Aviation Investigation Final Report

Location:	Monongahela, Pennsylvania	**Accident Number:**	ERA16CA060
Date & Time:	November 6, 2015, 06:00 Local	**Registration:**	N639ME
Aircraft:	EUROCOPTER DEUTSCHLAND GMBH EC 135	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	4 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Air Medical (Discretionary)		

Analysis

After liftoff during a helicopter emergency medical service (HEMS) flight with a patient on board, the pilot of the HEMS helicopter brought it in to a 1 to 2 foot hover and was preparing to make a right pedal turn into the wind, when a cover from a wheeled fire extinguisher, was blown airborne by the main rotor wash and ingested into the tail rotor (fenestron) of the helicopter. The helicopter lost tail rotor authority and began to spin clockwise. The pilot lowered the collective and the helicopter rotated approximately 150 degrees, then impacted the ground and continued to rotate another 20 to 30 degrees, for a total of 170 to180 degree turn, and came to rest. Examination of the helicopter by a Federal Aviation Administration inspector revealed damage to the landing gear skid tubes, fenestron composite housing, and the forward cross tube gimbal which had pushed up into a composite non-structural area of the fuselage. It was discovered, that the wheeled fire extinguisher that the cover had blown off of, had been inspected for serviceability just four days prior to the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate securing of the wheeled fire extinguisher's cover which resulted in it being blown off of the fire extinguisher and ingested into the helicopter's fenestron during takeoff, resulting in a loss of directional control.

Findings

Environmental issues	Debris/dirt/foreign object - Effect on equipment
Aircraft	Tail rotor blade - Damaged/degraded
Aircraft	Directional control - Attain/maintain not possible

Factual Information

History of Flight

Takeoff	Miscellaneous/other
Takeoff	Loss of control in flight (Defining event)
Landing	Hard landing

Pilot Information

Certificate:	Commercial	**Age:**	55,Male
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	January 28, 2015
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 28, 2015
Flight Time:	4413 hours (Total, all aircraft), 1198 hours (Total, this make and model), 2663 hours (Pilot In Command, all aircraft), 82 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	EUROCOPTER DEUTSCHLAND GMBH	**Registration:**	N639ME
Model/Series:	EC 135 T2	**Aircraft Category:**	Helicopter
Year of Manufacture:	2007	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	0563
Landing Gear Type:	N/A; Ski	**Seats:**	6
Date/Type of Last Inspection:	November 4, 2015 AAIP	**Certified Max Gross Wt.:**	6415 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo shaft
Airframe Total Time:	5110.2 Hrs at time of accident	**Engine Manufacturer:**	TURBOMECA
ELT:	C126 installed, not activated	**Engine Model/Series:**	ARRIUS 2B2
Registered Owner:	CENTER FOR EMERGENCY MEDICINE OF WESTERN	**Rated Power:**	634 Horsepower
Operator:	CENTER FOR EMERGENCY MEDICINE OF WESTERN	**Operating Certificate(s) Held:**	On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dawn
Observation Facility, Elevation:	KAGC,1273 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	10:53 Local	**Direction from Accident Site:**	357°
Lowest Cloud Condition:	Few / 3100 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 12000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	19°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Monongahela, PA (5PA5)	**Type of Flight Plan Filed:**	Company VFR
Destination:	NEWTOWN SQUARE, PA (78PA)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	MONONGAHELA VALLEY HOSPITAL 5PA5	**Runway Surface Type:**	
Airport Elevation:	1114 ft msl	**Runway Surface Condition:**	Dry
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	3 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	4 None	**Latitude, Longitude:**	40.18222,-79.910003(est)

Administrative Information

Investigator In Charge (IIC):	Boggs, Daniel
Additional Participating Persons:	Laura Delewski; FAA-Allegheny FSDO; Allegheny, PA
Original Publish Date:	January 15, 2016
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=92401