



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

December 13, 2019

Attachment 4- Spirit Airlines Newsletter on Trrbulance

SPECIALIST REPORT

DCA19CA213

Turbulence—Sit 'em Down!

We've all seen headlines like this in the news..."15 Passengers Injured After Severe Turbulence Rocks Flight", or "Three People Treated for Air Turbulence Injuries at Bumpy Airport".

We are not immune. We recently recorded our third serious injury to Flight Attendants in two years, related to turbulence. Every year passengers and Flight Attendants are injured as a result of turbulence encounters, much of it unanticipated as in the case of Clear Air Turbulence. Unfortunately, in some instances injuries occurred even when passengers and cabin crew were advised of turbulence due to convective activity, ride reports from other pilots, SIGMETs and AIRMETs.

While the FOM and Flight Attendant Manual are in sync regarding guidance when encountering turbulence, it's a good idea to review those sections of the manual as a reminder. Some relevant excerpts:

FOM 2.4.19 SEAT BELT SIGN

Turning ON the SEAT BELT sign indicates turbulence is expected and passengers must return to their seats and buckle up; this shall be accompanied by an announcement from the flight deck to that effect.

FOM 6.3.5 ANTICIPATED TURBULENCE

When the Captain requests for Flight Attendants to be seated due to anticipated turbulence, it is important for Flight Attendants to respond with the appropriate sense of urgency and to defer responding to non-essential passenger requests in these situations.

Flight Attendants must be seated with seatbelt and shoulder harness secured during moderate/severe turbulence or

Year	Passenger	Crew	Total
2002	35	12	47
2003	19	27	46
2004	6	11	17
2005	9	9	18
2006	6	8	14
2007	5	20	25
2008	14	14	28
2009	71	23	94
2010	41	14	55
2011	6	23	29
2012	9	16	25
2013	9	4	13
2014	22	9	31
2015	7	14	21
2016	32	12	44
2017	12	5	17

Statistics provided by the FAA

when directed by the Captain.

Example: "Ladies and Gentlemen, we are going to be experiencing some turbulence, the seat belts sign has been turned on, please remain seated with your seat belts on. Flight attendants please stow carts and be seated."

To expand on the above statement, if turbulence is anticipated where the Captain determines it would be wise to have everyone seated, the Lead Flight

Attendant should be briefed via inter-phone (be specific so the Lead Flight Attendant may relay accurate info to the rest of the crew). It's also important to follow up with a PA announcement so that the cabin is aware of the anticipated turbulence with the expectation that everyone, including all Flight Attendants be seated with seatbelts fastened. This PA announcement should relay a sense of urgency.

The NTSB requires airlines to report serious injuries and fatalities. A serious injury is "any injury that (1) requires the individual to be hospitalized for more than 48 hours, commencing within seven days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than five percent of the body surface."

Intensity	Symbol	Aircraft Reaction	Reaction Inside Aircraft
Light		Momentarily causes slight, erratic changes in altitude and/or attitude (pitch, roll, yaw).	Occupants may feel a slight strain against seat belts or shoulder straps. Unsecured objects may be displaced slightly. Food service may be conducted and little or no difficulty is encountered in walking.
Moderate		Changes in altitude and/or attitude occur but the aircraft remains in positive control at all times. It usually causes variations in indicated airspeed.	Occupants feel definite strains against seat belts or shoulder straps. Unsecured objects are dislodged. Food service and walking are difficult.
Severe		Causes large, abrupt changes in altitude and/or attitude. It usually causes large variations in indicated airspeed. Aircraft may be momentarily out of control.	Occupants are forced violently against seat belts or shoulder straps. Unsecured objects are tossed about. Food Service and walking are impossible.
Extreme		Aircraft is violently tossed about and is practically impossible to control. It may cause structural damage.	
Chop is a category of turbulence which causes rapid and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude. May be reported as light chop or moderate chop.			