



Aviation Investigation Final Report

Location:	Summit, Mississippi	Accident Number:	DCA10LA083
Date & Time:	August 9, 2010, 11:34 Local	Registration:	N856RW
Aircraft:	Embraer ERJ 170 100 SE	Aircraft Damage:	None
Defining Event:	Abrupt maneuver	Injuries:	1 Serious, 73 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

The rapid climb and descent of FAST13 within 30 seconds exceeded the radar systems capability to accurately track and display the altitude changes. Accordingly, the air traffic controller providing services to TCF7530 and FAST13 did not observe FAST13 climb above the assigned altitude of FL280 nor did the controller receive a conflict alert from the radar system.

The reason for FAST 13's deviation from assigned altitude was not determined.

The TCAS onboard TCF7630 alerted as expected and the first officer appropriately initiated a climb in response to the RA. The seat belt sign was on prior to the TCAS alert because the flight attendants were preparing the cabin for landing. Shortly before the event, a passenger elected to go to the lavatory even though a flight attendant advised the passenger to return to his seat. The passenger was in the lavatory when the TCAS RA occurred resulting in him receiving a serious injury.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the abrupt maneuver that was appropriately initiated to comply with the TCAS resolution advisory caused by the momentary projected loss of separation from converging traffic. Contributing to the accident was a passenger's decision to disregard the seatbelt sign.

Findings

Aircraft	Altitude - Not attained/maintained
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Factual Information

History of Flight

Enroute-cruise	Collision avoidance alert
Enroute-change of cruise level	Abrupt maneuver (Defining event)
Enroute-change of cruise level	Near midair/TCAS alert/loss of separation

On August 9, 2010, about 1134 central daylight time, Shuttle America flight # 7630 (TCF7630), an Embraer 170, N856RW, responded to a Traffic Alert and Collision Avoidance System (TCAS) resolution advisory while in cruise flight at flight level (FL) 290 resulting in an abrupt maneuver. Of the 74 passengers and crew onboard, one passenger received serious injuries. The flight was operating under the provisions of 14 *Code of Federal Regulations* Part 121 as a scheduled passenger flight from Chicago O'Hare International Airport (KORD), Chicago, Illinois, to Louis Armstrong New Orleans International Airport (KMSY), New Orleans, Louisiana.

Around the time of the event, U.S. Air Force Northrop Corporation T-38 Talon, call sign FAST13, was on a cross country military training flight in cruise flight at FL280. FAST13 was operating under the provisions of 14 *Code of Federal Regulations* Part 91 from Campbell Army Airfield (KHOP), Fort Campbell/Hopkinsville, Kentucky, to Chennault International Airport (KCWF), Lake Charles, Louisiana. There were two crewmembers aboard and the airplane was not equipped with a TCAS.

A review of radar data indicates that, at 1134:17, Shuttle America flight # 7630 (TCF7630) was southbound in cruise flight at FL290 and FAST13 was southwest bound at FL280. The aircraft were on a converging course.

Raw radar data indicates that at 1134:27 FAST 13 began a brief climb to FL286 before returning to FL280 at 1134:57. During FAST13's ascent to FL286, TCF7630 received a Traffic Alert and Collision Avoidance System (TCAS) warning resolution advisory (RA), directing the pilot to climb. The TCF7630 first officer, who was the flying pilot, immediately climbed to FL296 before returning to the previously assigned altitude of FL290 when the flight crew visually identified the T-38 and the conflict was clear. TCF7630 informed air traffic control of the TCAS RA and that the flight had to climb to avoid oncoming traffic.

During the abrupt TCAS maneuver, a passenger in the aft lavatory of TCF7630, suffered a compound fracture of his leg. The flight attendants and two medical doctors who were onboard provided basic first aid to the injured passenger until TCF7630 landed at KMSY where medical personnel met the aircraft and transported the injured patient to the hospital.

Review of the air traffic control radar data revealed that the altitude change by FAST13 was not displayed on the ATC radar nor observed by the air traffic controller.

Pilot Information

Certificate:	Airline transport	Age:	34, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	July 29, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 22, 2010
Flight Time:	(Estimated) 6000 hours (Total, all aircraft), 2487 hours (Total, this make and model), 179 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 6.3 hours (Last 24 hours, all aircraft)		

Co-pilot Information

Certificate:	Commercial	Age:	38, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	June 25, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 4000 hours (Total, all aircraft), 2184 hours (Total, this make and model), 262 hours (Last 90 days, all aircraft), 81 hours (Last 30 days, all aircraft), 6.3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Embraer	Registration:	N856RW
Model/Series:	ERJ 170 100 SE 100SE	Aircraft Category:	Airplane
Year of Manufacture:	2005	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	17000078
Landing Gear Type:	Retractable -	Seats:	70
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	82000 lbs
Time Since Last Inspection:		Engines:	Turbo jet
Airframe Total Time:		Engine Manufacturer:	GE
ELT:		Engine Model/Series:	
Registered Owner:	SHUTTLE AMERICA CORP	Rated Power:	
Operator:	SHUTTLE AMERICA CORP	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:	United Express	Operator Designator Code:	UHLA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	MSY	Distance from Accident Site:	100 Nautical Miles
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Scattered	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	32°C / 26°C
Precipitation and Obscuration:			
Departure Point:	CHICAGO, IL (ORD)	Type of Flight Plan Filed:	VFR/IFR
Destination:	NEW ORLEANS, LA (MSY)	Type of Clearance:	IFR
Departure Time:	10:02 Local	Type of Airspace:	Air traffic control

Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	None
Passenger Injuries:	1 Serious, 69 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 73 None	Latitude, Longitude:	31.283889,-90.46833(est)

Administrative Information

Investigator In Charge (IIC): Ward, Effie Lorenda

Additional Participating Persons:

Original Publish Date: March 30, 2020

Last Revision Date:

Investigation Class: [Class](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=76906>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).