



Aviation Investigation Final Report

Location:	Eldorado, Illinois	Accident Number:	CEN22LA122
Date & Time:	February 11, 2022, 23:12 Local	Registration:	N469AE
Aircraft:	Bell 206	Aircraft Damage:	Minor
Defining Event:	Fire/smoke (non-impact)	Injuries:	1 Serious, 3 None
Flight Conducted Under:	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

Takeoff	Fire/smoke (non-impact) (Defining event)
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Pilot Information

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

Other flight crew Information

Certificate:	None	Age:	
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Other flight crew Information

Certificate:	None	Age:	
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

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

Meteorological Information and Flight Plan

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

Wreckage and Impact Information

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

Administrative Information

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

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).