



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|---|-------------------------|--------------------|
| <b>Location:</b>               | TUSAYAN, AZ   | <b>Accident Number:</b> | DCA95MA019         |
| <b>Date &amp; Time:</b>        | 02/13/1995, 1536 MST  | <b>Registration:</b>    | N27245             |
| <b>Aircraft:</b>               | PIPER PA-31-350   | <b>Aircraft Damage:</b> | Destroyed          |
| <b>Defining Event:</b>         |   | <b>Injuries:</b>        | 8 Fatal, 2 Serious |
| <b>Flight Conducted Under:</b> | Part 135: Air Taxi & Commuter - Non-scheduled - Sightseeing |                         |                    |

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## Analysis

The charter flight was on a return tour trip after landing at the Grand Canyon National Park airport. No fueling or maintenance was performed on the airplane while it sat on the ground for three hours. Shortly after takeoff from runway 21, the pilot transmitted that he had a problem and was declaring an emergency. He then stated '...i'm single engine right now....' The airplane was observed to be 100-200 feet above the terrain at the time. It continued flying for about 6 minutes, turning onto a crosswind, downwind, and then a right base leg for runway 21 before colliding with trees about 2.5 miles northeast of the airport. The airport is located in terrain that slopes upward from south to north and west to east. Winds were gusting to 29 knots. The density altitude was 6,870 feet. Examination of the suspect left engine did not reveal any evidence of failures or malfunctions. The investigation revealed deficiencies in the Federal Aviation Administration's oversight of the airline's maintenance program, and in the airline's extension of the time-in-service interval of the engines. The airline's AAIP does not require a maximum rated power check of the engines as required by the engine manufacturer's service instruction. In addition, the TBO of the engines had been extended from 1,800 to 2,400 hours.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a loss of power on one engine for an undetermined reason(s), and the pilot's improper decision to return to the departure airport for landing which necessitated maneuvering over increasingly higher terrain. Factors in the accident were: the high gusting wind, the high density altitude, the rising terrain, and the reduced single-engine performance capability of the airplane under these conditions.

## Findings

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

### Findings

1. 1 ENGINE
2. (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: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

### Findings

3. (F) WEATHER CONDITION - HIGH WIND
4. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
5. (F) TERRAIN CONDITION - RISING
6. (F) AIRCRAFT PERFORMANCE,ENGINE OUT CAPABILITY - DETERIORATED
7. MAINTENANCE,AAIP/PROGRESSIVE PROGRAM - INADEQUATE - COMPANY/OPERATOR MANAGEMENT
8. INADEQUATE SUBSTANTIATION PROCESS - FAA(ORGANIZATION)
9. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

## Factual Information

On February 13, 1995, at 1536 MST, a Piper PA-31-350, N27245, operated by Las Vegas Airlines as flight 45, was destroyed during a forced landing approach at Tusayan, Arizona. The pilot and seven passengers received fatal injuries. Two passengers received serious injuries. The airplane, operating under 14 CFR Part 135 as an on demand charter flight, crashed about 2.5 miles northeast of the Grand Canyon Airport (GCN), Tusayan, Arizona. The flight was enroute to Las Vegas, Nevada. The pilot declared an emergency during the initial climb phase of flight after departure from runway 21.

The aircraft departed GCN at 1429 on a VFR company flight plan for Las Vegas, Nevada, as a return tour flight. Visual meteorological conditions prevailed for the flight. Weather was reported as multiple ceiling layers with 7 miles visibility in rain showers, winds out of 200 degrees at 23 knots gusting to 29 knots, temperature 42 degrees and dew point 37 degrees. According to the ATC records, the airplane declared an emergency due to a loss of engine power. The airplane was not equipped with a CVR or FDR.

After the aircraft landed from its sightseeing flight into the Grand Canyon area, it sat on the ground for 3 hours. No fuel or maintenance was performed on the aircraft before it departed. The operator was on an FAA Approved Airplane Inspection Program (AAIP) and maintenance records revealed that, on February 12, 1995, the engines were inspected in accordance with event number 6 and cycle number 1 of an 8 event 4 cycle maintenance program.

