



# National Transportation Safety Board Aviation Accident Data Summary

|                                |                      |                         |            |
|--------------------------------|----------------------|-------------------------|------------|
| <b>Location:</b>               | Naples, FL           | <b>Accident Number:</b> | ERA14TA113 |
| <b>Date &amp; Time:</b>        | 02/03/2014, 1350 EST | <b>Registration:</b>    | N8618F     |
| <b>Aircraft:</b>               | HUGHES 369           | <b>Injuries:</b>        | 2 None     |
| <b>Flight Conducted Under:</b> | Public Aircraft      |                         |            |

## Analysis

The flight instructor and airline transport pilot were conducting a recurrent local public helicopter training flight and had performed several straight-in autorotations and two 180-degree autorotations. During the third 180-degree autorotation, when the helicopter was about 50 ft above ground level (agl), the pilot, who was manipulating the controls, initiated a recovery flare. During the flare, the helicopter's tail rotor contacted the turf runway. The instructor took over the controls and landed the helicopter. The helicopter sustained damage to the tail rotor blades, horizontal stabilizer, and tail rotor drive train. Postaccident examination revealed no preimpact mechanical malfunctions or anomalies that would have precluded normal operation.

The pilot reported that he had initiated the flare to arrest the forward motion as he had done during the previous autorotations, but at some point during the flare, he felt a "bump," which he realized later was the tail rotor striking the ground. The flight instructor reported that, during the flare, the helicopter "suddenly lost altitude," and he "grabbed the controls." He then felt a "bump," followed by a "buzz." A witness who was watching the helicopter during the autorotations reported observing the helicopter descend more rapidly and aggressively during the accident approach than during the previous autorotations. When the helicopter was about 100 ft agl, it nosed up "aggressively," followed by the tail striking the ground.

Two areas at the airport at which the accident occurred could be used for practice autorotations: a paved runway and the turf runway. At the time of the accident, only the turf runway was in use due to traffic; however, a suitable hard-surface runway was also available at a nearby airport and could have been used for the practice autorotations. The flight instructor reported that, after the accident, he could see where the tail stinger had touched the grass and dug into the dirt. He noted that, at the helicopter manufacturer's training facility, pilots always conducted autorotations to a hard surface not onto grass. He believed that if they had been operating on a hard surface, the tail stinger would have touched and slid along the pavement, instead of it digging into the dirt, and this may have prevented the tail rotor blades from striking the ground.

## Flight Events

Other - Simulated/training event

Autorotation - Miscellaneous/other

Landing-flare/touchdown - Dragged wing/rotor/float/other

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate flare during the termination of a practice 180-degree autorotation and the flight instructor's delayed remedial action, which resulted in the tail rotor contacting the ground.

## Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Not attained/maintained - C

Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C

Personnel issues-Action/decision-Action-Delayed action-Instructor/check pilot - C

Environmental issues-Physical environment-Runway/land/takeoff/taxi surface-Soft-Contributed to outcome

## Pilot Information

|                                  |   |                              |                        |
|----------------------------------|---|------------------------------|------------------------|
| <b>Certificate:</b>              | Airline Transport; Flight Instructor; Commercial  | <b>Age:</b>                  | 56                     |
| <b>Airplane Rating(s):</b>       | Multi-engine Land; Single-engine Land   | <b>Instrument Rating(s):</b> | Airplane               |
| <b>Other Aircraft Rating(s):</b> | Helicopter  | <b>Instructor Rating(s):</b> | Airplane Single-engine |
| <b>Flight Time:</b>              | 4936 hours (Total, all aircraft), 1062 hours (Total, this make and model), 4013 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft) |                              |                        |

## Flight Instructor Information

|                                  |  |                              |                                   |
|----------------------------------|--|------------------------------|-----------------------------------|
| <b>Certificate:</b>              | Flight Instructor; Commercial  | <b>Age:</b>                  | 42                                |
| <b>Airplane Rating(s):</b>       | None   | <b>Instrument Rating(s):</b> | Helicopter                        |
| <b>Other Aircraft Rating(s):</b> | Helicopter   | <b>Instructor Rating(s):</b> | Helicopter; Instrument Helicopter |
| <b>Flight Time:</b>              | 5465 hours (Total, all aircraft), 1549 hours (Total, this make and model), 5280 hours (Pilot In Command, all aircraft), 97 hours (Last 90 days, all aircraft), 32 hours (Last 30 days, all aircraft) |                              |                                   |

## Aircraft and Owner/Operator Information

|   |                                   |                             |               |
|---|-----------------------------------|-----------------------------|---------------|
| <b>Aircraft Manufacturer:</b>             | HUGHES                            | <b>Registration:</b>        | N8618F        |
| <b>Model/Series:</b>                      | 369 D                             | <b>Engines:</b>             | 1 Turbo Shaft |
| <b>Operator:</b>                          | COLLIER MOSQUITO CONTROL DISTRICT | <b>Engine Manufacturer:</b> | Rolls-Royce   |
| <b>Air Carrier Operating Certificate:</b> | None                              | <b>Engine Model/Series:</b> | 250C20B       |
| <b>Flight Conducted Under:</b>            | Public Aircraft                   |                             |               |

## Meteorological Information and Flight Plan

|   |                                  |                                     |                              |
|---|----------------------------------|-------------------------------------|------------------------------|
| <b>Observation Facility, Elevation:</b> | APF, 8 ft msl                    | <b>Weather Information Source:</b>  | Weather Observation Facility |
| <b>Conditions at Accident Site:</b>     | Visual Conditions                | <b>Lowest Ceiling:</b>              | None                         |
| <b>Condition of Light:</b>              | Day                              | <b>Wind Speed/Gusts, Direction:</b> | 12 knots, 220°               |
| <b>Temperature:</b>                     | 28° C / 21° C                    | <b>Visibility</b>                   | 10 Miles                     |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |                                     |                              |
| <b>Departure Point:</b>                 | Naples, FL (APF)                 | <b>Destination:</b>                 | Naples, FL (APF)             |

## Airport Information

|                             |                                |                                  |            |
|-----------------------------|--------------------------------|----------------------------------|------------|
| <b>Airport:</b>             | Naples Municipal Airport (APF) | <b>Runway Surface Type:</b>      | Grass/turf |
| <b>Runway Used:</b>         | SW                             | <b>Runway Surface Condition:</b> | Dry        |
| <b>Runway Length/Width:</b> | 1850 ft / 100 ft               |                                  |            |

## Wreckage and Impact Information

|                            |        |                            |             |
|----------------------------|--------|----------------------------|-------------|
| <b>Crew Injuries:</b>      | 2 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        |

## Administrative Information

|                                      |   |                      |            |
|--------------------------------------|---|----------------------|------------|
| <b>Investigator In Charge (IIC):</b> | Todd G Gunther  | <b>Adopted Date:</b> | 04/26/2016 |
| <b>Note:</b>                         | The NTSB did not travel to the scene of this accident.  |                      |            |
| <b>Investigation Docket:</b>         | <a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=88769">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=88769</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.