



Aviation Investigation Final Report

Location:	Mosby, Missouri	Accident Number:	CEN11FA599
Date & Time:	August 26, 2011, 18:41 Local	Registration:	N352LN
Aircraft:	Eurocopter AS-350-B2	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	4 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Air Medical (Unspecified)		

Analysis

The Safety Board's full report is available at http://www.nts.gov/investigations/reports_aviation.html. The Aircraft Accident Report number is NTSB/AAR-13/02.

On August 26, 2011, about 1841 central daylight time, a Eurocopter AS350 B2 helicopter, N352LN, crashed following a loss of engine power as a result of fuel exhaustion near the Midwest National Air Center (GPH), Mosby, Missouri. The pilot, flight nurse, flight paramedic, and patient were killed, and the helicopter was substantially damaged by impact forces. The emergency medical services (EMS) helicopter was registered to Key Equipment Finance, Inc., and operated by Air Methods Corporation, doing business as LifeNet in the Heartland, as a 14 Code of Federal Regulations Part 135 medical flight. Day visual meteorological conditions prevailed at the time of the accident, and a company visual flight rules flight plan was filed. The helicopter was not equipped, and was not required to be equipped, with any onboard recording devices. The flight originated from Harrison County Community Hospital, Bethany, Missouri, about 1811 and was en route to GPH to refuel. After refueling, the pilot planned to proceed to Liberty Hospital, Liberty, Missouri, which was located about 7 nautical miles (nm) from GPH.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to confirm that the helicopter had adequate fuel on board to complete the mission before making the first departure, his improper decision to continue the mission and

make a second departure after he became aware of a critically low fuel level, and his failure to successfully enter an autorotation when the engine lost power due to fuel exhaustion. Contributing to the accident were (1) the pilot's distracted attention due to personal texting during safety-critical ground and flight operations, (2) his degraded performance due to fatigue, (3) the operator's lack of a policy requiring that an operational control center specialist be notified of abnormal fuel situations, and (4) the lack of practice representative of an actual engine failure at cruise airspeed in the pilot's autorotation training in the accident make and model helicopter.

Findings

Personnel issues	Fuel planning - Pilot
Personnel issues	Decision making/judgment - Pilot
Personnel issues	Incorrect action performance - Pilot
Organizational issues	Oversight of operation - Operator
Organizational issues	(general) - Operator
Personnel issues	Attention - Pilot
Aircraft	Data recorders (flight/maint) - Not installed/available

Factual Information

History of Flight

Enroute	Loss of engine power (total) (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

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Pilot Information

Certificate:	Commercial	Age:	34, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	September 1, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 16, 2011
Flight Time:	2240 hours (Total, all aircraft), 136 hours (Total, this make and model), 1040 hours (Pilot In Command, all aircraft), 74 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Eurocopter	Registration:	N352LN
Model/Series:	AS-350-B2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3728
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	August 26, 2011 AAIP	Certified Max Gross Wt.:	4961 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	3655 Hrs at time of accident	Engine Manufacturer:	Turbomeca
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	Arriel 1D1
Registered Owner:	KEY EQUIPMENT FINANCE INC	Rated Power:	712 Horsepower
Operator:	Air Methods Corporation	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:	LifeNet of the Heartland	Operator Designator Code:	QMLA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	MKC,757 ft msl	Distance from Accident Site:	21 Nautical Miles
Observation Time:	17:54 Local	Direction from Accident Site:	220°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	6 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	31°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bethany, MO	Type of Flight Plan Filed:	Company VFR
Destination:	Mosby, MO (GPH)	Type of Clearance:	None
Departure Time:	18:11 Local	Type of Airspace:	

Airport Information

Airport:	Midwest National Air Center GPH	Runway Surface Type:	
Airport Elevation:	777 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	3 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal	Latitude, Longitude:	39.356666,-94.2975

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Bob Hendrickson; FAA-AVP-100; Washington, DC Scott Tyrrell; FAA-Rotorcraft Directorate; Fort Worth, TX Jim Wesley; FAA Kansas City FSDO; Kansas City, MO Dennis McCall; Air Methods; Englewood, CO Michael Benton; Air Methods; Englewood, CO Michael Koenes; Air Methods; Englewood, CO Brian Thomas; Life Net; Olathe, KS Lindsay Cunningham; Eurocopter USA; Grand Prairie, TX Bryan Larimore; Turbomeca USA; Grand Prairie, TX
Original Publish Date:	July 23, 2013
Last Revision Date:	
Investigation Class:	Class 1
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=81607

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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](#).