



National Transportation Safety Board Aviation Accident Final Report

Location:	Chatsworth, NJ	Accident Number:	IAD04LA027
Date & Time:	07/02/2004, 1330 EDT	Registration:	N915X
Aircraft:	Grumman G-164A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

Shortly after takeoff, and about 100 feet above the ground, the airplane's engine began to lose power. The pilot began to dump the load of fertilizer the airplane was carrying and then performed a forced landing into a cranberry bog. After touchdown, the airplane nosed over. An inspection of the engine revealed that the impeller shaft of the blower section of the engine was bent, and its surface was discolored from heat and exhibited signs of rotational scoring. A 1/16-inch oil passage that lubricated the impeller shaft bearings was found blocked.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A blocked internal oil passage, which resulted in inadequate lubrication of the blower impeller shaft, and the subsequent partial loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF

Findings

1. (C) LUBRICATING SYSTEM,OIL PORT/PASSAGE,INTERNAL - BLOCKED(PARTIAL)
2. ENG ASSEMBLY,BLOWER/IMPELLER/INTEGRAL SUPERCHARGER - FAILURE

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: NOSE OVER
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

3. TERRAIN CONDITION - MUSKEG

Factual Information

On July 2, 2004, at 1330 eastern daylight time, a Grumman G-164A, N915X, operated by Downtown Airport, Inc. was substantially damaged during a forced landing, shortly after taking off from a gravel airstrip in Chatsworth, New Jersey. The certificated commercial pilot was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the local aerial application flight, conducted under 14 CFR Part 137.

According to a written statement submitted by the pilot, the departure to the south was normal until about 100 feet, when the engine began to lose power. The pilot made a "slight" right turn to align the airplane with the wind and a cranberry bog. The pilot also began dumping the 800-pound load of fertilizer that was onboard the airplane. After touchdown, the airplane nosed over in the bog.

The engine was disassembled and examined under the supervision of a Federal Aviation Administration (FAA) inspector at a maintenance and repair facility. The oil pump was removed and appeared to be normal, and the oil screen appeared to be clean.

The blower (supercharger) section of the engine was also examined. Several impeller blades were damaged or missing, and the remaining portions of the impeller exhibited signs of melting and breakage. The impeller shaft was bent, and its surface was discolored from heat and exhibited signs of rotational scoring. The impeller shaft bushings were worn and "oversize", and the blower shaft attach nut also exhibited heat discoloration.

Further examination of the engine revealed metal contamination in the engine cylinders.

According to the chief inspector at the facility where the engine was disassembled, the impeller shaft was supported by two bronze bushings that were lubricated by engine oil via a 1/8-inch hole in both of the bushings, and a 1/16-inch hole in one of the bushings. The 1/16-inch hole was found blocked. The inspector additionally stated that failure of the bronze bushing would cause the impeller shaft to "wobble," and permit contact between the blower and the rear case, which would then result in excessive damage to the impeller, impeller shaft, blower, and rear case.

Pilot Information

Certificate:	Commercial	Age:	73, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	03/13/2004
Occupational Pilot:		Last Flight Review or Equivalent:	03/04/2003
Flight Time:	11035 hours (Total, all aircraft), 8500 hours (Total, this make and model), 103 hours (Last 90 days, all aircraft), 52 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman	Registration:	N915X
Model/Series:	G-164A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	434
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	03/08/2004, Annual	Certified Max Gross Wt.:	4500 lbs
Time Since Last Inspection:	54.17 Hours	Engines:	1 Reciprocating
Airframe Total Time:	5553.22 Hours as of last inspection	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	R-1340 AN-1
Registered Owner:	DOWNSTOWN AIRPORT INC	Rated Power:	600 hp
Operator:	DOWNSTOWN AIRPORT INC	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	MWRG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ACY, 75 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	1354 EDT	Direction from Accident Site:	195°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	28° C / 21° C
Precipitation and Obscuration:			
Departure Point:	Chatsworth, NJ (NONE)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1330 EDT	Type of Airspace:	Class G

Airport Information

Airport:	Haines Airstrip (NONE)	Runway Surface Type:	Gravel
Airport Elevation:	80 ft	Runway Surface Condition:	Unknown
Runway Used:	14	IFR Approach:	None
Runway Length/Width:	1850 ft / 200 ft	VFR Approach/Landing:	Forced Landing

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:	39.749167, -74.559167

Administrative Information

Investigator In Charge (IIC):	Paul R Cox	Report Date:	10/28/2004
Additional Participating Persons:	David Grasso; FAA FSDO; Philadelphia, PA		
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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