



National Transportation Safety Board Aviation Incident Final Report

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|-------------------------|------------------------|-------------------------|------------------|
| Location: | FAYETTEVILLE, AR | Incident Number: | MKC881A046 |
| Date & Time: | 02/02/1988, 1058 CST | Registration: | N322PX |
| Aircraft: | SAAB-FAIRCHILD SF-340A | Aircraft Damage: | Minor |
| Defining Event: | | Injuries: | 3 Minor, 20 None |

Flight Conducted Under: Part 135: Air Taxi & Commuter - Scheduled

Analysis

THE CAPT RPRTD THAT DRG THE LNDG ROLL, THERE WAS A LOUD NOISE FROM THE LEFT ENG FOLLOWED BY HVY SMOKE & AN ENG FIRE WARNING BELL. HE STOPPED THE ACFT ON A TWY & ORDERED AN EVACUATION. THE FLT ATTENDANT HAD DIFFICULTY OPENING THE FLOOR-LEVEL EMERG EXIT. NO SLIDE OR ROPE WAS AVAILABLE FOR EXITING THE ACFT; 3 PSGRS RCVD MINOR INJURIES WHEN THEY DROPPED ABT 5-1/2 FT TO THE ICY TWY. AN EXAM REVEALED THE LEFT ENG POWER TURBINE (PT) HAD AN UNCONTAINED FAILURE. A TEARDOWN INSPN OF THE ENG REVEALED THAT A 'B' NUT ON THE STAGE 4 COMPRESSOR BLEED TUBE COUPLING HAD BECOME DISCONNECTED. THIS RESULTED IN A LOSS OF COOLING AIR TO THE PT ROTOR CAVITY & OVERHEATING OF THE STAGE 4 TURBING DISK. MEASUREMENT OF THE STAGE 3 & 4 DISKS SHOWED RADIAL (CREEP) GROWTH OF .006' & .150', RESPECTIVELY. THERE WAS EVIDENCE OF HVY BLADE TIP RUBS INTO THE STATOR TIP SHROUD BACKING MATERIAL (DRG APPLICATION OF REVERSE THRUST), THEN FAILURE OF THE STAGE 4 TURBINE BLADES & THE PT MODULE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be:

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: LANDING - ROLL

Findings

1. 1 ENGINE
2. (C) BLEED AIR SYSTEM,FITTINGS - LOOSE
3. (C) MAINTENANCE,INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
4. (F) BLEED AIR SYSTEM,FITTINGS - LEAK
5. (C) TURBINE ASSEMBLY,TURBINE WHEEL - OVERTEMPERATURE
6. (C) TURBINE ASSEMBLY - FAILURE,TOTAL

Occurrence #2: MISCELLANEOUS/OTHER
Phase of Operation: STANDING

Findings

7. MISC EQPT/FURNISHINGS,SLIDES - NOT INSTALLED
8. DOOR,EMERGENCY EXIT - OTHER
9. MISC EQPT/FURNISHINGS - INADEQUATE
10. MISCELLANEOUS EQUIPMENT - NOT UNDERSTOOD - FLIGHT ATTENDANT

Factual Information

Pilot Information

| | | | |
|----------------------------------|--|--|----------------------------|
| Certificate: | Airline Transport; Commercial | Age: | 50, 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): | None | Toxicology Performed: | No |
| Medical Certification: | Class 1 Valid Medical--w/ waivers/lim. | Last FAA Medical Exam: | 08/14/1987 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 7314 hours (Total, all aircraft), 7060 hours (Pilot In Command, all aircraft), 287 hours (Last 90 days, all aircraft), 7 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--|---------------------------------------|----------------------------|
| Aircraft Make: | SAAB-FAIRCHILD | Registration: | N322PX |
| Model/Series: | SF-340A SF-340A | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Transport | Serial Number: | 340A-041 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 30 |
| Date/Type of Last Inspection: | 01/30/1988, AAIP | Certified Max Gross Wt.: | 27000 lbs |
| Time Since Last Inspection: | 15 Hours | Engines: | 2 Turbo Prop |
| Airframe Total Time: | 5387 Hours | Engine Manufacturer: | GE |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | CT7-5A2 |
| Registered Owner: | HELEASCO TWENTY-FOUR INC | Rated Power: | 1735 hp |
| Operator: | EXPRESS AIRLINES | Operating Certificate(s) Held: | Commuter Air Carrier (135) |
| Operator Does Business As: | REPUBLIC EXP/NORTHWEST AIRLINK | Operator Designator Code: | REXA |

Meteorological Information and Flight Plan

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|----------------------------------|--------------------------------|--------------------------------------|------------------|
| Conditions at Accident Site: | Instrument Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | FYV, 1251 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 1100 CST | Direction from Accident Site: | 0° |
| Lowest Cloud Condition: | Partial Obscuration / 0 ft agl | Visibility | 4 Miles |
| Lowest Ceiling: | Overcast / 900 ft agl | Visibility (RVR): | 0 ft |
| Wind Speed/Gusts: | 8 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 20° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | -3° C / -4° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | MEMPHIS, TN (MEM) | Type of Flight Plan Filed: | IFR |
| Destination: | (FYV) | Type of Clearance: | IFR |
| Departure Time: | 0925 CST | Type of Airspace: | Class D |

Airport Information

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|----------------------|-------------------|---------------------------|----------------|
| Airport: | DRAKE FIELD (FYV) | Runway Surface Type: | Asphalt |
| Airport Elevation: | 1251 ft | Runway Surface Condition: | Slush covered |
| Runway Used: | 16 | IFR Approach: | Localizer Only |
| Runway Length/Width: | 6006 ft / 100 ft | VFR Approach/Landing: | Full Stop |

Wreckage and Impact Information

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|---------------------|------------------|----------------------|-------|
| Crew Injuries: | 3 None | Aircraft Damage: | Minor |
| Passenger Injuries: | 3 Minor, 17 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 3 Minor, 20 None | Latitude, Longitude: | |

Administrative Information

Investigator In Charge (IIC): RAMON E VARGAS **Report Date:** 07/29/1992

Additional Participating Persons: PETER KERWIN; LITTLE ROCK, AR
BARBARA GARIAN
P C HOFSTETTER
JOHN E MOLIS

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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