
In-flight structural failure of the left outboard flap assembly, Boeing 737-300, September 8, 1993

Micro-summary: This Boeing 737-300 sustained an in-flight structural failure of the left outboard flap assembly while on approach, resulting in control difficulties.


Event Date: 1993-09-08 at 1740 CDT


Investigative Body: National Transportation Safety Board (NTSB), USA


Investigative Body's Web Site: <http://www.nts.gov/>

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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: CHI93IA354		Aircraft Registration Number: N350SW	
		Occurrence Date: 09/08/1993		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place ST. LOUIS		State MO	Zip Code 63145	Local Time 1740	Time Zone CDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer BOEING		Model/Series 737-300		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On September 8, 1993, at 1740 central daylight time, a Boeing 737-300, N350SW, operated by Southwest Airlines, Inc., as revenue flight 282, sustained an in-flight structural failure of the left outboard flap assembly, while on approach to the Lambert-St. Louis International Airport, St. Louis, Missouri. There were no injuries to the 5 crewmembers or 139 passengers aboard the airplane. The flight, conducted under 14 CFR Part 121, originated at Kansas City, Missouri. An IFR flight plan was filed, and visual meteorological conditions prevailed at the time.</p> <p>The airplane was on final approach to runway 12R when the controller requested a go-around for traffic separation. The first officer was the pilot flying. The first officer stated in an interview the go-around was normal until he called for flaps 1 about 500 feet. He said the airplane had a rolling tendency to the left, and required a lot of right aileron. The cockpit crew received notification from the cabin attendants that there was a problem with the flaps on the left side. The Captain sent a Southwest Airlines Captain who was riding in the cockpit observers seat to the cabin to investigate. He reported pieces of the outboard flap were hanging loose.</p> <p>The Captain took control of the airplane and extended the flaps to 5. He made an uneventful landing and taxied to the gate. Inspection of the airplane was conducted by Federal Aviation Administration Inspectors who reported the left outboard foreflap was broken into two pieces and had damaged two sections of spoiler. The two forward bolts which hold the inboard sequencing carriage to the foreflap attach lug were fractured, and the two aft bolts were missing their nuts.</p> <p>The left outboard flap assembly was removed and sent to the NTSB Materials Laboratory for examination. A copy of the report of the examination of the flap assembly is appended.</p>					
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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
LAMBERT-ST. LOUIS INTL	STL	605 Ft. MSL	12R	9003	150
Runway Surface Type: Concrete					
Runway Surface Condition:					
Type Instrument Approach: Visual					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
BOEING		737-300		24409	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 139	Certified Max Gross Wt.	125000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	GE	CFM 56-3	20000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	11/1992	2832 Hours	13579 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
SOUTHWEST AIRLINES		2832 SHORECREST DR.			
		City	State	Zip Code	
		DALLAS	TX	75235	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code: SWAA		
- Type of U.S. Certificate(s) Held:					
Air Carrier Operating Certificate(s): Flag Carrier/Domestic					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 121: Air Carrier					
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger Only					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: CHI93IA354	
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	Occurrence Type: Incident	

First Pilot Information

Name On File	City On File	State On File	Date of Birth	Age
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport

Airplane Rating(s): Multi-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam:
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time										
Pilot In Command(PIC)										
Instructor										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point KANSAS CITY	State MO	Airport Identifier MCI	Departure Time 0000	Time Zone
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Destination Same as Accident/Incident Location	State	Airport Identifier	
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Type of Clearance: IFR

Type of Airspace: Class B; Class D; Class E

Weather Information

Source of Briefing: Commercial Weather Service; Flight Service Station

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
STL	1652	CDT	605 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Unknown			6500 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Broken		6500 Ft. AGL		Visibility: 12 SM	Altimeter: 29.00 "Hg
Temperature: 21 °C	Dew Point: 12 °C	Wind Direction: 90		Density Altitude: Ft.	
Wind Speed: 3	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility: None					
Type of Precipitation: None					

Accident Information		
Aircraft Damage: Minor	Aircraft Fire: None	Aircraft Explosion: None

Classification: U.S. Registered/U.S. Soil					
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants				3	3
Other Crew				2	2
Passengers				137	137
- TOTAL ABOARD -				144	144
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	144	144

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: CHI93IA354

Occurrence Date: 09/08/1993

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

MARK E. DOUB,

Additional Persons Participating in This Accident/Incident Investigation:

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