



# National Transportation Safety Board Aviation Accident Final Report

---

|                                |                                      |                         |            |
|--------------------------------|--------------------------------------|-------------------------|------------|
| <b>Location:</b>               | CHEHALIS, WA                         | <b>Accident Number:</b> | SEA91LA227 |
| <b>Date &amp; Time:</b>        | 09/01/1991, 1430 PDT                 | <b>Registration:</b>    | N91736     |
| <b>Aircraft:</b>               | NORTH AMERICAN NAVION A              | <b>Aircraft Damage:</b> | Destroyed  |
| <b>Defining Event:</b>         |                                      | <b>Injuries:</b>        | 1 Serious  |
| <b>Flight Conducted Under:</b> | Part 91: General Aviation - Personal |                         |            |

---

## Analysis

JUST AFTER RETRACTING THE GEAR ON TAKEOFF, THE PILOT HEARD A LOUD BANG IN THE ENGINE COMPARTMENT, AND EXPERIENCED A TOTAL LOSS OF ENGINE POWER. THE PILOT, WHO WAS APPROXIMATELY 200 FEET ABOVE THE RUNWAY WHEN THE ENGINE FAILED, MADE A FORCED LANDING JUST OFF THE END OF THE RUNWAY, DURING THE FLARE THE AIRCRAFT IMPACTED NUMEROUS YOUNG CHRISTMAS TREES. LATER INVESTIGATION REVEALED THAT THE NUMBER ONE PISTON CONNECTING ROD HAD FRACTURED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: TOTAL LOSS OF ENGINE POWER ON INITIAL TAKEOFF CLIMB DUE TO THE FATIGUE FRACTURE OF THE NUMBER ONE PISTON CONNECTING ROD RESULTING IN A FORCED LANDING AND IN FLIGHT COLLISION WITH TREES.

## Findings

---

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

### Findings

1. (C) ENGINE ASSEMBLY,CONNECTING ROD - FATIGUE
2. (C) ENGINE ASSEMBLY,CONNECTING ROD - FRACTURED

-----

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

-----

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

3. (F) OBJECT - TREE(S)

## Factual Information

### Pilot Information

|                                  |   |  |            |
|----------------------------------|---|--|------------|
| <b>Certificate:</b>              | Private   | <b>Age:</b>                              | 68, 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   |
| <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/<br>waivers/lim.   | <b>Last FAA Medical Exam:</b>            | 08/28/1990 |
| <b>Occupational Pilot:</b>       |   | <b>Last Flight Review or Equivalent:</b> |            |
| <b>Flight Time:</b>              | 1146 hours (Total, all aircraft), 431 hours (Total, this make and model), 968 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft) |  |            |

### Aircraft and Owner/Operator Information

|                                      |   |   |                 |
|--------------------------------------|---|---|-----------------|
| <b>Aircraft Make:</b>                | NORTH AMERICAN  | <b>Registration:</b>                      | N91736          |
| <b>Model/Series:</b>                 | NAVION A NAVION A   | <b>Aircraft Category:</b>                 | Airplane        |
| <b>Year of Manufacture:</b>          |   | <b>Amateur Built:</b>                     | No              |
| <b>Airworthiness Certificate:</b>    | Normal; Utility   | <b>Serial Number:</b>                     | NAV-4-188       |
| <b>Landing Gear Type:</b>            | Retractable - Tricycle                                    | <b>Seats:</b>                             | 4               |
| <b>Date/Type of Last Inspection:</b> | 10/20/1990, Annual  | <b>Certified Max Gross Wt.:</b>           | 2750 lbs        |
| <b>Time Since Last Inspection:</b>   | 47 Hours  | <b>Engines:</b>                           | 1 Reciprocating |
| <b>Airframe Total Time:</b>          |   | <b>Engine Manufacturer:</b>               | CONTINENTAL     |
| <b>ELT:</b>                          | Installed, activated, did not<br>aid in locating accident | <b>Engine Model/Series:</b>               | E185-9          |
| <b>Registered Owner:</b>             | MILLIGAN, LEWIS D.  | <b>Rated Power:</b>                       | 205 hp          |
| <b>Operator:</b>                     | MILLIGAN, LEWIS D.  | <b>Operating Certificate(s)<br/>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:          | Clear / 0 ft agl       | Visibility                              | 25 Miles         |
| Lowest Ceiling:                  | None / 0 ft agl        | Visibility (RVR):                       | 0 ft             |
| Wind Speed/Gusts:                | /                      | Turbulence Type<br>Forecast/Actual:     | /                |
| Wind Direction:                  | 150°                   | Turbulence Severity<br>Forecast/Actual: | /                |
| Altimeter Setting:               |                        | Temperature/Dew Point:                  | 21 °C            |
| Precipitation and Obscuration:   |                        |   |                  |
| Departure Point:                 |                        | Type of Flight Plan Filed:              | VFR              |
| Destination:                     | PORT ANGELES, WA (CLM) | Type of Clearance:                      | None             |
| Departure Time:                  | 1430 PDT               | Type of Airspace:                       | Class G          |

## Airport Information

|                      |                  |                           |                |
|----------------------|------------------|---------------------------|----------------|
| Airport:             | CHEHALIS (CLS)   | Runway Surface Type:      | N/A            |
| Airport Elevation:   | 174 ft           | Runway Surface Condition: |                |
| Runway Used:         | 33               | IFR Approach:             | None           |
| Runway Length/Width: | 5000 ft / 150 ft | VFR Approach/Landing:     | Forced Landing |

## Wreckage and Impact Information

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

## Administrative Information

|                                   |  |              |            |
|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC):     | ORRIN K ANDERSON   | Report Date: | 05/27/1993 |
| Additional Participating Persons: | CHUCK REYNOLDS; RENTON, WA   |              |            |
| 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> . |              |            |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).