



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | AVA, MO                              | <b>Accident Number:</b> | MKC86LA078  |
| <b>Date &amp; Time:</b>        | 04/02/1986, 1725 CST                 | <b>Registration:</b>    | N80751      |
| <b>Aircraft:</b>               | CESSNA 172                           | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                                      | <b>Injuries:</b>        | 3 None      |
| <b>Flight Conducted Under:</b> | Part 91: General Aviation - Personal |                         |             |

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## Analysis

THE PLT REPORTS THAT THE ENG BEGAN TO RUN ROUGH AND LOSE RPM WHILE THE ACFT WAS CRUISING AT 2500 FT. HE SAID HE ATTEMPTED EMERG PROC BUT THE LOSS OF RPM CONTINUED AND HE DECIDED ON AN OFF-ARPT LANDING. DURING THE APCH TO THE LANDING AREA THE ENG RPM DROPPED TO 1200 AND THE PLT SECURED THE ENG. DURING THE FORCED LANDING THE ACFT HIT A SMALL TREE AND A FENCE POST. EXAM OF THE ENG REVEALED A BROKEN EXHAUST VALVE IN THE #1 CYL. METALLURGICAL EXAM OF THE BROKEN VALVE REVEALED EVIDENCE OF A PROGRESSIVE FAILURE.

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

### Findings

1. (C) ENGINE ASSEMBLY, VALVE, INTAKE - FAILURE, TOTAL
2. ENGINE ASSEMBLY, VALVE, INTAKE - FATIGUE
3. PRECAUTIONARY LANDING - INITIATED - PILOT IN COMMAND

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

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

### Findings

4. OBJECT - TREE(S)

## Factual Information

### Pilot Information

|                                  |   |  |                            |
|----------------------------------|---|--|----------------------------|
| <b>Certificate:</b>              | Private   | <b>Age:</b>                              | 18, 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>                   | Seatbelt, Shoulder harness |
| <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--no waivers/lim.  | <b>Last FAA Medical Exam:</b>            | 08/30/1986                 |
| <b>Occupational Pilot:</b>       |   | <b>Last Flight Review or Equivalent:</b> |                            |
| <b>Flight Time:</b>              | 191 hours (Total, all aircraft), 114 hours (Total, this make and model), 131 hours (Pilot In Command, all aircraft), 69 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft) |  |                            |

### Aircraft and Owner/Operator Information

|                                      |                          |                                       |                 |
|--------------------------------------|--------------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | CESSNA                   | <b>Registration:</b>                  | N80751          |
| <b>Model/Series:</b>                 | 172 172                  | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          |                          | <b>Amateur Built:</b>                 | No              |
| <b>Airworthiness Certificate:</b>    | Normal                   | <b>Serial Number:</b>                 | 17266728        |
| <b>Landing Gear Type:</b>            | Tricycle                 | <b>Seats:</b>                         | 4               |
| <b>Date/Type of Last Inspection:</b> | 01/22/1986, 100 Hour     | <b>Certified Max Gross Wt.:</b>       | 2300 lbs        |
| <b>Time Since Last Inspection:</b>   | 94 Hours                 | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 5950 Hours               | <b>Engine Manufacturer:</b>           | LYCOMING        |
| <b>ELT:</b>                          | Installed, not activated | <b>Engine Model/Series:</b>           | O-320-E2D       |
| <b>Registered Owner:</b>             |                          | <b>Rated Power:</b>                   | 150 hp          |
| <b>Operator:</b>                     | SCHOOL OF THE OZARKS     | <b>Operating Certificate(s) Held:</b> | None            |

## Meteorological Information and Flight Plan

|                                  |                         |   |                  |
|----------------------------------|-------------------------|---|------------------|
| Conditions at Accident Site:     | Visual Conditions       | Condition of Light:                     | Day              |
| Observation Facility, Elevation: | , 0 ft msl              | Distance from Accident Site:            | 0 Nautical Miles |
| Observation Time:                | 0000                    | Direction from Accident Site:           | 0°               |
| Lowest Cloud Condition:          | Unknown / 0 ft agl      | Visibility                              | 15 Miles         |
| Lowest Ceiling:                  | Broken / 4000 ft agl    | Visibility (RVR):                       | 0 ft             |
| Wind Speed/Gusts:                | 10 knots /              | Turbulence Type<br>Forecast/Actual:     | /                |
| Wind Direction:                  | 180°                    | Turbulence Severity<br>Forecast/Actual: | /                |
| Altimeter Setting:               | 30 inches Hg            | Temperature/Dew Point:                  | 21 °C            |
| Precipitation and Obscuration:   |                         |   |                  |
| Departure Point:                 | POINT LOOKOUT, MO (PLK) | Type of Flight Plan Filed:              | None             |
| Destination:                     | AVA, MO (73K)           | Type of Clearance:                      | None             |
| Departure Time:                  | 1700 CST                | Type of Airspace:                       | Class G          |

## Wreckage and Impact Information

|                     |        |                      |             |
|---------------------|--------|----------------------|-------------|
| Crew Injuries:      | 1 None | Aircraft Damage:     | Substantial |
| Passenger Injuries: | 2 None | Aircraft Fire:       | None        |
| Ground Injuries:    | N/A    | Aircraft Explosion:  | None        |
| Total Injuries:     | 3 None | Latitude, Longitude: |             |

## Administrative Information

|                                   |  |              |  |
|-----------------------------------|--|--------------|--|
| Investigator In Charge (IIC):     | ROBERT D JOHNSON   | Report Date: |  |
| Additional Participating Persons: | R ROBINSON; KANSAS CITY, MO<br>R STERNECKER; KANSAS CITY, MO   |              |  |
| 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](#).