



# Aviation Investigation Final Report

|                                |                           |                         |             |
|--------------------------------|---------------------------|-------------------------|-------------|
| <b>Location:</b>               | TRENTON, Georgia          | <b>Accident Number:</b> | ATL99LA105  |
| <b>Date &amp; Time:</b>        | July 2, 1999, 07:30 Local | <b>Registration:</b>    | N23590      |
| <b>Aircraft:</b>               | Bell 47                   | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                           | <b>Injuries:</b>        | 1 Minor     |
| <b>Flight Conducted Under:</b> | Part 137: Agricultural    |                         |             |

## Analysis

According to the pilot, he was unable to maintain flight after a loss of rotor rpm. He initiated an autorotation and collided with trees during the descent. The pilot attempted the autorotation with about a five knot tail wind. The pilot reported no mechanical deficiencies with the helicopter.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of main rotor rpm due to improper use of the flight controls by the pilot. Factors were the tailwind and trees.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: MANEUVERING

### Findings

1. (C) ADEQUATE ROTOR RPM - NOT MAINTAINED - PILOT IN COMMAND
2. (C) FLIGHT CONTROLS - IMPROPER USE OF - PILOT IN COMMAND
3. (F) WEATHER CONDITION - TAILWIND

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

Findings

4. AUTOROTATION - INITIATED - PILOT IN COMMAND

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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

5. (F) OBJECT - TREE(S)

## Factual Information

On July 2, 1999, at 0730 eastern daylight time, a Bell 47, N23590, collided with trees during a forced landing near Trenton, Georgia, following a loss of rotor rpm. The agricultural flight was operated by the pilot under the provisions of Title 14 CFR Part 137, and no flight plan was filed. Visual meteorological conditions prevailed at the time of the accident. The helicopter sustained substantial damage and the commercial pilot received minor injuries. The flight departed Trenton, Georgia, at an undetermined time.

The pilot was conducting an aerial application for agricultural purposes. According to the pilot, the helicopter experienced a decay in rotor rpm and he was unable to maintain flight. He executed an autorotation and collided with trees on the descent.

According to the FAA, the pilot attempted the autorotation with about a five knot tailwind. No mechanical deficiencies were reported by the pilot. A Pilot/Operator Aircraft Accident Report (Form 6120.1/2) was not submitted by the pilot.

### Pilot Information

|                                  |   |  |                |
|----------------------------------|---|--|----------------|
| <b>Certificate:</b>              | Commercial  | <b>Age:</b>                              | 52, Male       |
| <b>Airplane Rating(s):</b>       | Single-engine land  | <b>Seat Occupied:</b>                    | Right          |
| <b>Other Aircraft Rating(s):</b> | Helicopter  | <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>            | April 23, 1999 |
| <b>Occupational Pilot:</b>       | UNK   | <b>Last Flight Review or Equivalent:</b> |                |
| <b>Flight Time:</b>              | 8440 hours (Total, all aircraft), 2450 hours (Total, this make and model), 110 hours (Last 90 days, all aircraft) |  |                |

## Aircraft and Owner/Operator Information

|                                      |                      |                                       |                 |
|--------------------------------------|----------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | Bell                 | <b>Registration:</b>                  | N23590          |
| <b>Model/Series:</b>                 | 47 47                | <b>Aircraft Category:</b>             | Helicopter      |
| <b>Year of Manufacture:</b>          |                      | <b>Amateur Built:</b>                 |                 |
| <b>Airworthiness Certificate:</b>    | Restricted (Special) | <b>Serial Number:</b>                 | 3506            |
| <b>Landing Gear Type:</b>            | Skid                 | <b>Seats:</b>                         | 3               |
| <b>Date/Type of Last Inspection:</b> | Annual               | <b>Certified Max Gross Wt.:</b>       | 2950 lbs        |
| <b>Time Since Last Inspection:</b>   | 10 Hrs               | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          |                      | <b>Engine Manufacturer:</b>           | Lycoming        |
| <b>ELT:</b>                          | Not installed        | <b>Engine Model/Series:</b>           | VO-435-AIF      |
| <b>Registered Owner:</b>             | SOUTHERN HELICOPTER  | <b>Rated Power:</b>                   | 280 Horsepower  |
| <b>Operator:</b>                     |                      | <b>Operating Certificate(s) Held:</b> |                 |
| <b>Operator Does Business As:</b>    |                      | <b>Operator Designator Code:</b>      |                 |

## Meteorological Information and Flight Plan

|   |                                  |   |                   |
|---|----------------------------------|---|-------------------|
| <b>Conditions at Accident Site:</b>     | Visual (VMC)                     | <b>Condition of Light:</b>                  | Day               |
| <b>Observation Facility, Elevation:</b> | CHA ,682 ft msl                  | <b>Distance from Accident Site:</b>         | 22 Nautical Miles |
| <b>Observation Time:</b>                | 07:36 Local                      | <b>Direction from Accident Site:</b>        | 235°              |
| <b>Lowest Cloud Condition:</b>          | Scattered / 2400 ft AGL          | <b>Visibility</b>                           | 8 miles           |
| <b>Lowest Ceiling:</b>                  | None                             | <b>Visibility (RVR):</b>                    |                   |
| <b>Wind Speed/Gusts:</b>                | 5 knots /                        | <b>Turbulence Type Forecast/Actual:</b>     | /                 |
| <b>Wind Direction:</b>                  | 160°                             | <b>Turbulence Severity Forecast/Actual:</b> | /                 |
| <b>Altimeter Setting:</b>               | 30 inches Hg                     | <b>Temperature/Dew Point:</b>               | 23°C / 19°C       |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                   |
| <b>Departure Point:</b>                 |                                  | <b>Type of Flight Plan Filed:</b>           | None              |
| <b>Destination:</b>                     |                                  | <b>Type of Clearance:</b>                   | None              |
| <b>Departure Time:</b>                  | 00:00 Local                      | <b>Type of Airspace:</b>                    | Class G           |

## Airport Information

|                             |   |                                  |                |
|-----------------------------|---|----------------------------------|----------------|
| <b>Airport:</b>             |   | <b>Runway Surface Type:</b>      |                |
| <b>Airport Elevation:</b>   |   | <b>Runway Surface Condition:</b> |                |
| <b>Runway Used:</b>         | 0 | <b>IFR Approach:</b>             |                |
| <b>Runway Length/Width:</b> |   | <b>VFR Approach/Landing:</b>     | Forced landing |

## Wreckage and Impact Information

|                            |         |                             |                           |
|----------------------------|---------|-----------------------------|---------------------------|
| <b>Crew Injuries:</b>      | 1 Minor | <b>Aircraft Damage:</b>     | Substantial               |
| <b>Passenger Injuries:</b> |         | <b>Aircraft Fire:</b>       | None                      |
| <b>Ground Injuries:</b>    | N/A     | <b>Aircraft Explosion:</b>  | None                      |
| <b>Total Injuries:</b>     | 1 Minor | <b>Latitude, Longitude:</b> | 34.869815,-85.500099(est) |

## Administrative Information

**Investigator In Charge (IIC):** Powell, Phillip

**Additional Participating Persons:** JIM PERRY;

**Original Publish Date:** June 21, 2000

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.ntsb.gov/Docket?ProjectID=46720>

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