NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

March 16, 2011

OPERATIONAL FACTORS FACTUAL REPORT

DCA10FA083

Contents

A. ACCIDENT

Operators:	Shuttle America Corporation[1] and United States Air Force
Location:	approximately 100 nautical miles North of Louis Armstrong New Orleans International Airport (MSY) New Orleans, Louisiana
Date:	August 9, 2010
Time:	1134 central daylight time[2]
Airplanes:	Shuttle America Embraer ERJ-170, Registration Number: N856RW United States Air Force Northrop T-38 Talon

B. OPERATIONAL FACTORS

B. David Tew
Operational Factors Division (AS-30)
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594-2000

C. SUMMARY

On August 9, 2010, about 1134 central daylight time, a Shuttle America Embraer 170, N856RW, flight # 7630, was at a cruise altitude of 29,000 feet when they received a Traffic Alert and Collision Avoidance System (TCAS) resolution advisory (RA) to climb. Flight data indicates that within seconds, the flight crew disconnected the autopilot and climbed to 29,600 feet consistent with the TCAS alert. There were 2 pilots, 2 flight attendants and 70 passengers on board the Shuttle America flight. One passenger received a serious injury during the evasive maneuver. The commercial passenger flight was over the state of Mississippi when the TCAS

[1] Shuttle America Corporation is a subsidiary of Republic Airways Company
[2] All times are central daylight time (CDT) based on a 24-hour clock, unless otherwise noted.

RA occurred. The flight originated from the Chicago O'Hare International Airport (ORD), Chicago, Illinois, and was enroute to Louis Armstrong New Orleans International Airport (MSY), New Orleans, Louisiana. The flight was operating under the provisions of 14 Code of Federal Regulations Part 121 on an Instrument Flight Rules (IFR) flight plan.

Radar data indicates that a U.S. Air Force Northrop Corporation T-38 Talon, call sign FAST 13, was on a cross country instrument training flight at 28,000 feet and deviated to 28,600 feet for approximately 30 seconds as it was converging on Shuttle America flight 7630. The military flight was operating under the provisions of 14 Code of Federal Regulations Part 91 on an IFR flight plan from Campbell Army Airfield (HOP), Fort Campbell/Hopkinsville, Kentucky, to Chennault International Airport (CWF), Lake Charles, Louisiana. There were two crewmembers aboard the military airplane. This airplane was not equipped with a TCAS.

D. DETAILS OF THE INVESTIGATION

An Operational Factors investigator gathered crew statements from Shuttle America and the United States Air Force (USAF). The Operations investigator reviewed Shuttle America manuals for Traffic Alert and Collision Avoidance (TCAS) and Resolution Alert (RA) operating procedures and guidance. The USAF conducted an investigation regarding the actions of the USAF flight crew.

1.0 FLIGHT CREW INFORMATION

The Shuttle America accident flight crew consisted of a captain and first officer.
Both Shuttle America flight crewmembers were current and qualified under Shuttle America and FAA requirements.

The United States Air Force T-38 pilots and their involvement were investigated by United States Air Force investigators.

1.1 Captain Jacob Abraham Edelstein

Captain Edelstein was 34 years old.

Date of hire with Shuttle America Corporation: May 31, 2005

Certificates held by Captain Edelstein at time of the accident:

AIRLINE TRANSPORT PILOT (issued May 10, 2009)
AIRPLANE MULTIENGINE LAND
CL-65, ERJ-170, ERJ-190
ENGLISH PROFICIENT

ATP CIRC. APCH. – VMC ONLY

CL-65, ERJ-170, ERJ-190 CIRC. APCH. – VMC ONLY

MEDICAL CERTIFICATE FIRST CLASS (issued July 29, 2010)
Limitations: None

Training and Proficiency Checks:

Initial Type Rating ERJ-170: June 21, 2005
Upgrade to Captain on ERJ-170: March 30, 2009
Last recurrent simulator training: May 22, 2010
Last recurrent ground training: May 13, 2010
Last Proficiency Check in ERJ-170: May 22, 2010

No record of failures during company training.

Flight Times: approximate based on Shuttle America employment records.

Total pilot flying time	6,000 hours
Total E-170 flying time	2,487 hours
Total E-170 Pilot-in-command (PIC) time	806 hours
Total flying time last 24 hours	6 hours 18 minutes
Total flying time last 30 days	60 hours
Total flying time last 90 days	179 hours
Total flying time last 12 months	702 hours

Captain Edelstein was involved in a previous accident on September 8, 2006 at La Guardia Airport (LGA), New York, New York, when he was the F/O on an E-170 which was struck by an Air Canada Airbus A-319. The ERJ-170 was stopped on a taxiway when it was struck by the taxiing A-319.

A review of FAA records of Captain Edelstein found no prior incident or enforcement actions.

