## Turbulence injury, Boeing 767-300, April 10, 2004

Micro-summary: This Boeing 767-300 experienced turbulence in cruise, seriously injuring a flight attendant.

Event Date: 2004-04-10 at 1835 CDT

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

Investigative Body's Web Site: http://www.ntsb.gov/

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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).

2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. Your company's flight operations manual is the final authority as to the safe operation of your aircraft!

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TRANSP National Transportation Safety Board		NTSB ID:	CHI04LA126	3	Aircraft Regist	Aircraft Registration Number: N662SW					
FACTUAL REPORT		Occurrent	ce Date: 04/10	njury: Se	ıry: Serious						
AYIATION <i>FTYBON</i>	Occurrence	ce Type: Accio	y: NTS	NTSB							
Location/Time					·						
Nearest City/Place	State	Zip	o Code	Local Time	Time Zone						
St. Louis	МО	63	3134	1835	CDT	CDT					
Airport Proximity: Off Airport/Airstrip Distance From Landing Facility: Direction From Airport:											
Aircraft Information Summary											
Aircraft Manufacturer	Type of Aircraft										
Boeing			737-300				Airplane				
Sightseeing Flight: No		A	ir Medical Tr	ansport Flight: N	10						
Narrative											
On April 10, 2004, about 1835 central daylight time, a Boeing 737-300, N662SW, operated by Southwest Airlines as flight 2038, encountered turbulence while en route to the St. Louis International Airport, St. Louis, Missouri. During the turbulence encounter, a cabin attendant received serious injuries. No injuries to the passengers or other crew members were reported. No damage to the airplane was reported. The 14 CFR Part 121 scheduled domestic passenger flight was operating on an instrument flight rules flight plan. The weather conditions at the time of the occurrence have not been established. The flight originated from the William P. Hobby Airport, Houston, Texas, at 1753											
According to a written report filed by the operator, the airplane was in "rough air" due to a storm front along the route of flight. The airplane had deviated around storm cells and had also varied altitude in an attempt to minimize the turbulence encountered. The operator stated that the seat belt sign was on and that an announcement was made for the flight attendants to take their seats. The operator stated that after a brief encounter with moderate turbulence near Little Rock, Arkansas, the flight crew was informed that a flight attendant had injured her shoulder. The report does not state whether the injury happened before, or after the announcement was made to the flight attendants. Upon arrival at the destination, the flight attendant walked off of the airplane and into the gate area for treatment. It was later found that the flight attendant had fractured her shoulder.											
In a written report, the pilot stated that while en route the airplane was in turbulence. He stated that the seat belt sign was on and as the turbulence began to intensify he made a public address announcement for the flight attendants to be seated. He stated that he was then informed that one of the flight attendants had been injured.											
A written report from the flight attendants indicated that the fasten seat belt sign was not on at the time of the injury.											
The National Transportation Safety Board was not informed of the extent of the injury received by the flight attendant until May 13, 2004. No cockpit or flight data recordings were obtained.											
1	F	ACTUAL	REPORT - A	VIATION			Page 1				

National Transportation Safety Boar	d N	NTSB ID: CHI04LA126										
FACTUAL REPORT	ccurren	urrence Date: 04/10/2004										
AVIATION ETYBOR		ccurren	rrence Type: Accident									
Landing Facility/Approach Information												
Airport Name	Airp	irport ID: Airport Elevation Runway Used Runway Leng						ay Length	Rui	nway Width		
		Ft. MSL										
Runway Surface Type:												
Runway Surface Condition:												
Type Instrument Approach: NONE												
VFR Approach/Landing: None												
Aircraft Information												
Aircraft Manufacturer Boeing			Model/ 737-3						Serial N 23255	Number 55		
Airworthiness Certificate(s): Transport												
Landing Gear Type: Retractable - Tricycle												
Homebuilt Aircraft? No         Number of Seats: 145         Certified Max Gross Wt.         139000 LBS         Number of Engline									of Engine	es: 2		
Engine Type: Turbo Fan		Engine Manufacturer:Model/Series:General ElectricCFM-56					Rated Power: 20000 LBS					
- Aircraft Inspection Information												
Type of Last Inspection		Dat	Date of Last Inspection Time Since Last Inspection						ļ	Airframe T	otal Time	
Continuous Airworthiness		04	4/2004		25 Hours			5	8979 Hours			
- Emergency Locator Transmitter (ELT)	Information											
ELT Installed? No	ELT Operated? No         ELT Aided in Locating Accident Site? No											
Owner/Operator Information												
Registered Aircraft Owner			Street A	ddress 2702 Lov	ve Field	d Dr.						
SOUTHWEST AIRLINES CO	-	City State							State	Zip Code		
	Dallas TX 85235 Street Address									85235		
Operator of Aircraft			OlicerA		Reg'd	Aircra	aft Owner					
Same as Reg'd Aircraft Owner			City State Zip							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												
FACTUAL REPORT - AVIATION Page 2												

