



National Transportation Safety Board Aviation Accident Final Report

Location:	Albert Lea, MN	Accident Number:	CEN11CA152
Date & Time:	01/01/2011, 1814 CST	Registration:	N145SM
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 pilot said that he completed a preflight inspection at the beginning of his shift. He noted that earlier in the day, prior to the accident flight, he verified fuel control settings at the request of one of the mechanics. Both of these required that the engine cowling doors be opened. The pilot stated that prior to the accident flight, he visually checked the security of doors and cowlings, leaking fluids, tie downs, and the overall condition of the aircraft. He reported that after starting the number one engine, the flight medic commented that she heard an unusual sound. He subsequently asked her to check the security of the cowling door latches. When the flight medic returned, she informed him that the latches appeared to be secure. He stated that the flight proceeded without incident until about 1/2-mile from the destination helipad, he heard a loud bang and thump from the rear of the helicopter. Shortly thereafter the helicopter started to vibrate and he thought that the noise and vibration might be something from the rotor system. He elected to continue the approach to the destination helipad and subsequently landed without further incident. A postaccident examination revealed substantial damage to all four main rotor blades. The lower portion of the left engine cowling door was separated. No anomalies were observed with respect to the airframe side of the cowling door latches. The separated portion of the door was not recovered.

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 of the engine cowling latches prior to the flight, which resulted in the cowling door opening in-flight and striking the main rotor blades.

Findings

Aircraft	Service doors - Inadequate inspection (Cause)
Personnel issues	Preflight inspection - Pilot (Cause)

Factual Information

History of Flight

Approach	Miscellaneous/other (Defining event)
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Pilot Information

Certificate:	Commercial	Age:	46, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last Medical Exam:	08/30/2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	09/08/2010
Flight Time:	5520 hours (Total, all aircraft), 130 hours (Total, this make and model), 5520 hours (Pilot In Command, all aircraft), 54 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	EUROCOPTER DEUTSCHLAND GMBH	Registration:	N145SM
Model/Series:	MBB-BK 117 C-2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	9298
Landing Gear Type:	Skid	Seats:	8
Date/Type of Last Inspection:	12/28/2010, AAIP	Certified Max Gross Wt.:	3585 lbs
Time Since Last Inspection:		Engines:	2 Turbo Shaft
Airframe Total Time:	490 Hours	Engine Manufacturer:	Turbomeca
ELT:	Installed, not activated	Engine Model/Series:	Arriel 1E2
Registered Owner:	WELLS FARGO BANK NORTHWEST NA TRUSTEE	Rated Power:	758 hp
Operator:	Omniflight Helicopters, Inc.	Air Carrier Operating Certificate:	On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Observation Facility, Elevation:	RST	Observation Time:	1745 CST
Distance from Accident Site:	39 Nautical Miles	Condition of Light:	Night
Direction from Accident Site:	240°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Scattered / 2200 ft agl	Temperature/Dew Point:	-15°C / -18°C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	19 knots, 270°	Visibility (RVR):	
Altimeter Setting:	29.09 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Rochester, MN (99MN)	Type of Flight Plan Filed:	Company VFR
Destination:	Albert Lea, MN (30MN)	Type of Clearance:	None
Departure Time:	1743 CST	Type of Airspace:	

Airport Information

Airport:	Albert Lea Medical Center (30MN)	Runway Surface Type:	
Airport Elevation:	1253 ft	Runway Surface Condition:	
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None		

Administrative Information

Investigator In Charge (IIC):	Timothy Sorensen	Adopted Date:	05/26/2011
Additional Participating Persons:			
Publish Date:	05/26/2011		
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=78154		

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