



National Transportation Safety Board Aviation Accident Final Report

Location:	Donalsonville, GA	Accident Number:	ATL01FA040
Date & Time:	03/15/2001, 2130 EST	Registration:	N842MB
Aircraft:	Douglas DC-3	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The DC-3 experienced an in-flight engine fire, and made a forced landing at nearby airport, following the separation of the right engine assembly from the airframe. According to the pilot, during cruise flight, at 5000 feet, he heard a loud "bang" and saw a reflection of fire on his left engine nacelle. Fire damage was found on the trailing edge of the right wing and on the landing gear assembly. The engine examination also showed that No. 12 cylinder had separated from the main case. Evidence of oil from the No. 12 cylinder was found across engine and exhaust systems. Further examination revealed Nos. 7, 8 and 9 cylinders also failed and separated, and the engine seized and separated from the airframe.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure and separation of No.12 cylinder from the engine case that resulted in an in-flight oil fed fire; and the subsequent separation of the right engine from airframe.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CRUISE

Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - FAILURE,TOTAL

Occurrence #2: FIRE

Phase of Operation: CRUISE

Occurrence #3: ENGINE TEARAWAY

Phase of Operation: CRUISE

Occurrence #4: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Factual Information

HISTORY OF FLIGHT

On March 15, 2001, at 2130 eastern standard time, a DC-3, N842MB, experienced an in-flight engine fire, and made a forced landing at Donalsonville Municipal Airport, Georgia, following the separation of the right engine assembly from the airframe. The cargo flight was operated by Jim Hankins Air Service, Inc. under the provisions of Title 14 CFR Part 135, with an instrument flight plan filed. Visual weather conditions prevailed at the time of the accident. The airplane received substantial damage, and the pilot and co-pilot were not injured. The flight originated from Panama City, Florida, at 1950.

According to the pilot, during cruise flight at 5000 feet, he heard a loud "Bang". The pilot then stated that he saw a reflection of fire on his left engine nacelle. The co-pilot stated that they had an engine fire on the right engine. The pilot commenced engine shut down procedures. When the pilot attempted to feather the propeller, the propeller did not feather. When the pilot pulled the extinguishing agent for the right engine, the engine separated from the aircraft. The airplane then lost hydraulic pressure. The pilot established visual contact with Donalsonville Municipal Airport, and made an emergency landing on runway 18 without further incident.

PERSONNEL INFORMATION

The pilot held an airline transport certificate with airplane single and multi-engine land, instrument ratings. His total flight time was 6000 hours, with 700 hours in the DC-3. The pilot held a current first class medical certificate, dated July 25, 2000, with no waivers or limitations.

AIRCRAFT INFORMATION

The DC-3, N842MB, was owned and operated by Jim Hawkins Air Service Inc., of Jackson, Mississippi. N842MB was a low-wing airplane powered by two Pratt & Whitney R-1530-90D, 1200 horsepower engines. A review of the airplanes maintenance logbooks showed the last maintenance inspection was completed on March 1, 2001.

METEOROLOGICAL INFORMATION

The Albany weather observation reported 10 statute miles visibility, wind 230 at 12 knots, temperature 24, dew point 7, and the sky was clear.

AIRPORT INFORMATION

Donalsonville Municipal Airport has one paved runway: 18/36. At the time of the accident, runway 18 was used for the forced landing.

WRECKAGE AND IMPACT INFORMATION

Examination of the airplane revealed the right engine and nacelle separated forward from the leading edge of the right wing. Evidence of fire damage was found on the trailing edge of the wing and landing gear. The right engine was found 10 miles southwest of Donalsonville Municipal Airport, in the backyard of a farmer's home.

The engine examination also showed that No. 12 cylinder had failed and separated from the main case, and the No. 12 connecting rod was bent and fractured at the piston pin. Evidence of

oil from the No. 12 cylinder was found across engine and exhaust systems, and evidence of fire was observed along the trail of engine oil. Further examination revealed Nos. 7, 8 and 9 cylinders had also separated from the engine case. The engine had seized, and efforts to rotate the engine during the post accident examination failed. The review of the engine maintenance logs showed that the right engine was approximately 506 hours out of the last overhaul.

ADDITIONAL INFORMATION

The airplane wreckage was released on May 08, 2001 to Bill Blankenship, insurance adjuster, Ormond Beach, Florida.

Pilot Information

Certificate:	Airline Transport	Age:	36, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	07/25/2000
Occupational Pilot:		Last Flight Review or Equivalent:	08/01/2000
Flight Time:	6000 hours (Total, all aircraft), 700 hours (Total, this make and model), 120 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft)		

Co-Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	22, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 None	Last FAA Medical Exam:	11/13/2000
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1992 hours (Total, all aircraft), 37 hours (Total, this make and model), 1870 hours (Pilot In Command, all aircraft), 110 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Douglas	Registration:	N842MB
Model/Series:	DC-3	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Utility	Serial Number:	19741
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	03/01/2001, AAIP	Certified Max Gross Wt.:	26900 lbs
Time Since Last Inspection:	17 Hours	Engines:	2 Reciprocating
Airframe Total Time:	17 Hours as of last inspection	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	R-1530-90D
Registered Owner:	Jim Hankins Air Service, Inc.	Rated Power:	1200 hp
Operator:	Jim Hankins Air Service, Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	EWKA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	ABY, 197 ft msl	Distance from Accident Site:	
Observation Time:	1953 EDT	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.86 inches Hg	Temperature/Dew Point:	24° C / 7° C
Precipitation and Obscuration:			
Departure Point:	Panama City, FL (PFN)	Type of Flight Plan Filed:	IFR
Destination:	Albany, GA (ABY)	Type of Clearance:	IFR
Departure Time:	1950 CST	Type of Airspace:	Class D

Airport Information

Airport:	DONALSONVILLE MUNI (17J)	Runway Surface Type:	Asphalt
Airport Elevation:	147 ft	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	5200 ft / 150 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	In-Flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Phillip Powell	Report Date:	11/28/2001
Additional Participating Persons:	Michael A Lozano; Atlanta FSDO; College park, GA		
Publish Date:			
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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