



National Transportation Safety Board Aviation Accident Data Summary

Location:	DFW AIRPORT, TX	Accident Number:	FTW96FA282
Date & Time:	07/01/1996, 0711 CDT	Registration:	N335AE
Aircraft:	Saab-Scania AB (Saab) SF340B	Injuries:	15 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

The airplane departed runway 13L and climbed to an altitude of approximately 400 feet AGL when the flight crew 'heard a loud bang.' The right engine upper cowling departed the airplane, the right engine shut itself down, and the right propeller automatically feathered. The flight crew declared an emergency and executed a single engine landing without further incident. Examination of the airplane's right CT7-9B turboprop engine revealed that the Stage 2 turbine disk was missing and that approximately one third of the disk was found in the right landing light compartment. One end of the disk fragment progressed through a cooling air hole and there was evidence of a fatigue fracture that had initiated from multiple origins on the inboard side of the cooling air hole. Research revealed a layer of deformed microstructure and an associated zone of increased disk hardness near the origin area of the fatigue crack. Test disks were drilled using dull and worn drill bits which resulted in plastic deformation and increased hardness of the inner diameter hole surfaces. The manufacturer reported that the deformed microstructure correlates to a zone of reduced fatigue properties.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The manufacturer's inadequate procedure for manufacturing the number two turbine disk.

Findings

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

Findings

1. 1 ENGINE
2. TURBINE ASSEMBLY, TURBINE WHEEL - FAILURE, TOTAL
3. TURBINE ASSEMBLY, CASING - PENETRATED
4. (C) PROCEDURE INADEQUATE - MANUFACTURER

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	41
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Single-engine
Flight Time:	9200 hours (Total, all aircraft), 2000 hours (Total, this make and model), 8000 hours (Pilot In Command, all aircraft), 173 hours (Last 90 days, all aircraft), 58 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Saab-Scania AB (Saab)	Registration:	N335AE
Model/Series:	SF340B SF340B	Engines:	2 Turbo Prop
Operator:	WINGS WEST AIRLINES, INC.	Engine Manufacturer:	GE
Operating Certificate(s) Held:	Flag carrier (121)	Engine Model/Series:	CT7-9B
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KDF, 603 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	9 knots / , 180°
Temperature:	25° C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	(DFW)	Destination:	SHREVEPORT, LA (SHV)

Airport Information

Airport:	DFW INTERNATIONAL AIRPORT (DFW)	Runway Surface Type:	Concrete
Runway Used:	13L	Runway Surface Condition:	Dry
Runway Length/Width:	9000 ft / 200 ft		

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:	12 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): JAMES F STRUHSAKER Adopted Date: 03/31/1998

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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