National Transportation Safety Board				NTSB ID: CHI04LA126										
F	FACTUAL REPORT Occurrence Date: 04/10/2004						04							
	AVIATI ETYBO	1 2			ce Type: Ac				$\neg$					
		Pr- 1		Occurrent	ce Type. At	Sciuerii								
First Pilot Information       City       State       Date of Birth       Age														
Name City														Age
On File		On File On File On File											57	
Sex: M         Seat Occupied: Left         Principal Profession:         Certificate Number: On File														
Certificate(s): Airline Transport														
Airplane Rating(s): Multi-engine Land; Single-engine Land														
Rotorcraft/Glider/LTA: None														
Instrument	t Rating(s): Airol	ane												
Instrument Rating(s): Airplane Instructor Rating(s): None														
Type Ratir	ng/Endorsement fo	or Accident/Ir	ncident Aircra	aft?			С	urrent E	Biennial Fl	ight R	eview? 12	/2003		
Medical C	ert.: Class 1	Medica	al Cert. Statu	s: With Wai	vers/Limita	ations	•		Date	e of La	st Medical	Exam:	02/2004	
									I					
- Flight Tir	me Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Ni	ght	Actua	Instrument	nulated	Rotorcraf	t	Glider	Lighter Than Air
Total Time	e	20000	18000	500	19500									
Pilot In Co	ommand(PIC)	18000	16500	450	17550									
Instructor														
Last 90 Da		184	184		184									
Last 30 Da	-	41	41		41	-					_	-+		
	Ised? Yes			I s Used? Yes			Toxico		erformed?	formed? No Second Pi				[
Seatbell O		51100		s Used? Tes			TUXICO	Jiogy i d	enonneu:	INO		56001		5
Eliabt Dk	on/Itinorony													
	an/Itinerary ight Plan Filed: IF													
Departure	<u> </u>	ĸ					Ctata		Airport Id	ontific		orturo	Time	Time Zone
								State Airport lo				anure		
HOUSTO	DN						ТХ		HOU					CDT
Destinatio	n						State		Airport Id	rport Identifier				
Same as	Accident/Incide	ent Location							STL					
Type of Clearance: IFR														
Type of Airspace:														
Weather	Weather Information													
Source of Briefing:														
Method of Briefing:														
				FACTUAL	REPORT	- AVI	ΑΤΙΟΙ	N						Page 3

National Transportation Safety Board			NTSB ID:	NTSB ID: CHI04LA126									
	ACTUAL REPOI		Occurren	ce Date:	04/10/2	004		1					
	Occurren	ce Type:	Acciden	t		1							
Weather	AVEATION Information			,,		-							
WOF ID Observation Time Time Zone WOF Elevation WOF Distance From Acc							n Accie	dent Site		Direction Fro	m Accident Sit	te	
			F	. MSL				NM			Deg	. Mag.	
Sky/Lowes	st Cloud Condition: Cle	ar				Ft. AG	L	Condition of	Condition of Light: Day				
Lowest Ce	iling: None		Ft	AGL	Visibi	Visibility: 10			SM Altimeter: 30.08				
Temperatu	ure: 9 °C	Dew Point:	°C	°C Wind Direction: 80 Density Altitu								Ft.	
Wind Spee	ed: 20	Gusts:		Weat	her Condt	ions at Accid	dent S	<sup>ite:</sup> Instrum	ent C	Conditions			
Visibility (F	RVR): Fi	t. Visibility (F	RVV)	SM	Intensity	/ of Precipita	ation:						
	s to Visibility: No Obs					· · ·							
	,												
Type of Pr	ecipitation:												
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,													
Accident	Information												
	mage: None		Aircraft Fi	e: None	)			Aircraft Exp	olosio	n None			
Classificati													
	mmary Matrix	Fatal	erious Min	or	None	TOTAL							
First Pi					1	1							
Second					1	1							
Studen													
Flight I	nstructor												
Check	Pilot												
Flight E	Engineer												
	Attendants		1		2	3							
Other (			1		2	2							
Passer					102	102							
	ABOARD -		1		102	102							
Other (					100	103							
	D TOTAL -		1	1 108 109									
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National Transportation Safety Board	NTSB ID: CHI04LA126	
	Occurrence Date: 04/10/2004	
AVIATION ETYBON	Occurrence Type: Accident	
Administrative Information	•	·
Investigator-In-Charge (IIC)		
John M. Brannen		
Additional Persons Participating in This Accident/Incid	dent Investigation:	
Donald Dunn FAA- St Louis FSDO St. Louis, MO		