



# Aviation Investigation Final Report

<b>Location:</b>	Eldorado, Illinois	<b>Accident Number:</b>	CEN22LA122
<b>Date &amp; Time:</b>	February 11, 2022, 23:12 Local	<b>Registration:</b>	N469AE
<b>Aircraft:</b>	Bell 206	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>	Fire/smoke (non-impact)	<b>Injuries:</b>	1 Serious, 3 None
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled - Air Medical (Unspecified)		

## Analysis

The pilot reported that the helicopter was about to take off with a flight nurse, paramedic, and a patient onboard when she noticed a flash and flame reflection on the front left windscreen immediately followed by screams and the cabin filling with smoke. The pilot immediately reduced the throttle, pulled the fuel shutoff valve, and applied full rotor brake. The paramedic on board's flight suit was on fire. The flight nurse on board managed to open the helicopter's right-side door, unbuckle the paramedic, and pull her from the helicopter. The flight nurse extinguished the flames, called for additional help, and began cutting away the burned flight jacket and flight suit from the paramedic. In the paramedic's left chest flight suit pocket were keys and a burnt lithium battery. The nurse reported that when she went to remove the battery to prevent further injury to the paramedic, the battery was extremely hot and smoking, and burned her hand. She threw the battery to the ground and continued to render care to the paramedic. Later two burnt lithium batteries lying on the ground next to the helicopter's left skid were recovered. The pilot reported no preaccident mechanical failures or malfunctions with the helicopter that would have precluded normal operation. The operator's parent company issued a safety alert to all of its air and ground ambulance companies warning of the dangers of improperly carrying or storing loose lithium and lithium-ion batteries used in personal electronic devices.

## Probable Cause and Findings

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

Overheating of two lithium batteries in the paramedic's flight suit pocket resulting in an explosion and fire that seriously injured the paramedic as the helicopter was about to take off.

## Findings

**Personnel issues**

(general) - Cabin crew

## Factual Information

### History of Flight

<b>Takeoff</b>	Fire/smoke (non-impact) (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	58
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	March 24, 2021
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	2710 hours (Total, all aircraft), 692 hours (Total, this make and model)		

### Other flight crew Information

<b>Certificate:</b>	None	<b>Age:</b>	
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Right
<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>	
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Other flight crew Information

<b>Certificate:</b>	None	<b>Age:</b>	
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<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>	
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bell	<b>Registration:</b>	N469AE
<b>Model/Series:</b>	206 L4	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	2016	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	52480
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>	February 10, 2022 100 hour	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	Turbo shaft
<b>Airframe Total Time:</b>	3363.6 Hrs at time of accident	<b>Engine Manufacturer:</b>	Rolls Royce
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	250-C30P
<b>Registered Owner:</b>	Air Evac Lifeteam	<b>Rated Power:</b>	650 Horsepower
<b>Operator:</b>	Air Evac Lifeteam	<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KHSB,396 ft msl	<b>Distance from Accident Site:</b>	5 Nautical Miles
<b>Observation Time:</b>	23:15 Local	<b>Direction from Accident Site:</b>	266°
<b>Lowest Cloud Condition:</b>	Scattered / 1900 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 3500 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	14 knots / 20 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	340°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.07 inches Hg	<b>Temperature/Dew Point:</b>	5°C / 0°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	El Dorado, IL	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	23:12 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious, 2 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	On-ground
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 3 None	<b>Latitude, Longitude:</b>	37.817509,-88.441959

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Bowling, David
<b>Additional Participating Persons:</b>	Roby Sisk; Federal Aviation Administration; St. Ann, MO Tony Bonham; Air Evac LifeTeam; O'Fallon, MO
<b>Original Publish Date:</b>	June 14, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=104650">https://data.ntsb.gov/Docket?ProjectID=104650</a>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).