Turbulence injuries, Boeing 757-222, April 21, 2003

Micro-summary: This Boeing 757-222 experienced turbulence during cruise flight, injuring two flight attendants.

Event Date: 2003-04-21 at 1610 EDT

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

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

Cautions:

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!

3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.

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TRANSP National Transportation Safety Board	NTSE	D: CHI03LA11	3	Aircraft Registration Number: N504UA						
FACTUAL REPORT	Occu	rrence Date: 04/2	1/2003	Most Critical Ir	Most Critical Injury: Serious					
AYIATION FTYBOR	Occu	Dccurrence Type: Accident Investigated By: NTSB								
Location/Time										
Nearest City/Place	State	Zip Code	Local Time	Time Zone						
Lithonia	GA	30038	1610	EDT						
Airport Proximity: Off Airport/Airstrip	Distance Fro	m Landing Facility:		Direction Fro	om Airpor	t:				
Aircraft Information Summary										
Aircraft Manufacturer		Model/Serie	s			Type of Aircraft				
Boeing		757-222				Airplane				
Sightseeing Flight: No Air Medical Transport Flight: No										
Narrative										
time of the accident. The 14	eastern ountered t meteoro CFR Part The 2 fl ight orig Hare Inte: ating for flight c: further enced fou: seconds dant who request at ORD. ported rece e stated i flew into fracture her afte:	daylight tim turbulence logical condi 121 domestic endant receiv ight crew, 3 inated from C crnational Air weather. Ai rew reported to avoid show to five sec ." When th indicated ed medical ceiving a mes she was on he the air" and to her left t	during cruis tions with co passenger fli ed minor inju remaining fli prlando Intern port (ORD), C r traffic con they could se rers. ATC the ones of turbu ey exited the one of the fl assistance a sage from and r way back to her left leg ibia and fibi	e at fligh invective act ght was oper ries and a s ght attendam ational Airp chicago, Illi trol (ATC) c e the "end c in cleared th lence, descr top of the ight attenda nd contacte ther flight her jump se hit a count a. She stat ded.	attend attend cleared of the cleared of the cloud ants ha ed dis attend cat whe cer in ced tha	<pre>vel (FL) 290 near prevailed at the on an instrument flight attendant nd 179 passengers Drlando, Florida, d them to descend line of showers" climb to FL 310. as "moderate with layer, they were ad been seriously spatch to request dant to return to en the turbulence the galley. The at two doctors on</pre>				
	FACTU	JAL REPORT - A	VIATION			Page 1				

National Transportation Safety Board	I N	NTSB ID: CHI03LA113									
FACTUAL REPORT		ccurren	ce Date:	04/21/2003							
AVIATION ETYBON	0	ccurren	ce Type:	Accident	cident						
Landing Facility/Approach Information											
			rport ID: Airport Elevation Runway Used Runway Len						ay Length	n Ru	nway Width
				Ft.	MSL						
Runway Surface Type:						1					
Runway Surface Condition:											
Type Instrument Approach: ILS-comple	ete										
VFR Approach/Landing: Full Stop											
Aircraft Information											
Aircraft Manufacturer Boeing			Model/ 757-2						Serial N 24625	Number 5	
Airworthiness Certificate(s): Transport											
Landing Gear Type: Retractable - Tric	ycle										
Homebuilt Aircraft? No Num	ber of Seats: 188		Certifie	d Max Gross W	/t.		240000	LBS	Numbe	r of Engine	es: 2
Engine Type: Turbo Fan		Ingine Manufacturer:Model/Series:Pratt & WhitneyPW2037							Rated Power: 37000 LBS		
- Aircraft Inspection Information											
Type of Last Inspection D				Date of Last Inspection Time Since Last Inspection							otal Time
Continuous Airworthiness	03	03/2002 3423 Hours					ours	2	4627 Hours		
- Emergency Locator Transmitter (ELT)	Information										
ELT Installed? No	ELT Operated?	rated? No ELT Aided in Locating Accident Site? No									
Owner/Operator Information											
Registered Aircraft Owner			Street A	ddress P.O. Box	66100)					
United Airlines			City	Chicago						State	Zip Code
			Street A	Chicago ddress					[IL	60666
Operator of Aircraft					Reg'd	Aircra	aft Owner				
Same as Reg'd Aircraft Owner			City						State	Zip Code	
Operator Does Business As:						O	perator Desigr	nator Co	ode: UAI	A	
- Type of U.S. Certificate(s) Held:	0 1 (7										
Air Carrier Operating Certificate(s): Flag	Carrier/Domest	IC									
Operating Certificate:				Operator 0	Certificat	te:					
Regulation Flight Conducted Under: Par	t 121: Air Carrie	r									
Type of Flight Operation Conducted: Scl	neduled; Domes	tic; Pa	ssenger	Only							
	FAC	CTUAI	REPO	RT - AVIATI	ION						Page 2

