



National Transportation Safety Board Aviation Accident Factual Report

Location:	Union Center, SD	Accident Number:	CEN19LA092
Date & Time:	03/03/2019, 0013 MST	Registration:	N450AM
Aircraft:	Bell 407	Aircraft Damage:	Substantial
Defining Event:	Ground collision	Injuries:	1 Minor, 2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled - Air Medical (Unspecified)		

On March 3, 2019, about 0013 mountain standard time, a Bell 407 helicopter, N450AM, was substantially damaged after landing near Union Center, South Dakota. The pilot and flight nurse were not injured. The flight paramedic sustained minor injuries. The helicopter sustained substantial damage. The helicopter was owned by Air Methods and operated under the provisions of Title 14 *Code of Federal Regulations* Part 135. Dark night visual meteorological conditions prevailed, and a company visual flight rules flight plan was filed and activated for the flight. The on-demand air medical flight departed Spearfish, South Dakota, about 2337, and was en route to Union Center to pick up a patient.

The helicopter had arrived at the landing zone at Union Center to pick up a patient. After landing, the pilot rolled the engine throttle to idle and briefed the flight crew that they were clear to depart the helicopter. About 20 seconds into the "cool down" process the ground ambulance drove towards the helicopter and subsequently the main rotor blades impacted the top of the ambulance. The flight paramedic was thrown to the ground during the collision. The main rotor blades, tail boom, and fuselage sustained substantial damage. The ground ambulance driver saw the crew open the doors and get out of the helicopter, so he moved the ambulance forward to get closer to the helicopter. The ground ambulance driver stated that he did not realize "that the helicopter blades were still rotating."

Air Methods confirmed that the ambulance driver had received their training. A review of that training indicated that ground personnel are not to approach the aircraft until the blades had stopped rotation. The training also indicated that ground vehicle lights should be turned off while the helicopter is landing. An excerpt from the Air Methods General Operations Manual stated that ground personnel "will not come beneath the rotor disk until directed to do so by the pilot in command; the pilot will use appropriate hand signals to do so."

Pilot Information

Certificate:	Commercial; Private	Age:	36
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last FAA Medical Exam:	10/02/2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	11/27/2018
Flight Time:	2138 hours (Total, all aircraft), 130 hours (Total, this make and model), 2138 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N450AM
Model/Series:	407	Aircraft Category:	Helicopter
Year of Manufacture:	2013	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	54435
Landing Gear Type:	High Skid; Skid;	Seats:	4
Date/Type of Last Inspection:	03/01/2019, Continuous Airworthiness	Certified Max Gross Wt.:	5250 lbs
Time Since Last Inspection:		Engines:	1 Turbo Shaft
Airframe Total Time:	2105 Hours at time of accident	Engine Manufacturer:	Rolls Royce
ELT:	Installed, not activated	Engine Model/Series:	250-C47B
Registered Owner:	Air Methods Corp	Rated Power:	650 hp
Operator:	Air Methods Corp	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:	Black Hills Life Flight	Operator Designator Code:	QMLA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	KRAP, 3203 ft msl	Distance from Accident Site:	
Observation Time:	0052 MST	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	13 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.42 inches Hg	Temperature/Dew Point:	-24°C / -29°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Spearfish, SD (KSPF)	Type of Flight Plan Filed:	Company VFR
Destination:	Union Center, SD	Type of Clearance:	Traffic Advisory; None
Departure Time:	2337 MST	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Minor, 2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 2 None	Latitude, Longitude:	44.564722, -102.661389 (est)

Administrative Information

Investigator In Charge (IIC):	Jennifer Rodi
Additional Participating Persons:	William Howell; Federal Aviation Administration; Rapid City, SD
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=99047