



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|------------------------|-------------------------|-------------|
| <b>Location:</b>               | SATANTA, KS            | <b>Accident Number:</b> | CHI97LA193  |
| <b>Date &amp; Time:</b>        | 07/01/1997, 2030 CDT   | <b>Registration:</b>    | N10397      |
| <b>Aircraft:</b>               | Grumman G-164          | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                        | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 137: Agricultural |                         |             |

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## Analysis

Approximately two miles after takeoff, the pilot reported losing partial power due to backfiring of the engine. The pilot then made a forced landing and ground looped the airplane. The engine was test run on the airplane. Rated power was achieved during the test run with no mechanical deficiencies were noted.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot did not maintain aircraft control and the reason for the loss of engine power was undetermined.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

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Occurrence #3: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: LANDING - ROLL

Findings

2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

3. GROUND LOOP/SWERVE - ENCOUNTERED - PILOT IN COMMAND

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Occurrence #4: NOSE OVER

Phase of Operation: LANDING - ROLL

## Factual Information

On July 1, 1997, at 2030 central daylight time (cdt), a Grumman G-164, N10397, registered to Satanta Flying Service, Inc., of Satanta, Kansas, was substantially damaged following a partial loss of engine power and subsequent forced landing in a farmer's field. The commercial pilot reported no injuries. The 14 CFR Part 137 aerial application flight was not operating on a flight plan. Visual meteorological conditions prevailed at the time of the accident. The flight departed Satanta, Kansas, at 2025 cdt.

Post accident examination of the airplane by a Federal Aviation Administration principal Maintenance Inspector (PMI), stated that the pilot reported that about two miles from the departure airport the engine backfired and lost power causing an emergency landing. The airplane's fuel system was inspected and the fuel tanks were empty due to rupture in the fuel line caused when the airplane ground looped and settled on the top of the upper wing. The fuel strainer was inspected and held clean aviation 100LL fuel (blue in color). The fuel line was repaired and fuel was added to the wing tanks for the engine test run. The forward spark plugs were removed and cleaned and oil which had run into the cylinders when the airplane was inverted was allowed to drain. The existing propeller was removed and a serviceable propeller installed for the test run on the airplane. The propeller was pulled through to clear all the cylinders of oil. The engine was then motored over with the starter and after several attempts the engine started. The engine ran rough until it burned the remainder of the oil out of the cylinders and warmed up. The engine was then ran at 2100 rpm's and produced 32 inches of manifold pressure. There were no mechanical or backfiring problems discovered during the test run.

The pilot did not submit the required National Transportation Safety Board's form 6120.1/2 under Title 49, Part 830.15.

## Pilot Information

|                                  |  |  |            |
|----------------------------------|--|--|------------|
| <b>Certificate:</b>              | Commercial                             | <b>Age:</b>                              | 40, Male   |
| <b>Airplane Rating(s):</b>       | Single-engine Land                     | <b>Seat Occupied:</b>                    | Center     |
| <b>Other Aircraft Rating(s):</b> | None                                   | <b>Restraint Used:</b>                   |            |
| <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 2 Valid Medical--no waivers/lim. | <b>Last FAA Medical Exam:</b>            | 06/30/1996 |
| <b>Occupational Pilot:</b>       |  | <b>Last Flight Review or Equivalent:</b> |            |
| <b>Flight Time:</b>              | 1600 hours (Total, all aircraft)       |  |            |

## Aircraft and Owner/Operator Information

|                               |                        |                                |                 |
|-------------------------------|------------------------|--------------------------------|-----------------|
| Aircraft Make:                | Grumman                | Registration:                  | N10397          |
| Model/Series:                 | G-164 G-164            | Aircraft Category:             | Airplane        |
| Year of Manufacture:          |                        | Amateur Built:                 | No              |
| Airworthiness Certificate:    | Restricted             | Serial Number:                 | 70              |
| Landing Gear Type:            | Tailwheel              | Seats:                         | 1               |
| Date/Type of Last Inspection: | Unknown                | Certified Max Gross Wt.:       | 3725 lbs        |
| Time Since Last Inspection:   |                        | Engines:                       | 1 Reciprocating |
| Airframe Total Time:          |                        | Engine Manufacturer:           | P&W             |
| ELT:                          |                        | Engine Model/Series:           |                 |
| Registered Owner:             | SATANTA FLYING SERVICE | Rated Power:                   |                 |
| Operator:                     | SATANTA FLYING SERVICE | Operating Certificate(s) Held: |                 |

## Meteorological Information and Flight Plan

|                                  |                    |                                      |                  |
|----------------------------------|--------------------|--------------------------------------|------------------|
| Conditions at Accident Site:     | Visual Conditions  | Condition of Light:                  | Dusk             |
| 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                           | 0 Miles          |
| Lowest Ceiling:                  | Unknown / 0 ft agl | Visibility (RVR):                    | 0 ft             |
| Wind Speed/Gusts:                | /                  | Turbulence Type Forecast/Actual:     | /                |
| Wind Direction:                  |                    | Turbulence Severity Forecast/Actual: | /                |
| Altimeter Setting:               |                    | Temperature/Dew Point:               |                  |
| Precipitation and Obscuration:   |                    |                                      |                  |
| Departure Point:                 | (1K9)              | Type of Flight Plan Filed:           | None             |
| Destination:                     | (1K9)              | Type of Clearance:                   | None             |
| Departure Time:                  | 2025 CDT           | Type of Airspace:                    | Class G          |

## Airport Information

|                      |                                 |                           |         |
|----------------------|---------------------------------|---------------------------|---------|
| Airport:             | SATANTA MUNICIPAL AIRPORT (1K9) | Runway Surface Type:      | Asphalt |
| Airport Elevation:   | 2976 ft                         | Runway Surface Condition: |         |
| Runway Used:         | 0                               | IFR Approach:             | None    |
| Runway Length/Width: | 3250 ft / 30 ft                 | VFR Approach/Landing:     |         |

## Wreckage and Impact Information

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

## Administrative Information

|  |  |                     |            |
|--|--|---------------------|------------|
| <b>Investigator In Charge (IIC):</b>     | TODD J CARLSON   | <b>Report Date:</b> | 01/07/1998 |
| <b>Additional Participating Persons:</b> | RONALD E CENTER; WICHITA, KS   |                     |            |
| <b>Publish Date:</b>                     |  |                     |            |
| <b>Investigation Docket:</b>             | 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.ntsbt.gov/pubdms/">http://dms.ntsbt.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](#).