	TRANS	in.											
Natior	nal Transportation	Safety Board	1	NTSBID:	NTSB ID: CHI03LA113								
F	ACTUAL RI	EPØRT		Occurren	Occurrence Date: 04/21/2003								
	AVIATI	QN		Occurren	Occurrence Type: Accident								
First Pilc	ot Information			ľ									
Name						City					State	Date of Birth	Age
On File On File							ile				On File	On File	42
Sovi M	Seat Occupied			Principal Profes		n Dilat					ificata Num	I nber: On File	
Sex: M Certificate	(s): Airlir	ne Transpor	I							Cen			
	. ,	·											
Airplane Rating(s): Multi-engine Land; Single-engine Land													
Rotorcraft/Glider/LTA: None													
Instrument	t Rating(s): Airpl	ane											
Instructor	Rating(s): None	e											
Type Ratir	ng/Endorsement fo	or Accident/Ir	ncident Airc	raft? Yes			С	urrent B	iennial Fli	ght Re	eview? 12	/2002	
Medical Co	ert.: Class 1	Medica	al Cert. Stat	tus: Valid Me	dicalno w	aivers	ílim.		Date	of La	st Medical	Exam: 12/2002	2
- Flight Tir	me Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Ni	ght	Actual	Instrument Sim	ulated	Rotorcraft	Glider	Lighter Than Air
Total Time	9	8564	665	5	8564								
Pilot In Co	ommand(PIC)		665	5									
Instructor													
Last 90 Da	ays		231	1	231								
Last 30 Da	ays		83		83	_					_		
Last 24 Ho	ours		6	6	6								
Seatbelt U	eatbelt Used? Yes Shoulder Harness Used? Yes Toxicology Performed? No Second Pilot? Yes								es				
	an/Itinerary												
	ght Plan Filed: IF	R											
Departure	Point						State		Airport Ide	entifier	Dep:	arture Time	Time Zone
Orlando							FL		MCO		150	2	EDT
Destinatio	n						State		Airport Ide	entifie	r		·
Chicago							IL		ORD				
Type of Cl	earance: IFR												
Type of Ai	rspace: Class	A											
Weather	Information												
Source of	Briefing: Compa	any											
Method of	Briefing: Aircraf	t Radio											
				FACTUAI	L REPORT	- AVI	ATION	N					Page 3

Nationa	al Transportation Safety	Board	NTSB ID:	CHI03	LA113							
	ACTUAL REPOP		Occurren	ce Date:	04/21/2	003		1				
	AVIATION			Occurrence Type: Accident								
Weather	Information			,,		-						
WOF ID	Observation Time	Time Zone	WOF Elevat	ion	WOF Di	stance From	Accio	dent Site		Direction Fror	n Accident Sit	e
ATL	1616	EDT	971 Ft	. MSL				20 NM			90 Deg.	. Mag.
Sky/Lowes	st Cloud Condition: Few	1			2	2000 Ft. AGI	L	Condition of	of Lig	nt: Dusk		
Lowest Ce	iling: Broken		4000 Ft.	AGL	Visibi	lity:	7	SM	Alti	meter:	29.90	"Hg
Temperatu	ure: 22 °C	Dew Point:	18 °C	Wind	Direction:	220			De	nsity Altitude:		Ft.
Wind Spee	ed: 7	Gusts:		Weat	her Condt	ons at Accid	ent S	^{ite:} Instrum	ent C	Conditions		
Visibility (F	RVR): Ft	. Visibility (R	VV)	SM	Intensity	/ of Precipita	tion:	Light				
Restriction	s to Visibility: None							-				
Type of Pre	ecipitation: Rain											
5 1 - 5												
Accident	Information											
Aircraft Da	mage: None		Aircraft Fir	e: None	;			Aircraft Exp	olosio	n None		
Classificati	on: U.S. Registered/F	oreign Oper.	-1									
	mmary Matrix		erious Mine	or	None	TOTAL						
First Pi					1	1						
Second	d Pilot				1	1						
Studen	t Pilot											
Flight li	nstructor											
Check	Pilot											
Flight E	Engineer											
Cabin A	Attendants		1	1	3	5						
Other C	Crew											
Passer	ngers				179	179						
- TOTAL A	ABOARD -		1	1	184	186						
Other C	Ground											
- GRANE	D TOTAL -		1	1	184	186						
			FACTUAI	L REPO	RT - AV	IATION					I	^D age 4

National Transportation Safety Board	NTSB ID: CHI03LA113	
FACTUAL REPORT	Occurrence Date: 04/21/2003	
AVIATION	Occurrence Type: Accident	
Administrative Information		
nvestigator-In-Charge (IIC)		
Mitchell F. Gallo		
Additional Persons Participating in This Accident/	/Incident Investigation:	
Robert D Wood Inspector Federal Aviaition Adminstration 9950 W Lawrence Ave., Suite 400 Schiller Park, IL 60176		
Rick Howes Air Safety Investigator Boeing P.O. Box, MC 67-PR Seattle, WA 98124		
John F McCoy Senior Staff Investigator United Airlines San Francisco International Airport San Francisco, CA 94128		