



National Transportation Safety Board Aviation Incident Factual Report

Location:	CHICAGO, IL	Incident Number:	CHI951A028
Date & Time:	11/02/1994, 0920 CST	Registration:	N631US
Aircraft:	BOEING 747-251B	Aircraft Damage:	Minor
Defining Event:		Injuries:	3 None

Flight Conducted Under: Part 91: General Aviation - Positioning

On November 2, 1994, at 0920 central standard time, a Boeing 747- 251B, N631US, operated by Northwest Airlines, Incorporated, of Minneapolis, Minnesota, and piloted by an airline transport rated flight crew, received minor damage during taxi in from a landing at the Chicago O'Hare International Airport, Chicago, Illinois. The number one engine generator's constant speed drive was on fire and was extinguished by ramp personnel. The 14 CFR Part 91 positioning flight had been operating on an IFR flight plan. Visual meteorological conditions prevailed at the time of the incident. No injuries were reported by the three flight crew members on the airplane. The flight departed Detroit, Michigan, at 0902 eastern standard time (est).

According to company records, the number one engine's constant speed drive (CSD) was disconnected from service during a flight on November 1, 1994, when its oil pressure light illuminated. A subsequent revenue flight was canceled due to another unrelated maintenance discrepancy. A lead mechanic assigned second shift mechanics to work on the N631US. A replacement CSD was scheduled to arrive after 2400 est on November 1, 1994. The mechanics decided to troubleshoot the CSD.

One of the mechanics said the CSD check is done during an engine runup. He said the CSD was mechanically recoupled before starting the number one engine. After the engine started, its cockpit start valve light failed to go out and the engine was shut down. After replacement of the start valve the engine runup was performed. The engine was shut down and the mechanics signed off the start valve change.

According to the company, a mechanic researched the fault isolation manual and decided that removal of the main CSD wiring harness cannon plug would help in the troubleshooting process. The cannon plug was removed from the CSD. The CSD had not arrived at the end of the second shift. The company's report on the incident states, "Based on MEL relief, the first day of deferral and down time required to replace the CSD, the engine was closed up, the aircraft was dispatched. The number one engine CSD had been mechanically recoupled, and the main harness disconnected, neither of which was documented."

The maintenance shift change carry-over records showed the CSD as being on deferred maintenance. The records do not address the CSD recoupling by the mechanic. These records are reviewed by the lead mechanic. The second shift mechanic related to the CSD reengagement said, he told the lead mechanic what he had done. He said that the lead mechanic told him that he would have the next shift take care of the CSD change.

An on-scene investigation revealed that the CSD's exterior was fire damaged. Wiring insulation attached to the CSD, and within 12 inches of its exterior was melted. Some smaller wires had completely melted through. The CSD's mechanical recoupling handle was found in the "IN" position, confirming earlier recoupling action. The CSD's engine nacelle access door was warped outward and flame damaged. The interior of the nacelle next to, and around, the area of the CSD was partially melted and warped.

Pilot Information

Certificate:	Airline Transport	Age:	51, Male
Airplane Rating(s):	Multi-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:	Unknown Unknown	Last FAA Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	15000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BOEING	Registration:	N631US
Model/Series:	747-251B 747-251B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	23111
Landing Gear Type:	Retractable - Tricycle	Seats:	350
Date/Type of Last Inspection:	11/02/1994, Continuous Airworthiness	Certified Max Gross Wt.:	820000 lbs
Time Since Last Inspection:	1 Hours	Engines:	4 Turbo Jet
Airframe Total Time:	40562 Hours	Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	JT9D-7R4
Registered Owner:	1ST NATL BANK OF BOSTON	Rated Power:	50000 lbs
Operator:	NORTHWEST AIRLINES, INC.	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:	NORTHWEST AIRLINES	Operator Designator Code:	NWAA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Not Reported
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	0 Miles
Lowest Ceiling:	Unknown / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	DETROIT, MI (DTW)	Type of Flight Plan Filed:	Unknown
Destination:	CHICAGO, IL (ORD)	Type of Clearance:	
Departure Time:	0902 EST	Type of Airspace:	

Airport Information

Airport:	CHICAGO O'HARE INTL (ORD)	Runway Surface Type:	
Airport Elevation:	667 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	FRANK S GATTOLIN
Additional Participating Persons:	RONALD KNIPP; SHILLER PARK, IL
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/ .