



# Aviation Investigation Final Report

<b>Location:</b>	HOUSTON, Texas	<b>Incident Number:</b>	FTW88IA037
<b>Date &amp; Time:</b>	December 3, 1987, 12:34 Local	<b>Registration:</b>	N571PE
<b>Aircraft:</b>	BOEING 727-243	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>		<b>Injuries:</b>	87 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Analysis

DURING THE APPROACH TO LANDING THE NUMBER SIX LEADING EDGE SLAT ASSEMBLY FAILED. THE INBOARD SECTION OF THE SLAT HUNG DOWN AND BENT AFT. THE PILOT LANDED THE ACFT WITHOUT FURTHER INCIDENT. METALLURGICAL ANALYSIS OF COMPONENTS REVEALED THAT A SLAT TRACK ROLLER BEARING CONTAINED EVIDENCE OF CORROSION AND SPALLING. ADDITIONALLY, THE SLAT TRACK BEARING BOLT THAT HAD BEEN INSTALLED THROUGH THE ABOVE MENTIONED BEARING HAD HEAVY CIRCUMFERENTIAL GOUGES CONTAINED IN THE SURFACE OF A CROSS-DRILLED HOLE AT THE AREAS OF FATIGUE INITIATION. THERE WAS ALSO EVIDENCE OF TEARING, TYPICAL OF DAMAGE PRODUCED DURING DRILLING WITH A DULL DRILL BIT. THE AIRPLANE HAD COMPLETED A MAJOR STRUCTURAL MAINTENANCE CHECK 48 FLIGHT HOURS AND 28 CYCLES PRIOR TO THE INCIDENT.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: IMPROPER DRILLING OF THE CROSS HOLE IN THE SLAT TRACK BEARING BOLT, WHICH LED TO ITS FAILURE FROM FATIGUE CRACKING.

## Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: APPROACH

#### Findings

1. (F) FLIGHT CONTROL,SLAT ATTACHMENT - CORRODED
2. (F) FLIGHT CONTROL,SLAT ATTACHMENT - FATIGUE
3. (C) FLIGHT CONTROL,SLAT - FAILURE,TOTAL
4. (C) MAINTENANCE,INSTALLATION - IMPROPER - MANUFACTURER
5. (C) INADEQUATE QUALITY CONTROL - MANUFACTURER

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	34, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	October 13, 1987
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	6500 hours (Total, all aircraft), 2000 hours (Total, this make and model), 200 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BOEING	<b>Registration:</b>	N571PE
<b>Model/Series:</b>	727-243 727-243	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	21264
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	143
<b>Date/Type of Last Inspection:</b>	November 27, 1987 AAIP	<b>Certified Max Gross Wt.:</b>	170000 lbs
<b>Time Since Last Inspection:</b>	48 Hrs	<b>Engines:</b>	3 Turbo fan
<b>Airframe Total Time:</b>	24892 Hrs	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	JT8D-9A
<b>Registered Owner:</b>	PEOPLE EXPRESS AIRLINES, INC.	<b>Rated Power:</b>	14500 Lbs thrust
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>	CONTINENTAL AIRLINES	<b>Operator Designator Code:</b>	CALA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	IAH ,98 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	12:48 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Scattered / 3000 ft AGL	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	11 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	24°C / 16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	EL PASO , TX (ELP )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	HOUSTON , TX (IAH )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	10:00 Local	<b>Type of Airspace:</b>	Class B

## Airport Information

<b>Airport:</b>	HOUSTON INTERCONTINENTAL IAH	<b>Runway Surface Type:</b>	Concrete
<b>Airport Elevation:</b>	98 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	14	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	12001 ft / 150 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	7 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	80 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	87 None	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Mcfall, Tommy
<b>Additional Participating Persons:</b>	CHRIS CLARK; HOUSTON , TX
<b>Original Publish Date:</b>	November 28, 1989
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=22567">https://data.ntsb.gov/Docket?ProjectID=22567</a>

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.

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