# Aviation Investigation Final Report

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| **Location:** | MULINO, Oregon | **Accident Number:** | SEA96LA194 |
| **Date & Time:** | August 18, 1996, 10:30 Local | **Registration:** | N150KS |
| **Aircraft:** | Piper PA-20 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | | **Injuries:** | 1 None |
| **Flight Conducted Under:** | Part 91: General aviation - Instructional | | |

## Analysis

The pilot was performing a series of touch-and-go landings. While climbing after his 5th tough-and-go, the engine lost power at about 150-200 feet above ground level. The pilot attempted an emergency landing on the remaining available runway, but there was insufficient runway remaining to stop. The pilot performed an intentional nose-over near the end of the runway in order to avoid rolling off a steep drop-off to a river about 100 feet below. Inspection and running of the engine did not reveal the reason for the loss of engine power. Sufficient fuel for the flight was available in the airplane.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: loss of engine power for undetermined reason(s).

### Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED
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Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

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Occurrence #3: NOSE OVER
Phase of Operation: EMERGENCY LANDING

Findings
2. REMEDIAL ACTION - INTENTIONAL - PILOT IN COMMAND

## Factual Information

On August 18, 1996, approximately 1030 Pacific daylight time, a Piper PA-20, N150KS, sustained substantial damage during a forced landing after a loss of engine power while climbing out at Mulino, Oregon, during a series of touch-and-go landings. The student pilot, the sole occupant, was uninjured. Visual meteorological conditions prevailed at the time of the accident. No flight plan was filed for the flight.

The pilot stated that while practicing touch-and-go landings, he was climbing out on his fifth touch-and-go, when the engine quit at about 150-200 feet above ground level. He said that up until the time the engine failed all instrument indications were normal, and the loss of power was sudden.

The pilot stated that he pushed the nose down to prevent a stall and set the airplane down approximated 60-70 feet from the end of the runway. At that point, his groundspeed was too great to prevent the aircraft from going off the end of the runway. Less then 100 feet from the end of the runway is a sheer drop into the Mulino river. He said that full left braking failed to turn the aircraft because of excessive speed. He stated that he was forced to push the yoke forward while applying both brakes full to flip the aircraft on its back, in order to prevent going over the cliff. The airplane came to a rest approximate 30 feet from the edge.

After recovery, the engine was test run in the aircraft and operated normally. The fuel tanks had been filled within the previous hour or so of flight time. No anomalies were found to explain the loss of engine power.

### Pilot Information

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| **Certificate:** | Student | **Age:** | 18,Male |
| **Airplane Rating(s):** | None | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 3 Valid Medical--no waivers/lim. | **Last FAA Medical Exam:** | January 31, 1996 |
| **Occupational Pilot:** | UNK | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 102 hours (Total, all aircraft), 41 hours (Total, this make and model), 56 hours (Pilot In Command, all aircraft), 73 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Piper | **Registration:** | N150KS |
| **Model/Series:** | PA-20 PA-20 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 20-678 |
| **Landing Gear Type:** | Tailwheel | **Seats:** | 4 |
| **Date/Type of Last Inspection:** | May 12, 1996 Annual | **Certified Max Gross Wt.:** | 1850 lbs |
| **Time Since Last Inspection:** | 85 Hrs | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 4848 Hrs | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Installed, activated, did not aid in locating accident | **Engine Model/Series:** | O-320-A2B |
| **Registered Owner:** | JAMES E. WARNOCK | **Rated Power:** | 150 Horsepower |
| **Operator:** | JAMES K. WARNOCK | **Operating Certificate(s) Held:** | None |
| **Operator Does Business As:** | | **Operator Designator Code:** | |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | | **Distance from Accident Site:** | |
| **Observation Time:** | | **Direction from Accident Site:** | |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 5 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 180° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | | **Temperature/Dew Point:** | 24°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | (4S9 ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | | **Type of Clearance:** | None |
| **Departure Time:** | 10:30 Local | **Type of Airspace:** | |

## Airport Information

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| **Airport:** | MULINO 4S9 | **Runway Surface Type:** | Asphalt |
| **Airport Elevation:** | 257 ft msl | **Runway Surface Condition:** | Dry |
| **Runway Used:** | 14 | **IFR Approach:** | None |
| **Runway Length/Width:** | 3600 ft / 100 ft | **VFR Approach/Landing:** | Forced landing |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 1 None | **Latitude, Longitude:** | 45.199699,-122.540969(est) |

## Administrative Information

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| **Investigator In Charge (IIC):** | Stockhill, Michael |
| **Additional Participating Persons:** | BOB BRASE; HILLSBORO , OR |
| **Original Publish Date:** | February 28, 1997 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=42447 |