1.2 First Officer (F/O) Semedin Poturak

F/O Poturak was 38 years old.

Date of hire with Shuttle America Corporation: November 27, 2007

Certificates held by F/O Poturak at time of the accident:

COMMERCIAL PILOT (issued January 15, 2008)
SIC TYPE RATING ERJ-170, ERJ-190
CIRC. APCH. VMC ONLY

FLIGHT INSTRUCTOR

MEDICAL CERTIFICATE FIRST CLASS (issued June 25, 2010)
Limitations: None

Training and Proficiency Checks:

Initial Type Rating ERJ-170: January 15, 2008
Last Proficiency check in ERJ-170: January 11, 2010
Last recurrent ground training: November 20, 2009

F/O Poturak failed a proficiency check on the ERJ-170 on January 9, 2008. He passed the retake of the proficiency check on January 15, 2008.

F/O Poturak failed a proficiency check on the ERJ-170 on January 10, 2009. He passed the retake of the proficiency check on January 21, 2009.

Flight Times: approximate based on interviews and Shuttle America employment records.

Total pilot flying time	4,000 hours
Total ERJ-170 flying time	2,184 hours
Total flying time last 24 hours	6 hours 18 minutes
Total flying time last 30 days	81 hours
Total flying time last 90 days	262 hours
Total flying time last 12 months	948 hours

A review of FAA records of F/O Poturak found no prior accident, incident or enforcement actions.

2.0 CREW STATEMENTS AND REPORTS

2.1 Statement: The following was issued as a joint statement by the Shuttle America accident flight crew shortly after the accident.

On the 9th of August, 2010, we were operating United Express Flight 7630 from Chicago Ohare International Airport (KORD) to Louie Armstrong International Airport (KMSY). The flight was conducted on aircraft N856RW, and EMB170 with four crewmembers and 70 passengers on board.

During the initial descent into New Orleans we were told to cross 20 miles north of MCB

Intersection at FL280. Houston Center then advised us to stop our decent and to level off at FL290. We reset the altitude into the preselector and captured our newly assigned altitude of FL290. We had started to read the ATIS that had just come through our ACARS system to start setting up for our approach into MSY and noted that runway 10 was in use and that conditions were VFR and favorable with light winds and scattered ceilings. Information K was current with winds at 330/10, 10 Statute miles visibility, scattered ceiling at 2000 and broken ceilings at 25000 feet. A temperature dew point spread of 32/26 respectively and an altimeter setting of 29.97. The seat belt sign was on at this time as it had been turned on during the initial descent from our cruising altitude of FL340. We were level at FL290 for barely two minutes when we received an Resolution Advisory (RA) from our TCAS system with command prompts to "Climb, climb...". We did not receive an initial traffic advisory (TA), "traffic, traffic" on the impeding aircraft, only the RA and commanding climb. The First Officer who was flying the leg immediately followed the command prompts using the Touch Control Steering (TCS) mode. At this time we saw a black T38 military fighter jet very close moving from our left side and low turning towards us. He passed below moving perpendicular to our flight path left to right and out of view. We contacted Houston Center and stated that we had received an RA and had to climb to avoid the oncoming traffic. Do to the high altitude and extreme closure rate during the maneuver we clicked off the autopilot and recovered once the command prompts stopped and received a "clear of conflict" advisory and recaptured our assigned altitude of FL290. The Center controller seemed confused and asked us what altitude we were at and did not seem to understand the severity of what had just happened. We restated that we had received an RA from the military aircraft that we were not told of and that we were level at FL290. We queried the controller about the traffic but never received a definitive answer as to why we weren't advised.

Once we reactivated the autopilot and double checked our aircraft I immediately called back to the Flight Attendants (FA) using the call button. The A FA answered our call and I asked if everything was okay. They did not know what had happened and thought we had just hit light turbulence. She stated that a passenger who had been in the aft lavatory had cut themselves and that she would call me back with more details. At this time we were handed off to New Orleans approach and told to descend to 11000 ft. We began our decent and asked approach to have medical services meet the aircraft at the gate as a precautionary measure. We then began to set up for the approach loading speeds and runway 10 into the FMS. The A FA then called stating that two doctors on board were treating the injury and that the man was bleeding from a cut on his leg. I stated that we would be on the ground in ten minutes and would have emergency services meeting us at the gate. We expedited our decent into MSY only to have the A FA call us back again while passing through 15000 ft. She said that the injury was a lot worse then thought and was not just a cut. I then called MSY approach and asked if we were number one for the airport and to declare a medical emergency. The control stated that we were number one for the field and cleared down to 2000ft. We gave the 10000 foot call and dropped the landing gear to further expedite our decent onto the glide slope for runway 10. We landed uneventfully on the runway getting off at the high speed taxiway and immediately pulled into gate C4. We were met by EMTs who came on board the aircraft to assume control.

