



Aviation Investigation Final Report

Location:	Houston, Texas	Accident Number:	CEN12CA474
Date & Time:	July 24, 2012, 06:08 Local	Registration:	N455MH
Aircraft:	EUROCOPTER DEUTSCHLAND GMBH MBB-BK 117 C-2	Aircraft Damage:	Substantial
Defining Event:	Miscellaneous/other	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The emergency medical services helicopter was about 800 feet above ground level and landing at a rooftop hospital helipad in a congested metropolitan area when the left side engine cowling opened. The cowling partially separated and impacted the bottom of all four main rotor blades, resulting in substantial damage to the rotor blades. The pilot described the event as a brief shudder, like flying through the rotor wash of another helicopter. The pilot was unaware that any damage had occurred and landed uneventfully. A third medical crewmember boarded through the right rear door for a local flight to a suburban hospital. During engine shutdown at their destination, another medical crewmember exited the helicopter on the left side and was the first to notice the damage. The pilot stated that he failed to complete a thorough preflight inspection before the accident flight, because the crew was assigned a medical mission just after their shift started. The previous pilot, who flew the helicopter the evening before the accident, stated that he had opened the left side engine cowling to check the oil level and became distracted. He also stated that he could not remember if he had secured the cowling latches.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight inspection, which failed to detect the unsecured cowling latches and resulted in the in-flight opening of an engine cowling.

Findings

Aircraft	Engine cowling system - Inadequate inspection
Personnel issues	Preflight inspection - Pilot

Factual Information

History of Flight

Prior to flight	Aircraft inspection event
Landing	Miscellaneous/other (Defining event)
Landing	Part(s) separation from AC

Pilot Information

Certificate:	Airline transport	Age:	45, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	March 29, 2012
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 15, 2011
Flight Time:	(Estimated) 3784 hours (Total, all aircraft), 597 hours (Total, this make and model), 3784 hours (Pilot In Command, all aircraft), 61 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	EUROCOPTER DEUTSCHLAND GMBH	Registration:	N455MH
Model/Series:	MBB-BK 117 C-2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	9161
Landing Gear Type:	High skid; Skid	Seats:	6
Date/Type of Last Inspection:	July 2, 2012 AAIP	Certified Max Gross Wt.:	7900 lbs
Time Since Last Inspection:	9 Hrs	Engines:	2 Turbo shaft
Airframe Total Time:	2305 Hrs at time of accident	Engine Manufacturer:	TURBOMECA
ELT:	C126 installed, not activated	Engine Model/Series:	ARRIEL 1E2
Registered Owner:	MEMORIAL HERMANN HOSPITAL SYSTEM	Rated Power:	708 Horsepower
Operator:	MEMORIAL HERMANN HOSPITAL SYSTEM	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:	LIFE FLIGHT	Operator Designator Code:	GVNA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KHOU,46 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	05:53 Local	Direction from Accident Site:	119°
Lowest Cloud Condition:	Few / 3000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	26°C / 24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Katy, TX (NONE)	Type of Flight Plan Filed:	Company VFR
Destination:	Houston, TX (38TE)	Type of Clearance:	VFR
Departure Time:	05:53 Local	Type of Airspace:	

Airport Information

Airport:	John S Dunn Helistop 38TE	Runway Surface Type:	
Airport Elevation:	225 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	29.707777,-95.390556(est)

Administrative Information

Investigator In Charge (IIC):	Latson, Thomas
Additional Participating Persons:	Raymond L McCall; FAA Houston FSDO; Houston, TX David M Metz; FAA Houston FSDO; Houston, TX
Original Publish Date:	October 9, 2012
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.nts.gov/Docket?ProjectID=84431

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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](#).