



Aviation Investigation Final Report

Location:	CHICAGO, Illinois	Incident Number:	CHI85IA369
Date & Time:	September 9, 1985, 08:20 Local	Registration:	N242MA
Aircraft:	FOKKER F27-500	Aircraft Damage:	Minor
Defining Event:		Injuries:	32 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

AT ABOUT THE TIME FULL POWER WAS OBTAINED THE HEARD A LOUD BANG FOLLOWED BY A FIRE WARNING FOR THE LEFT ENGINE. THE TAKEOFF WAS ABORTED AND THE CREW SHUT DOWN THE ENGINE. THE PASSENGERS WERE DEPLANED ON THE TAXIWAY AFTER IT WAS DETERMINED THE FIRE WAS OUT & THERE WAS NO MORE DANGER. EXAMINATION OF THE ENGINE REVEALED THAT THE LOW PRESSURE IMPELLER FAILED IN A HIGH CYCLE FATIGUE MODE.

Probable Cause and Findings

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

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. (C) COMPRESSOR ASSEMBLY, IMPELLER - FAILURE, TOTAL
2. (C) COMPRESSOR ASSEMBLY, IMPELLER - FATIGUE

Factual Information

Pilot Information

Certificate:	Airline transport	Age:	44, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	June 27, 1985
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	17810 hours (Total, all aircraft), 910 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	FOKKER	Registration:	N242MA
Model/Series:	F27-500 F27-500	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	10678
Landing Gear Type:	Retractable - Tricycle	Seats:	55
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	43500 lbs
Time Since Last Inspection:		Engines:	2 Turbo prop
Airframe Total Time:		Engine Manufacturer:	ROLLS-ROYCE
ELT:	Not installed	Engine Model/Series:	DART 535-7R
Registered Owner:	WHIRLPOOL LEASING SERV., INC	Rated Power:	2250 Horsepower
Operator:	MIDSTATE AIRLINES, INC.	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	MAAA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	ORD ,667 ft msl	Distance from Accident Site:	
Observation Time:	09:00 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	5 miles
Lowest Ceiling:	Overcast / 1100 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	24°C / 19°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	CHICAGO , IL (ORD)	Type of Flight Plan Filed:	IFR
Destination:	MOSINEE , WI (CWA)	Type of Clearance:	IFR
Departure Time:	08:20 Local	Type of Airspace:	

Airport Information

Airport:	O'HARA IAP ORD	Runway Surface Type:	Asphalt
Airport Elevation:	667 ft msl	Runway Surface Condition:	Dry
Runway Used:	14	IFR Approach:	None
Runway Length/Width:	10003 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Minor
Passenger Injuries:	29 None	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	32 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): Rathke, Fred

Additional Participating Persons:

Original Publish Date:

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=12921>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).