## Pilot Information

|                                  |  |  |            |
|----------------------------------|--|--|------------|
| <b>Certificate:</b>              | Airline Transport; Commercial  | <b>Age:</b>                              | 48, 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>             | No         |
| <b>Instructor Rating(s):</b>     | None   | <b>Toxicology Performed:</b>             | Yes        |
| <b>Medical Certification:</b>    | Class 1 Valid Medical--w/<br>waivers/lim.  | <b>Last FAA Medical Exam:</b>            | 01/23/1995 |
| <b>Occupational Pilot:</b>       |  | <b>Last Flight Review or Equivalent:</b> |            |
| <b>Flight Time:</b>              | 5086 hours (Total, all aircraft), 480 hours (Total, this make and model), 196 hours (Last 90 days, all aircraft), 72 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) |  |            |

## Aircraft and Owner/Operator Information

|                               |  |                                |                          |
|-------------------------------|--|--------------------------------|--------------------------|
| Aircraft Manufacturer:        | PIPER  | Registration:                  | N27245                   |
| Model/Series:                 | PA-31-350 PA-31-350                                    | Aircraft Category:             | Airplane                 |
| Year of Manufacture:          |  | Amateur Built:                 | No                       |
| Airworthiness Certificate:    | Normal   | Serial Number:                 | 31-7752121               |
| Landing Gear Type:            | Retractable - Tricycle                                 | Seats:                         | 10                       |
| Date/Type of Last Inspection: | 02/12/1995, AAIP                                       | Certified Max Gross Wt.:       | 7000 lbs                 |
| Time Since Last Inspection:   | 1 Hours  | Engines:                       | 2 Reciprocating          |
| Airframe Total Time:          | 13367 Hours  | Engine Manufacturer:           | LYCOMING                 |
| ELT:                          | Installed, activated, did not aid in locating accident | Engine Model/Series:           | TIO-540-J2BD             |
| Registered Owner:             | CHARTERCRAFT LEASING AND SALES                         | Rated Power:                   | 350 hp                   |
| Operator:                     | LAS VEGAS AIRLINES                                     | Operating Certificate(s) Held: | On-demand Air Taxi (135) |
| Operator Does Business As:    |  | Operator Designator Code:      | LVAA                     |

## Meteorological Information and Flight Plan

|                                  |                         |                               |                                |
|----------------------------------|-------------------------|-------------------------------|--------------------------------|
| Conditions at Accident Site:     | Visual Conditions       | Condition of Light:           | Day                            |
| Observation Facility, Elevation: | GCN, 6606 ft msl        | Observation Time:             | 1535 MST                       |
| Distance from Accident Site:     | 2 Nautical Miles        | Direction from Accident Site: | 240°                           |
| Lowest Cloud Condition:          | Scattered / 1800 ft agl | Temperature/Dew Point:        | 6° C / 3° C                    |
| Lowest Ceiling:                  | Broken / 2900 ft agl    | Visibility                    | 7 Miles                        |
| Wind Speed/Gusts, Direction:     | 23 knots, 200°          | Visibility (RVR):             |                                |
| Altimeter Setting:               | 29 inches Hg            | Visibility (RVV):             |                                |
| Precipitation and Obscuration:   |                         |                               |                                |
| Departure Point:                 | , AZ (GCN)              | Type of Flight Plan Filed:    | Company VFR                    |
| Destination:                     | LAS VEGAS, NV (VGT)     | Type of Clearance:            | VFR                            |
| Departure Time:                  | 1529 MST                | Type of Airspace:             | Airport Advisory Area; Class D |

## Airport Information

|                      |                              |                           |                |
|----------------------|------------------------------|---------------------------|----------------|
| Airport:             | GRAND CANYON NATL PARK (GCN) | Runway Surface Type:      | Asphalt        |
| Airport Elevation:   | 6606 ft                      | Runway Surface Condition: | Wet            |
| Runway Used:         | 21                           | IFR Approach:             | None           |
| Runway Length/Width: | 8999 ft / 150 ft             | VFR Approach/Landing:     | Forced Landing |

## Wreckage and Impact Information

|                     |                    |                      |           |
|---------------------|--------------------|----------------------|-----------|
| Crew Injuries:      | 1 Fatal            | Aircraft Damage:     | Destroyed |
| Passenger Injuries: | 7 Fatal, 2 Serious | Aircraft Fire:       | On-Ground |
| Ground Injuries:    | N/A                | Aircraft Explosion:  | None      |
| Total Injuries:     | 8 Fatal, 2 Serious | Latitude, Longitude: |           |

## Administrative Information

|                                   |  |               |            |
|-----------------------------------|--|---------------|------------|
| Investigator In Charge (IIC):     | ALFRED W DICKINSON   | Adopted Date: | 12/16/1996 |
| Additional Participating Persons: |  |               |            |
| 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.