine, two of the four screws securing the rocker cover on the number 3 cylinder were missing, and oil was leaking out. The rocker cover had a round indentation on the outside, and a wear mark on the inside. The exhaust rocker arm studs were also loose. The rear stud was only finger tight. Aluminum was found imbedded in its threads. The front stud was loose, but its nut locking mechanism was still in place.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Loose intake valve rocker arm studs that allowed a loss of compression and a loss of oil. A factor was unsuitable terrain on which to make a forced landing and poles next to a cattle guard.

## Findings

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

### Findings

1. (C) ENGINE ASSEMBLY,ROCKER ARM/TAPPET - LOOSE PART/BOLT/NUT/CLAMP/ETC
2. (F) FLUID,OIL - LEAK
3. (F) ENGINE ASSEMBLY,VALVE,INTAKE - LOW COMPRESSION

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Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT - EMERGENCY

### Findings

4. (F) TERRAIN CONDITION - ROADWAY/HIGHWAY
5. (F) OBJECT - POLE

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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

## Factual Information

On September 18, 1998, approximately 1400 mountain daylight time, a Piper PA-28RT-201T, N8252S, was substantially damaged when it collided with poles during a forced landing near Duck Creek, Utah. The commercial pilot, the sole occupant aboard, was not injured. Visual meteorological conditions prevailed, and a VFR flight plan had been filed for the personal cross-country flight conducted under Title 14 CFR Part 91. The flight originated at Canyonlands Field, Moab, Utah, approximately 1300.

In his accident report, the pilot said he was in cruise flight at 12,500 feet, en route to Las Vegas, Nevada, when he noticed the manifold pressure had dropped from 51.8 inches to 25 inches. "The engine had poor response to throttle movement, and the engine sounded bad when I moved the throttle." The pilot made the decision not to proceed further due to the remote terrain. As he checked his maps for the nearest airport, the airplane lost altitude. The pilot said the "engine did not seem to have much power, and I was about 3,000 feet AGL by this time." The pilot made a forced landing on a dirt road. During the landing roll, the aircraft struck poles next to a cattle guard, causing substantial damage.

According to the salvage company and the FAA inspector who examined the engine, two of the four screws securing the rocker cover on the number 3 cylinder were missing, and oil was leaking out. The rocker cover had a round indentation on the outside, and a wear mark on the inside. The exhaust rocker arm studs were also loose. The rear stud was only finger tight. Aluminum was found imbedded in its threads. The front stud was loose, but its nut locking mechanism was still in place.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-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-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	November 8, 1996
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	2185 hours (Total, all aircraft), 140 hours (Total, this make and model), 1839 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N8252S
<b>Model/Series:</b>	PA-28RT-201T PA-28RT-20	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	28R8031170
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	July 24, 1998 100 hour	<b>Certified Max Gross Wt.:</b>	2900 lbs
<b>Time Since Last Inspection:</b>	43 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4792 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-360-F
<b>Registered Owner:</b>	B-Y ENTERPRISES, INC.	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>	WINGS OF DENVER FLYING CLUB	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CDC ,5623 ft msl	<b>Distance from Accident Site:</b>	41 Nautical Miles
<b>Observation Time:</b>	14:53 Local	<b>Direction from Accident Site:</b>	250°
<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>	23 knots / 30 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	220°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	27°C / 3°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	MOAB , UT (CNY )	<b>Type of Flight Plan Filed:</b>	VFR
<b>Destination:</b>	LAS VEGAS , NV (VGT )	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>	13:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## 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>	37.400924,-112.629119(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Scott, Arnold
<b>Additional Participating Persons:</b>	DARON B MALMBORG; SALT LAKE CITY , UT
<b>Original Publish Date:</b>	December 1, 1999
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=43974">https://data.nts.gov/Docket?ProjectID=43974</a>

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