



National Transportation Safety Board Aviation Accident Data Summary

Location:	BLOUNTVILLE, TN	Accident Number:	ATL93MA068
Date & Time:	04/01/1993, 2128 EST	Registration:	N500AK
Aircraft:	Fairchild SA227-TT	Injuries:	4 Fatal
Flight Conducted Under:	Part 91: General Aviation - Executive/Corporate		

Analysis

N500AK ENCOUNTERED ICING IN FLIGHT BEFORE START OF ILS APPROACH. RADAR DATA SHOWED THAT BEFORE REACHING OUTER MARKER, IT SLOWED IN A MANNER THAT WAS CONSISTENT WITH A POWER REDUCTION (OR PARTIAL LOSS OF POWER), THEN IT ENTERED A STEEP DESCENT & CRASHED. EXAMINATION REVEALED ENGINES WERE NOT OPERATING AT IMPACT & THAT PROPELLERS HAD BEEN FEATHERED. NO PREIMPACT PART FAILURE OR MALFUNCTION OF ENGINES, PROPELLERS OR ANTI-ICE SYSTEM WAS FOUND. THERE WAS EVIDENCE THAT ENGINE INLET ANTI-ICE ANNUNCIATOR LIGHTS & STABILITY AUGMENTATION SYSTEM (SAS) FAULT WARNING LIGHT WERE ILLUMINATED DURING IMPACT. THE ENGINE MANUFACTURER REPORTED THAT FLAMEOUTS HAD OCCURRED IN OTHER AIRCRAFT, DURING OR FOLLOWING OPERATION IN ICING CONDITIONS, SOMETIMES AFTER DESCENT INTO WARMER AIR. FLIGHT MANUAL NOTED THAT IF ICING WAS ENCOUNTERED WITH ANTI-ICE SYSTEM OFF, SELECT CONTINUOUS IGNITION & THEN SELECT ENGINE & PROPELLER HEAT (1 ENGINE AT A TIME, ENSURING FIRST ENGINE WAS OPERATING SATISFACTORILY BEFORE SELECTING SECOND ENGINE) & ENGAGE SAS HEAT.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE PILOT TO FOLLOW PROCEDURES CONCERNING USE OF THE ENGINE INLET ANTI-ICE SYSTEM AND/OR CONTINUOUS IGNITION WHILE OPERATING IN ICING CONDITIONS, WHICH RESULTED IN PROBABLE ICE INGESTION AND LOSS OF ENGINE POWER; AND THE PILOT'S FAILURE TO MAINTAIN SUFFICIENT AIRSPEED WHILE COPING WITH THE ENGINE PROBLEM, WHICH RESULTED IN A STALL. FACTORS RELATED TO THE ACCIDENT WERE: DARKNESS, ICING CONDITIONS, AND ENGINE INLET (NACELLE) ICE.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - ICING CONDITIONS
3. (F) NACELLE/PYLON - ICE

Occurrence #2: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: APPROACH - IAF TO FAF/OUTER MARKER (IFR)

Findings

- 4. ALL ENGINES
 - 5. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
 - 6. (C) ANTI-ICE/DEICE SYSTEM - IMPROPER USE OF - PILOT IN COMMAND
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Occurrence #3: LOSS OF CONTROL - IN FLIGHT
 Phase of Operation: DESCENT - EMERGENCY

Findings

- 7. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
 - 8. (C) STALL - INADVERTENT - PILOT IN COMMAND
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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
 Phase of Operation: DESCENT - UNCONTROLLED

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	48
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	19105 hours (Total, all aircraft), 235 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Fairchild	Registration:	N500AK
Model/Series:	SA227-TT SA227-TT	Engines:	2 Turbo Prop
Operator:	BROOKS, ROBERT H.	Engine Manufacturer:	Garrett
Operating Certificate(s) Held:	None	Engine Model/Series:	TPE331-10U513
Flight Conducted Under:	Part 91: General Aviation - Executive/Corporate		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	TRI, 1519 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Broken / 3500 ft agl	Wind Speed/Gusts, Direction:	13 knots / , 250°
Temperature:	8°C	Visibility	6 Miles
Precipitation and Obscuration:			
Departure Point:	KNOXVILLE, TN (TYS)	Destination:	(TRI)

Airport Information

Airport:	TRI-CITY REGIONAL (TRI)	Runway Surface Type:	Asphalt
Runway Used:	23	Runway Surface Condition:	Dry
Runway Length/Width:	7999 ft / 150 ft		

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	3 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC):	PHILLIP POWELL	Adopted Date:	03/16/1994
Investigation Docket:	NTSB accident and incident docket 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 pubin@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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