# Aviation Investigation Final Report

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| **Location:** | Eagle Pass, Texas | **Accident Number:** | CEN14CA016 |
| **Date & Time:** | October 23, 2013, 15:00 Local | **Registration:** | N1CR |
| **Aircraft:** | AMERICAN EUROCOPTER CORP AS350B3 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Roll over | **Injuries:** | 2 None |
| **Flight Conducted Under:** | Part 91: General aviation - Instructional | | |

## Analysis

The instructor pilot provided instruction to the private pilot and conducted practice autorotation landings. The instructor pilot demonstrated an autorotation and during the landing the helicopter slid on the skids for about 10-15 feet before the skids dug into the soft landing surface. The helicopter began to pitch nose down so both pilots applied aft cyclic and up collective. The helicopter continued to pitch nose down when the main rotor impacted the ground, which resulted in the helicopter rolling on its right side. The helicopter sustained substantial damage to the main rotor blades, fuselage, and tail boom. The instructor pilot reported no preaccident mechanical malfunctions or anomalies that would have precluded normal operation.

## Probable Cause and Findings

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

The abnormal contact of the helicopter's skids with the landing surface, which resulted in a rollover.

## Findings

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| **Environmental issues** | (general) - Effect on equipment |

# Factual Information

## History of Flight

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| **Landing-flare/touchdown** | Abnormal runway contact |
| **Landing-flare/touchdown** | Roll over (Defining event) |

## Flight instructor Information

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| **Certificate:** | Airline transport; Commercial; Flight instructor | **Age:** | 55 |
| **Airplane Rating(s):** | Single-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | Helicopter | **Restraint Used:** | 3-point |
| **Instrument Rating(s):** | Airplane; Helicopter | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 2 With waivers/limitations | **Last FAA Medical Exam:** | July 22, 2013 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | February 18, 2013 |
| **Flight Time:** | 7536 hours (Total, all aircraft), 160 hours (Total, this make and model), 6969 hours (Pilot In Command, all aircraft), 57 hours (Last 90 days, all aircraft), 27 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

## Pilot Information

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| **Certificate:** | Private | **Age:** | 43 |
| **Airplane Rating(s):** | None | **Seat Occupied:** | Right |
| **Other Aircraft Rating(s):** | Helicopter | **Restraint Used:** | 3-point |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 3 Without waivers/limitations | **Last FAA Medical Exam:** | December 18, 2012 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | April 11, 2013 |
| **Flight Time:** | 428 hours (Total, all aircraft), 363 hours (Total, this make and model), 390 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | AMERICAN EUROCOPTER CORP | **Registration:** | N1CR |
| **Model/Series:** | AS350B3 B3e | **Aircraft Category:** | Helicopter |
| **Year of Manufacture:** | 2012 | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 7316 |
| **Landing Gear Type:** | Skid | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | October 21, 2013 Continuous airworthiness | **Certified Max Gross Wt.:** | 4961 lbs |
| **Time Since Last Inspection:** | | **Engines:** | Turbo shaft |
| **Airframe Total Time:** | 192 Hrs as of last inspection | **Engine Manufacturer:** | Turbomeca |
| **ELT:** | Installed, not activated | **Engine Model/Series:** | Arriel 2D |
| **Registered Owner:** | FRIEDKIN COMPANIES INC | **Rated Power:** | |
| **Operator:** | FRIEDKIN COMPANIES INC | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | KUVA,942 ft msl | **Distance from Accident Site:** | 41 Nautical Miles |
| **Observation Time:** | 14:55 Local | **Direction from Accident Site:** | 31° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 6 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 180° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.13 inches Hg | **Temperature/Dew Point:** | 26°C / 5°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Eagle Pass, TX (5TE0) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Eagle Pass, TX (5TE0) | **Type of Clearance:** | None |
| **Departure Time:** | 13:30 Local | **Type of Airspace:** | |

## Airport Information

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| **Airport:** | COMANCHE RANCH 5TE0 | **Runway Surface Type:** | |
| **Airport Elevation:** | 734 ft msl | **Runway Surface Condition:** | Dry;Vegetation |
| **Runway Used:** | | **IFR Approach:** | None |
| **Runway Length/Width:** | | **VFR Approach/Landing:** | Simulated forced landing |

## Wreckage and Impact Information

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| **Crew Injuries:** | 2 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 None | **Latitude, Longitude:** | 28.620555,-100.156387(est) |

## Administrative Information

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| **Investigator In Charge (IIC):** | Lindberg, Joshua |
| **Additional Participating Persons:** | Lindsay Cunningham; American Eurocopter Corporation; Grand Praire, TX<br>Ryan Newman; Federal Aviation Administration; San Antonio, TX |
| **Original Publish Date:** | December 19, 2013 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | This accident report documents the factual circumstances of this accident as described to the NTSB. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=88292 |