



## National Transportation Safety Board Aviation Accident Preliminary Report

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<b>Location:</b>	Kalea, HI	<b>Accident Number:</b>	ANC22FA041
<b>Date &amp; Time:</b>	June 8, 2022, 17:26 Local	<b>Registration:</b>	N402SH
<b>Aircraft:</b>	Bell 407	<b>Injuries:</b>	3 Serious, 3 Minor
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled - Sightseeing		

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On June 8, 2022, about 1726 Hawaii-Aleutian standard time, a Bell 407 helicopter, N402SH, sustained substantial damage when it was involved in an accident near Kalea, Hawaii, on the island of Hawaii. The pilot and two passengers sustained serious injuries, and three passengers sustained minor injuries. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 135 on-demand air tour flight.

According to a representative of the operator, Paradise Helicopters, about 1701, the helicopter departed the company base at Ellison Onizuka Kona International Airport at Keahole (PHKO), Kona, Hawaii, to the south for an air tour flight around the island. Automatic dependent surveillance-broadcast and company flight track data showed the helicopter traveled southeast about 500-600 ft above ground level and between airspeeds of 122 and 127 knots.

The pilot reported that the first part of the flight was normal; about 30 minutes into the flight, the helicopter experienced a violent upset, followed by an uncontrolled spin (yaw) to the right.

A passenger, seated in the aft left forward-facing seat reported that as the helicopter continued to spin, she observed something fall off the helicopter; however, she was not able to identify a specific part.

The flight track data showed a rapid descent and decrease in airspeed at the end of the flight track, consistent with the occupants' statements.

The helicopter continued to spin uncontrollably while it descended, and it subsequently struck an area of rough, uneven, lava-covered terrain and came to rest on its left side. (See Figure 1.)

After the impact, an emergency call was placed by a passenger to report that the helicopter had crashed.



Figure 1. Main wreckage in lava-covered terrain

An investigator from the National Transportation Safety Board's (NTSB) Alaska Regional Office, along with an NTSB airworthiness investigator, an NTSB survival factors investigator, and an NTSB maintenance investigator from Washington, D.C., responded to the island of Hawaii.

An NTSB on site examination of the accident site revealed the tail boom came to rest about 762 ft northeast from the main wreckage, which consisted of the fuselage, engine, and main rotor system. The tail boom separated from the fuselage at the tail boom attach point. (See Figure 2.) The upper left attachment fitting fastener was not present, and the lower left attachment fitting was fractured and displayed fatigue signatures. The fasteners for the lower left, lower right, and upper right attachment fittings were present.



