



National Transportation Safety Board Aviation Accident Final Report

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| Location: | GRAND CANYON, AZ | Accident Number: | LAX91FA213 |
| Date & Time: | 05/13/1991, 1319 MST | Registration: | N6280H |
| Aircraft: | CESSNA 207A | Aircraft Damage: | Destroyed |
| Defining Event: | | Injuries: | 7 Fatal |
| Flight Conducted Under: | Part 135: Air Taxi & Commuter - Non-scheduled | | |

Analysis

THE AIRPLANE CRASHED INTO A WOODED AREA ABOUT 8 MINUTES AFTER TAKEOFF. EVIDENCE AT THE WRECKAGE SITE REVEALED THAT THE AIRPLANE CRASHED THROUGH THE TREES AT A GLIDE ANGLE OF 8 DEGREES. THE GLIDE ANGLE FOR A POWER-OFF FORCED LANDING IS 6 DEGREES ACCORDING TO THE PILOT'S OPERATING HANDBOOK. THE PROPELLER DID NOT EXHIBIT ROTATIONAL DAMAGE. ENGINE TEARDOWN REVEALED THAT THE #1 CYLINDER HAD CATASTROPHIC DETONATION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: DETONATION (OR PRE-IGNITION) IN THE NUMBER 1 CYLINDER, WHICH RESULTED IN EROSION (BURNING) OF THE NUMBER 1 PISTON AND SUBSEQUENT LOSS OF ENGINE POWER. A FACTOR RELATED TO THE ACCIDENT WAS: THE LACK OF SUITABLE TERRAIN FOR AN EMERGENCY LANDING.

Findings

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

Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - OVERTEMPERATURE
2. (C) ENGINE ASSEMBLY,PISTON - BURNED

Occurrence #2: FORCED LANDING
Phase of Operation: LANDING

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: LANDING

Findings

3. (F) TERRAIN CONDITION - NONE SUITABLE
4. OBJECT - TREE(S)

Factual Information

Pilot Information

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| Certificate: | Flight Instructor; Commercial | Age: | 26, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land | Seat Occupied: | Unknown |
| Other Aircraft Rating(s): | None | Restraint Used: | Seatbelt |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | | Toxicology Performed: | Yes |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | 07/02/1990 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 1168 hours (Total, all aircraft), 36 hours (Total, this make and model), 1070 hours (Pilot In Command, all aircraft), 98 hours (Last 90 days, all aircraft), 57 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--------------------------|---------------------------------------|--------------------------|
| Aircraft Manufacturer: | CESSNA | Registration: | N6280H |
| Model/Series: | 207A 207A | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | | Serial Number: | 207-00463 |
| Landing Gear Type: | Tricycle | Seats: | 7 |
| Date/Type of Last Inspection: | Unknown | Certified Max Gross Wt.: | 3800 lbs |
| Time Since Last Inspection: | 0 Hours | Engines: | 1 Reciprocating |
| Airframe Total Time: | | Engine Manufacturer: | CONTINENTAL |
| ELT: | Installed, not activated | Engine Model/Series: | TSIO-520-M |
| Registered Owner: | AIR GRAND CANYON | Rated Power: | 285 hp |
| Operator: | AIR GRAND CANYON | Operating Certificate(s) Held: | On-demand Air Taxi (135) |
| Operator Does Business As: | | Operator Designator Code: | EKBA |

Meteorological Information and Flight Plan

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|----------------------------------|--------------------------|-------------------------------|-----------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | GCN, 6606 ft msl | Observation Time: | 1355 MST |
| Distance from Accident Site: | 8 Nautical Miles | Direction from Accident Site: | 82° |
| Lowest Cloud Condition: | Unknown / 0 ft agl | Temperature/Dew Point: | -18° C / -18° C |
| Lowest Ceiling: | Broken / 25000 ft agl | Visibility | 50 Miles |
| Wind Speed/Gusts, Direction: | 11 knots/ 18 knots, 210° | Visibility (RVR): | 0 ft |
| Altimeter Setting: | | Visibility (RVV): | 0 Miles |
| Precipitation and Obscuration: | | | |
| Departure Point: | GRAND CANYON, AZ (GCN) | Type of Flight Plan Filed: | Company VFR |
| Destination: | | Type of Clearance: | None |
| Departure Time: | 0000 | Type of Airspace: | |

Wreckage and Impact Information

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|---------------------|---------|----------------------|-----------|
| Crew Injuries: | 1 Fatal | Aircraft Damage: | Destroyed |
| Passenger Injuries: | 6 Fatal | Aircraft Fire: | On-Ground |
| Ground Injuries: | N/A | Aircraft Explosion: | On-Ground |
| Total Injuries: | 7 Fatal | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|--|---------------|------------|
| Investigator In Charge (IIC): | richard V childress | Adopted Date: | 07/02/1993 |
| Additional Participating Persons: | FLOYD GOODYEAR; LAS VEGAS, NV GENE CORDELL; LAS VEGAS, NV DON ELAM; WASHINGTON, DC MICHAEL GRIMES; LANCASTER, CA | | |
| 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 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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