

**National Transportation Safety Board
Washington, DC 20594**

Brief of Incident

Adopted 05/03/1993

NYC911A133 File No. 5014	04/29/1991	CHURCHVILLE, NY	Aircraft Reg No. N148UA	Time (Local): 12:00 EDT
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Make/Model: BOEING / 747SP		Fatal	Serious	Minor/None
Engine Make/Model: P&W / JT9D-7ASP		Crew 0	0	18
Aircraft Damage: Minor		Pass 0	0	84
Number of Engines: 4				
Operating Certificate(s): Flag Carrier/Domestic				
Name of Carrier: UNITED AIRLINES				
Type of Flight Operation: Scheduled; International; Passenger/Cargo				
Reg. Flight Conducted Under: Part 121: Air Carrier				

Last Depart. Point: NEWARK, NJ	Condition of Light: Day
Destination: Same as Accident/Incident Location	Weather Info Src: Pilot
Airport Proximity: Off Airport/Airstrip	Basic Weather: Visual Conditions
	Lowest Ceiling: 0 Ft. AGL, Unknown
	Visibility: .00 SM
	Wind Dir/Speed: Unk/Nr
	Temperature (°C): Unk/Nr
	Obstr to Vision: Unk/Nr
	Precipitation: Unk/Nr

Pilot-in-Command	Age: 52
Certificate(s)/Rating(s)	
Airline Transport; Multi-engine Land	
Instrument Ratings	
Airplane	

Flight Time (Hours)
Total All Aircraft: 16202
Last 90 Days: 51
Total Make/Model: Unk/Nr
Total Instrument Time: Unk/Nr

THE BOEING 747SP HAD JUST LEVELED OFF AT FL350 AND WAS ACCELERATING FROM M.81 TO M.85. DURING THE ACCELERATION, A VIBRATION WAS FELT IN THE COCKPIT AND CABIN. NO ABNORMAL ENGINE READINGS WERE OBSERVED. THE VIBRATION LASTED FOR ABOUT 2 MINUTES AND WAS FOLLOWED BY A LOUD BANG HEARD IN THE COCKPIT. THE NUMBER TWO ENGINE REVEALED A FAILED SIXTH ROTATING AIRSEAL. METALLURGICAL EXAMINATION OF FAILED AIRSEAL SHOWED FEATURES TYPICAL OF OVERSTRESS WITH NO INDICATION OF PREEEXISTING CRACKS.

Brief of Incident (Continued)

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Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings

1. (C) TURBINE ASSEMBLY,AIR SEAL - FAILURE,PARTIAL
2. 1 ENGINE

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this incident as follows.
A FAILURE OF THE SIXTH ROTATING AIRSEAL WHICH LED TO AN UNCONTAINED ENGINE FAILURE.