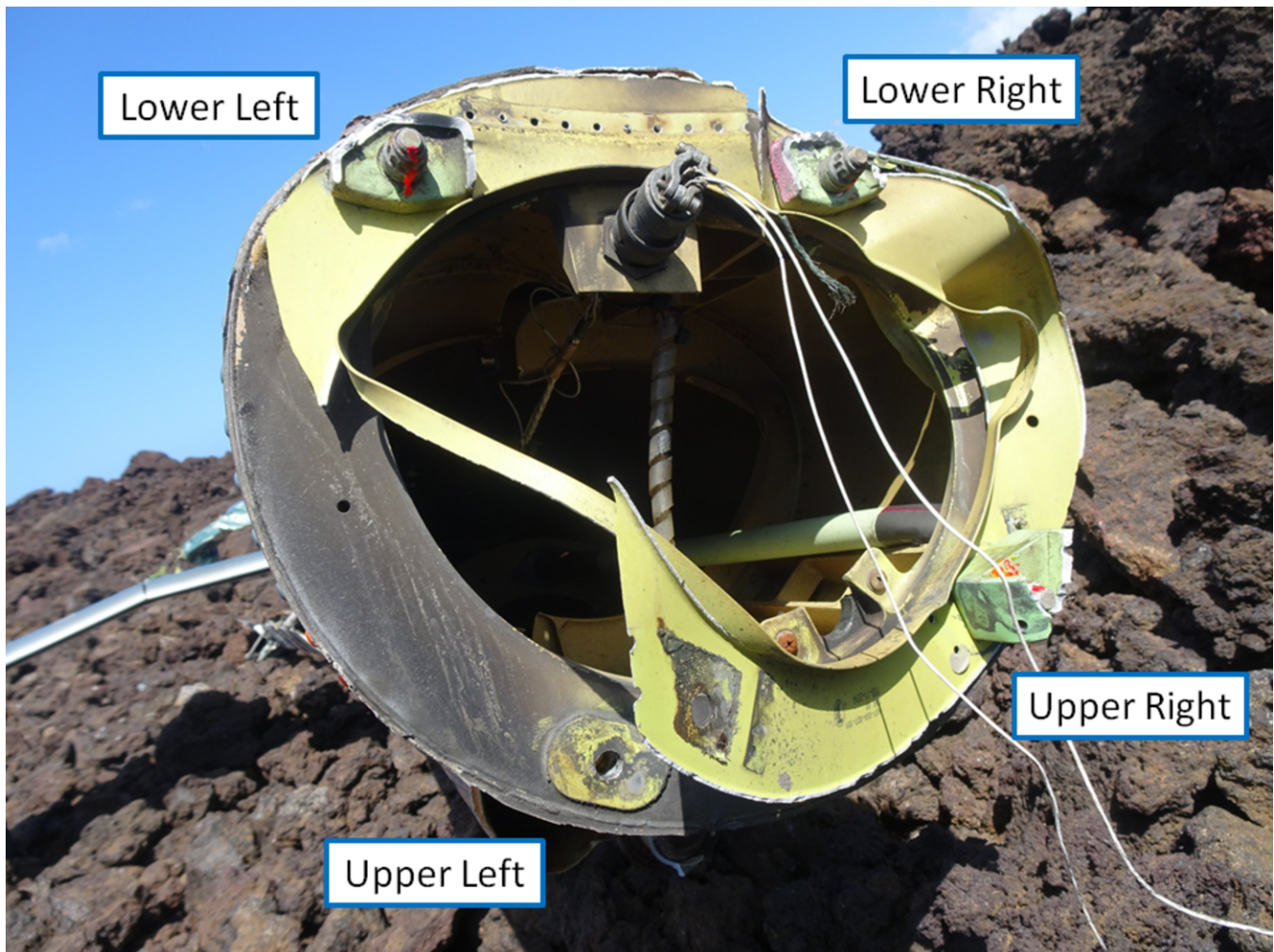


Figure 2. Tail boom at accident site

A review of the accident helicopter's maintenance records revealed that the most recent tail boom attachment fasteners torque check (per Task #DMC-407-A-53-01-00-00A-72A) was completed on May 4, 2022, at a total airframe time of 22,891.4 flight hours. At the time of the accident, the helicopter had accumulated 23,005.6 flight hours (114.2 flight hours since the torque check), and no additional maintenance had been conducted to that attachment location.

The tail boom (part number: 407-030-801-205D; serial number BP-1598) was installed on August 23, 2009, at a total airframe time of 5,780.0 hours and had not been removed prior to the accident.

Portions of the tail boom structure, aft fuselage structure, attachment fittings and fasteners were retained for further examination by the NTSB's Materials Laboratory.

## Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N402SH
Model/Series:	407	Aircraft Category:	Helicopter
Amateur Built:			
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Designator Code:			

## Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	Condition of Light:	Day
Observation Facility, Elevation:	PHKO, 37 ft msl	Observation Time:	17:53 Local
Distance from Accident Site:	49 Nautical Miles	Temperature/Dew Point:	27° C / 21° C
Lowest Cloud Condition:	Few / 4900 ft AGL	Wind Speed/Gusts, Direction:	9 knots / , 250°
Lowest Ceiling:	Overcast / 7000 ft AGL	Visibility:	10 miles
Altimeter Setting:	29.98 inches Hg	Type of Flight Plan Filed:	Company VFR
Departure Point:	Kona, HI (PHKO)	Destination:	Kalea, HI

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	2 Serious, 3 Minor	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	3 Serious, 3 Minor	Latitude, Longitude:	19.005372, -155.65457 (est)

## Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	David Keenan; FAA; Washington , DC Calvin Dorn; Paradise Helicopters; Kona, HI Jon Michael ; Rolls Royce; Indianapolis, IN
Note:	