



National Transportation Safety Board Aviation Accident Data Summary

Location:	FORT GAINS, GA	Accident Number:	MIA99LA041
Date & Time:	12/01/1998, 1600 EST	Registration:	N6630Q
Aircraft:	Grumman-Schweizer G-164B	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The flight was loaded with fertilizer and had taken off, when the engine lost power. The pilot made a forced landing, and the airplane's landing gear went into a ditch and separated. The pilot had made 3 previous takeoffs under similar load conditions without incident. The pilot said, 'initially during the takeoff roll the aircraft accelerated normally.' However, immediately after breaking ground, during the initial climbout, the engine began to loose power, and the aircraft began to loose lift. The airplane continued to sink with partial power until impact. Examination of the engine revealed no exterior damage. The engine teardown revealed that improper atomization of the fuel resulted in a non-atomized fuel stream at the first-stage turbine rotor. The subsequent atomization and ignition of this fuel resulted in a localized area of increased temperature and non-uniform thermal damage to the second- and third-stage turbine stators. The localized area of increased temperature resulted in thermal damage to the second- and third-stage turbine rotors, and increased second- and third-stage turbine rotor blade tip clearance, rendering the engine incapable of producing full power. There was no evidence that the engine control system components contributed to the loss of engine power reported during the accident flight.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a power loss due to internal damage to the second- and third- stage turbine rotor blades, due to thermal heat, rendering the engine incapable of producing full power, resulting in a forced landing, and subsequent impact with the terrain.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: TAKEOFF

Findings

1. TURBINE ASSEMBLY - OVERTEMPERATURE
2. TURBINE ASSEMBLY - FAILURE,PARTIAL

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. TERRAIN CONDITION - DITCH

Pilot Information

Certificate:	Commercial	Age:	47
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	11000 hours (Total, all aircraft), 600 hours (Total, this make and model), 300 hours (Last 90 days, all aircraft), 100 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman-Schweizer	Registration:	N6630Q
Model/Series:	G-164B G-164B	Engines:	1 Turbo Prop
Operator:	THRASH AVIATION INC	Engine Manufacturer:	Garrett
Operating Certificate(s) Held:	None	Engine Model/Series:	TPE331-6-252M
Flight Conducted Under:	Part 137: Agricultural		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Weather Information Source:	Witness
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	13 knots / , 140°
Temperature:	24° C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	Destination:		

Airport Information

Airport:	FORT GAINS (7J0)	Runway Surface Type:	Grass/turf
Runway Used:	1	Runway Surface Condition:	Dry
Runway Length/Width:	/ 77 ft		

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
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): ALAN J YURMAN Adopted Date: 04/20/2000

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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