



National Transportation Safety Board Aviation Accident Factual Report

Location:	Clear, AK	Accident Number:	ANC01LA039
Date & Time:	03/03/2001, 1300 AST	Registration:	N42DC
Aircraft:	Helio H-295	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Positioning

On March 3, 2001, about 1300 Alaska standard time, a wheel/ski equipped Helio H-295 airplane, N42DC, sustained substantial damage during a forced landing about 20 miles south of Clear, Alaska. The airplane was being operated as a visual flight rules (VFR) positioning flight under Title 14, CFR Part 91, when the accident occurred. The airplane was registered to, and operated by, Wright Air Service, Inc., Fairbanks, Alaska. The solo airline transport pilot was not injured. Visual meteorological conditions prevailed, and a VFR flight plan was filed. The flight originated about 1245, from the Stampede Airstrip, located about 37 miles west of Healy, Alaska, and was en route to Fairbanks.

During a telephone conversation with the National Transportation Safety Board investigator-in-charge on March 5, the pilot reported that while in level, cruise flight, the engine began to run rough and lose power. The pilot said that while performing the engine emergency procedures, he smelled smoke in the cabin, and noted a substantial amount of engine oil on the windscreen. The airplane collided with trees during a subsequent forced landing, and sustained substantial damage to the wings, fuselage, and empennage.

The pilot stated that a postaccident inspection revealed a fist-sized hole on the left side of the engine crankcase.

The director of maintenance for the operator reported that at the time of the accident, the engine had accrued a total time in service of 1,143.0 hours since overhaul, and was installed in the accident airplane in late August of 1999. The engine maintenance records note that the engine was "overhauled" and reassembled per Lycoming overhaul manual 60294-5-6 on August 17, 1999. All work was performed by the operator, at the operator's maintenance facility, in Fairbanks.

The airplane was eventually recovered by the operator and insurance personnel, and moved to the operator's maintenance facility in Fairbanks.

On April 12, 2001, in the presence of a Federal Aviation Administration (FAA) airworthiness inspector from the Fairbanks Flight Standards District Office, an engine tear down and

inspection was conducted at the operator's maintenance facility in Fairbanks. According to the FAA inspector, the inspection revealed that the number two connecting rod had sustained a complete fracture. The fracture surfaces displayed postfailure circumferential scoring, and damage. In addition, the FAA inspector noted a significant amount of heat induced, bluing of the number 2 connecting rod journal.

The fractured connecting rod, main journal bearing shells (7 halves), and rod bearing shells (7 halves) were sent to the National Transportation Safety Board's Materials Laboratory for examination. A Senior Safety Board metallurgist reported that the separated connecting rod displayed evidence of low cycle, high stress fatigue cracking. He noted that a scanning electron microscope (SEM) examination of the rod bearing shells disclosed irregular-shape metal particles that were embedded on the surface of the bearing material. He added that the rod bearing shells displayed many pits. The area around the pits showed evidence of metallic flow from the pits.

Pilot Information

Certificate:	Airline Transport; Flight Engineer	Age:	51, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	06/28/2000
Occupational Pilot:		Last Flight Review or Equivalent:	12/31/2000
Flight Time:	18800 hours (Total, all aircraft), 5500 hours (Total, this make and model), 18300 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Helio	Registration:	N42DC
Model/Series:	H-295	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	1454
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	12/15/2000, 100 Hour	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:	96 Hours	Engines:	1 Reciprocating
Airframe Total Time:	7519 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	GO-480-G1D6
Registered Owner:	Wright Air Service, Inc.	Rated Power:	295 hp
Operator:	Wright Air Service, Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	HYTA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	100 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	-15° C
Precipitation and Obscuration:			
Departure Point:	Stampede, AK (Z90)	Type of Flight Plan Filed:	VFR
Destination:	Fairbanks, AK (FAI)	Type of Clearance:	None
Departure Time:	1245 AST	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	64.178611, -149.437500

Administrative Information

Investigator In Charge (IIC):	Clinton O Johnson
Additional Participating Persons:	Kenneth C Thomas; Federal Aviation Administration; Fairbanks, AK
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .