



# National Transportation Safety Board Aviation Accident Final Report

<b>Location:</b>	Tempe Bar, AZ	<b>Accident Number:</b>	WPR10LA075
<b>Date &amp; Time:</b>	12/06/2009, 1030 PST	<b>Registration:</b>	N548SA
<b>Aircraft:</b>	AEROSPATIALE AS 355F1	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Part(s) separation from AC	<b>Injuries:</b>	7 None
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled - Sightseeing		

## Analysis

The pilot reported that after arriving to work late he began his preflight inspection on the helicopter. As the pilot was inspecting the left engine, the refueling truck arrived and the pilot lowered the left engine cowling door and tended to the refueling of the helicopter. The pilot said that following the refueling of the helicopter, he continued his preflight inspection and subsequently boarded the passengers “not realizing I left the engine cowling ‘unlatched’.” While en route to the flight’s intended destination, the pilot heard a “pop” followed by feedback in the cyclic control. The pilot was informed by the pilot of a second helicopter that the left engine cowling appeared to be open and partially separated. The pilot initiated a precautionary landing to the desert surface and landed without further incident. Examination of the helicopter by a Federal Aviation Administration inspector revealed that two of the three main rotor blades were damaged. One main rotor blade exhibited a one-inch-long gouge about one-quarter of an inch in depth near the blade root. A portion of the left engine cowling was separated and not located.

## 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. Contributing to the accident was the pilot’s diverted attention during the preflight inspection.

## Findings

<b>Aircraft</b>	Aircraft handling/service - Inadequate inspection (Cause)
<b>Personnel issues</b>	Attention - Pilot (Factor) Preflight inspection - Pilot (Cause) Forgotten action/omission - Pilot (Cause)

## Factual Information

On December 6, 2009, about 1030 Pacific standard time, an Aerospatiale AS 355F1 helicopter, N548SA, was substantially damaged during cruise flight when the left engine cowling door opened in flight near Temple Bar, Arizona. The helicopter was registered to and operated by Heli-USA Airways, Inc., Las Vegas, Nevada, under the provisions of Title 14 Code of Federal Regulations Part 135. The commercial pilot and six passengers were not injured. Visual meteorological conditions prevailed and a company flight plan was filed for the cross-country flight. The air tour flight originated from the McCarran International Airport (LAS), Las Vegas, Nevada, about 1000, with an intended destination of Grand Canyon, Arizona.

The pilot reported that the morning of the accident, he was late to work due to unforeseen traffic and local events within the area. The pilot stated he was about 40 minutes late to work and upon his arrival, he started his pre-flight inspection. As the pilot was inspecting the area of the left engine, the fuel truck arrived to refuel the helicopter. The pilot “lowered the cowling door [and] walked around to the pilot seat to get the gas cap keys.” After the helicopter was refueled, the pilot “continued the pre-flight, not realizing that I left the engine cowling ‘unlatched’.” The pilot further reported that his passengers were dropped off on the ramp and he proceeded to board them “still not realizing that I left the cowling door unlatched.”

The pilot departed the airport and while en route to his destination, he heard a “pop” followed by “shake feed” within the cyclic control. The pilot contacted a second company helicopter to have them visually inspect the helicopter in flight. The pilot of the second helicopter informed the pilot that the left engine cowling appeared to be open and partially separated. The pilot initiated a precautionary landing to the desert surface and landed without further incident.

Examination of the helicopter by a Federal Aviation Administration (FAA) inspector revealed that two of the three main rotor blades were damaged. One main rotor blade exhibited a one-inch long gouge about one-quarter of an inch in depth near the blade root. A portion of the left engine cowling was separated and not located.

## History of Flight

Prior to flight	Preflight or dispatch event
Enroute-cruise	Part(s) separation from AC (Defining event)

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	27, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without Waivers/Limitations	<b>Last FAA Medical Exam:</b>	10/30/2009
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	07/15/2009
<b>Flight Time:</b>	3000 hours (Total, all aircraft), 2928 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	AEROSPATIALE	<b>Registration:</b>	N548SA
<b>Model/Series:</b>	AS 355F1	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	5167
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	11/22/2009, 100 Hour	<b>Certified Max Gross Wt.:</b>	4950 lbs
<b>Time Since Last Inspection:</b>	36 Hours	<b>Engines:</b>	2 Turbo Shaft
<b>Airframe Total Time:</b>	7390 Hours at time of accident	<b>Engine Manufacturer:</b>	ALLISON
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	250-C20 SER
<b>Registered Owner:</b>	HELIUSA AIRWAYS INC	<b>Rated Power:</b>	420 hp
<b>Operator:</b>	HELIUSA AIRWAYS INC	<b>Operating Certificate(s) Held:</b>	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LVS, 1870 ft msl	Observation Time:	1056 PST
Distance from Accident Site:	35 Nautical Miles	Direction from Accident Site:	270°
Lowest Cloud Condition:	Few / 7000 ft agl	Temperature/Dew Point:	4° C / -18° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	4 knots, Variable	Visibility (RVR):	
Altimeter Setting:	29.82 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Las Vegas, NV (LAS)	Type of Flight Plan Filed:	Company VFR
Destination:	Grand Canyon, AZ	Type of Clearance:	None
Departure Time:	1000 PST	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	6 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 None	Latitude, Longitude:	36.020278, -114.334722 (est)

## Administrative Information

Investigator In Charge (IIC):	Joshua Cawthra	Adopted Date:	03/23/2010
Additional Participating Persons:	Charlie W Bierman; Federal Aviation Administration; Las Vegas, NV		
Publish Date:	03/23/2010		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75151">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=75151</a>		

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