



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	PONTIAC, MI	<b>Accident Number:</b>	CHI85FA070
<b>Date &amp; Time:</b>	12/11/1984, 1932 EST	<b>Registration:</b>	N9011Y
<b>Aircraft:</b>	PIPER PA-31	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

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## Analysis

THE AIRCRAFT DEPARTED THE AIRPORT WITH ONE DRY AIR PUMP INOPERATIVE AND THE OTHER PUMP READING LOW. AIRCRAFT CONTROL WAS LOST DURING AN INSTRUMENT APPROACH IN IMC APPROXIMATELY 2.5 HOURS LATER. BOTH PUMP DRIVESHAFTS WERE FOUND SHEARED IN THE WRECKAGE AND BOTH BROKEN SHAFT SURFACES SHOWED POLISHED SURFACES. DURING FURTHER TESTING IT WAS DISCOVERED THAT TAPE OR PIPE DOPE HAD BEEN USED IN THE THREADING OF THE INTAKE & OUTFLOW FITTINGS OF THE LEFT PUMP. NO CONTAMINANTS WERE FOUND IN THE RT PUMP BUT THE PUMP WALL INNER SURFACES GAP WAS APPRX .005 IN. THIS GAP IS APPROX 50 PERCENT OVER THE ALLOWABLE TOLERANCE FOR A SERVICEABLE AIR PUMP. THE PRESSURE REGULATOR VALVE TO THE ATTITUDE INDICATOR GYRO & THE COMPASS GYRO WERE EXAMINED & FOUND TO REQUIRE PRESSURE EXCEEDING NORMAL REQUIREMENT STANDARDS.

## Probable Cause and Findings

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

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: UNKNOWN

### Findings

1. (F) PNEUMATIC SYSTEM - NO PRESSURE
2. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - IMPROPER - PILOT IN COMMAND
3. (C) IMPROPER USE OF EQUIPMENT/AIRCRAFT - PILOT IN COMMAND
4. (F) FLIGHT/NAV INSTRUMENTS,ATTITUDE GYRO - DISABLED
5. (C) JUDGMENT - IMPROPER - PILOT IN COMMAND
6. (F) PSYCHOLOGICAL CONDITION - PILOT IN COMMAND
7. (F) FLIGHT/NAV INSTRUMENTS,ATTITUDE INDICATOR - FALSE INDICATION
8. (C) MAINTENANCE,INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
9. (F) PRESSURE - PILOT IN COMMAND

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Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

### Findings

10. FLIGHT/NAV INSTRUMENTS,ATTITUDE INDICATOR - FALSE INDICATION
11. (C) EMERGENCY PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND
12. (C) IMPROPER USE OF PROCEDURE - PILOT IN COMMAND
13. (F) QUALIFICATION - PILOT IN COMMAND
14. (F) LACK OF EXPERIENCE - PILOT IN COMMAND
15. (F) LACK OF RECENT EXPERIENCE - PILOT IN COMMAND
16. (F) LACK OF RECENT EXPERIENCE IN TYPE OPERATION - PILOT IN COMMAND

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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	31, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	03/05/1984
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	2247 hours (Total, all aircraft), 2117 hours (Pilot In Command, all aircraft), 182 hours (Last 90 days, all aircraft), 104 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N9011Y
<b>Model/Series:</b>	PA-31 PA-31	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	3116
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	12/03/1984, 100 Hour	<b>Certified Max Gross Wt.:</b>	6500 lbs
<b>Time Since Last Inspection:</b>	5 Hours	<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	3979 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TIO-540-A1A
<b>Registered Owner:</b>	RICHARDS AVIATION, INC.	<b>Rated Power:</b>	310 hp
<b>Operator:</b>	RICHARDS AVIATION, INC.	<b>Operating Certificate(s) Held:</b>	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	PTK, 980 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	1932 EST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	75 Miles
Lowest Ceiling:	Obscured / 100 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	BOLIVAR, TN (M08)	Type of Flight Plan Filed:	IFR
Destination:	PONTIAC, MI (PTK)	Type of Clearance:	IFR
Departure Time:	1553 CST	Type of Airspace:	Class D

## Airport Information

Airport:	OAKLAND PONTIAC (PTK)	Runway Surface Type:	Asphalt
Airport Elevation:	980 ft	Runway Surface Condition:	Wet
Runway Used:	0	IFR Approach:	ILS
Runway Length/Width:	6200 ft / 150 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	ROBERT BENZON	Report Date:	
Additional Participating Persons:	C NOLAN; BELLVILLE, MI R BEEM; BELLVILLE, MI		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).