



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	JOLIET, IL	<b>Accident Number:</b>	CHI95LA097
<b>Date &amp; Time:</b>	03/01/1995, 1730 CST	<b>Registration:</b>	N1978J
<b>Aircraft:</b>	PIPER PA-32RT	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Analysis

ACCORDING TO THE PILOT, APPROXIMATELY TEN MINUTES INTO THE FLIGHT, THE ENGINE BEGAN TO RUN ROUGH. THE PILOT STATED HE BEGAN TO TROUBLESHOOT AND EVERYTHING APPEARED NORMAL EXCEPT THE FUEL FLOW WAS LOW. AT THIS TIME HE ADVANCED THE THROTTLE, SWITCHED FUEL TANKS, AND TURNED THE FUEL BOOST PUMP ON. THE PILOT STATED HE THEN HEARD A 'BANG' FROM THE ENGINE AND ALL ENGINE POWER WAS LOST. THE PILOT MADE A FORCED LANDING ON AN ACCESS ROAD ADJACENT TO A HIGHWAY. POSTACCIDENT EXAMINATION REVEALED THE NUMBER FOUR CYLINDER HAD SEPARATED FROM THE CRANKCASE. FRACTURES OF THE CYLINDER HOLD DOWN STUDS SHOWED NO CLEAR EVIDENCE OF FATIGUE CRACKING. FRACTURES ARE REPRESENTATIVE OF OVERSTRESS SEPARATIONS. FRETTING DAMAGE WAS OBSERVED ON THE MATING CYLINDER FLANGE, CRANKCASE BOSS, AND METAL FOLDS ON THE CYLINDER FLANGE/HOLE WALL CORNERS.

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the failure of the number four cylinder due to a loose cylinder hold down stud. A factor in the accident was the embankment.

## Findings

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

### Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - FAILURE,TOTAL
2. (C) ENGINE ASSEMBLY,CYLINDER - LOOSE

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

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: LANDING

### Findings

3. (F) TERRAIN CONDITION - DROP-OFF/DESCENDING EMBANKMENT

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	34
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Instrument Rating(s):</b>	Airplane
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	823 hours (Total, all aircraft), 415 hours (Total, this make and model), 724 hours (Pilot In Command, all aircraft), 38 hours (Last 90 days, all aircraft), 11 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>	N1978J
<b>Model/Series:</b>	PA-32RT PA-32RT	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	LOWE AUTOMOTIVE	<b>Engine Manufacturer:</b>	LYCOMING
<b>Operating Certificate(s) Held:</b>		<b>Engine Model/Series:</b>	IO-540-K1G5D
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	, 0 ft msl	<b>Weather Information Source:</b>	Pilot
<b>Lowest Ceiling:</b>	None / 0 ft agl	<b>Wind Speed/Gusts, Direction:</b>	Light and Variable / , Variable
<b>Temperature:</b>	-4° C	<b>Visibility</b>	15 Miles
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	WEST CHICAGO, IL (DPA)	<b>Destination:</b>	BLOOMINGTON, IL (BMI)

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC): CHRISTINE M CORSONES

Adopted Date: 06/29/1995

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 [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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