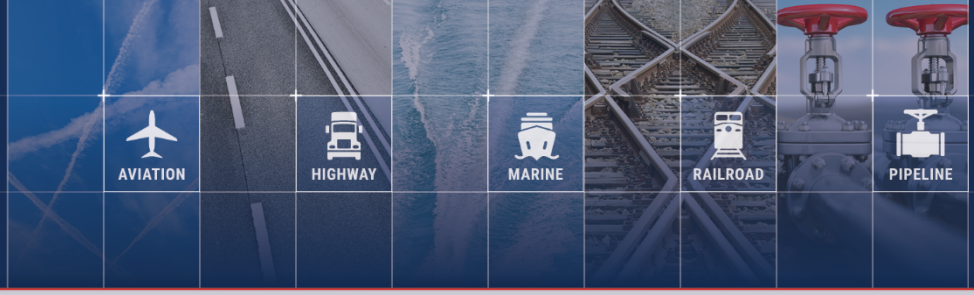

Aviation Investigation Final Report

Location:	Talkeetna, Alaska	**Accident Number:**	ANC12LA051
Date & Time:	June 13, 2012, 19:15 Local	**Registration:**	N121KT
Aircraft:	DEHAVILLAND DHC-2	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	7 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Sightseeing		

Analysis

The pilot and six passengers were on an air tour flight over a remote area. After departure, and about 1200 feet above the ground, the engine began to run rough followed by a total loss of engine power. The pilot made a forced landing to a gravel bar along a river. On landing, the airplane bounced over logs and ditches and sustained substantial damage. A postaccident examination revealed that the No. 2 cylinder head had cracks radiating from the spark plug hole throughout the cylinder head, and it had begun to separate from the cylinder base.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power after departure due to the separation of an engine cylinder.

Findings

Aircraft	Recip eng cyl section - Failure

Factual Information

History of Flight

Enroute-climb to cruise	Loss of engine power (partial) (Defining event)
Enroute-climb to cruise	Loss of engine power (total)
Emergency descent	Collision with terr/obj (non-CFIT)

On June 13, 2012, about 1915 Alaska daylight time, a de Havilland DHC-2 airplane, N121KT, sustained substantial damage during a forced landing, following a loss of engine power after takeoff from the Talkeetna Airport (PATK), Talkeetna, Alaska. The certificated commercial pilot, and six passengers were not injured. The airplane was registered to, and operated by Rusts Flying Service, doing business as K2 Aviation, under the provisions of Title 14 Code of Federal regulations Part 135, as a visual flight rules (VFR) sightseeing flight. Visual meteorological conditions prevailed, and company flight following procedures were in effect.

The pilot reported that he had departed runway 18, at PATK, on a scenic tour flight, and had reduced power to a cruise climb setting. At approximately 1200 feet above the ground, the engine began to run rough, and lose power. The pilot turned back toward PATK, and performed emergency procedures to restore power. The engine continued to run rough at reduced power, and the pilot could not maintain altitude, followed by a total loss of engine power. He made a forced landing to a sand bar on the Chulitna River. On landing the airplane bounced over logs and ditches, and sustained substantial damage to the horizontal stabilizer, elevators, empennage, and main landing gear.

After the aircraft was recovered, a Federal Aviation Administration (FAA) inspector from the Anchorage Flight Standards District Office (FSDO), examined the airplane in Talkeetna, on June 14. The inspector reported that the number two cylinder head had cracks radiating from the spark plug hole throughout the cylinder head, and it had begun to separate from the cylinder base.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	41,Male
Airplane Rating(s):	Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	April 4, 2012
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 30, 2012
Flight Time:	5338 hours (Total, all aircraft), 287 hours (Total, this make and model), 5244 hours (Pilot In Command, all aircraft), 95 hours (Last 90 days, all aircraft), 73 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DEHAVILLAND	**Registration:**	N121KT
Model/Series:	DHC-2	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1407
Landing Gear Type:	Tailwheel; Ski/wheel	**Seats:**	8
Date/Type of Last Inspection:	June 2, 2012 100 hour	**Certified Max Gross Wt.:**	5370 lbs
Time Since Last Inspection:	13 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	14901 Hrs as of last inspection	**Engine Manufacturer:**	Pratt & Whitney
ELT:	C126 installed, not activated	**Engine Model/Series:**	R-985
Registered Owner:	RUSTAIR INC	**Rated Power:**	450 Horsepower
Operator:	RUSTAIR INC	**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:	K2 Aviation	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PATK,358 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	18:57 Local	**Direction from Accident Site:**	200°
Lowest Cloud Condition:	Few / 5500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.97 inches Hg	**Temperature/Dew Point:**	12°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Talkeetna, AK (PATK)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Talkeetna, AK	**Type of Clearance:**	None
Departure Time:	19:10 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Talkeetna Airport PATK	**Runway Surface Type:**	
Airport Elevation:	358 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

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:**	62.349998,-150.28334(est)

Administrative Information

Investigator In Charge (IIC):	Banning, David
Additional Participating Persons:	Steven W Wolletz; Federal Aviation Administration; Anchorage, AK
Original Publish Date:	November 5, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=83966