Later it was determined that the 75 year old man sustained an injury to his left leg while in the aft lavatory. The B FA had advised the passenger before he entered the lavatory that the seat belt sign was on and that he should return to his seat. He then moved past her and into the lavatory.

My crew did an exceptional job dealing with the events and I cannot praise them enough. What they accomplished in only 8 minutes was truly amazing.

2.2 Irregularity Report: Shuttle America Captain Jacob Edelstein

The following information below was copied from an Irregularity Report filed by Captain Edelstein on August 12, 2010:

Subject: S5 Irregularity Report for 7630 on 8/12/2010 2:21:52 PM

****

S5 Irregularity Report

1. Report Filed By: Jacob Edelstein
2. Emp Number: [*personal identification information removed by David Tew, NTSB*]
3. Base: KIND
4. Incident Date: 08/09/2010
5. Local Time: 1130
6. Flight Num: 7630
7. Flight Segment: ORD to MSY
8. Location: descent
9. Gate:
10. A/C type: EMB170
11. Tail: N856RW
12. Flt Phase: Descent
13. WX Condition: VFR
14. Cabin Lighting:
15. Occurrences: TCAS Resolution Alert
16. Additional Reports: Injury to Passenger (fill out Injury/Illness Report) Near Mid-Air Collision or Collision in flight
17. Operational/Service Discrepancies:

Other:

19. Factual Description

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During the initial descent into New Orleans we were told to cross 20 miles north of MCB intersection at FL280. Houston Center then advised us to stop our descent and to level off at FL290. We reset the altitude into the preselector and captured our newly assigned altitude of FL290. We had started to read the ATIS that had just come through our ACARS system and began setting up for our approach into MSY we noted that runway 10 was in use and that conditions were VFR and favorable with light winds and scattered ceilings. Information K was current with winds at 330/10, 10 Statute miles visibility, scattered ceiling at 2000 and broken ceilings at 25000 feet. A temperature dew point spread of 32/26 respectively and an altimeter

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Once we reactivated the autopilot and double checked our aircraft, I immediately called back to the Flight Attendants (FA) using the call button. The A FA answered our call and I asked if everything was okay. They did not know what had happened and thought we had just hit light turbulence. She stated that a passenger who had been in the aft lavatory had cut themselves and that she would call me back with more details. At this time we were handed off to New Orleans approach and told to descend to 11000 ft. We began our descent and asked approach to have medical services meet the aircraft at the gate as a precautionary measure. We then began to set up for the approach loading speeds and runway 10 into the FMS. The A FA then called stating that two doctors on board were treating the injury and that the man was bleeding from a cut on his leg. I stated that we would be on the ground in ten minutes and would have emergency services meeting us at the gate. We expedited our descent into MSY only to have the A FA call us back again while passing through 15000 ft. She said that the injury was a lot worse than thought and was not just a cut. I then called MSY approach and asked if we were number one for the airport and to declare a medical emergency. The control stated that we were number one for the field and cleared down to 2000ft. We gave the 10000 foot call and dropped the landing gear to further expedite our descent onto the glide slope for runway 10. We landed uneventfully on the runway getting off at the high speed taxiway and immediately pulled into gate C4. We were met by EMTs who came on board the aircraft to assume control.

Later it was determined that the 75 year old man sustained an injury to his left leg while in the aft lavatory. The B FA had advised the passenger before he entered the lavatory that the seat belt sign was on and that he should return to his seat. He then moved past her and into the lavatory. My crew did an exceptional job dealing with the events and I cannot praise them enough. What they accomplished in only 8 minutes was truly amazing.

Capt. Jake Edelstein
S5 IND
[*personal identification information removed by David Tew, NTSB*]

(20) Recommendations ---------- NA
---------- End of Report ----------

2.3 Statement: Shuttle America F/O Semedin Poturak issued this statement shortly after the accident.

My name is Semedin Poturak and on August 9th, 2010, I was the First Officer along with Captain Jacob Edelstein on Fight 7630 from KORD to KMSY. The leg down to New Orleans was uneventful with occasional light chop. We were descending into New Orleans when we were given a crossing restriction 20 miles north of MCB at FL280. Houston Center then gave us additional instructions to stop our decent and level off at FL290. I reselected altitude in altitude preselector to our new assigned altitude of FL290. The autopilot captured and leveled us off on our new assigned altitude. The Captain through ACARS requested/received KMSY ATIS which we familiarized ourselves with. It was VFR weather with light winds 10sm visibility and scattered ceilings Runway 10 was used for our arrival. The seatbelt sign was on and had been on since our initial decent from FL340. We were level at FL290 for barely 2 minutes when we received an Resolution Advisory (RA) from our TCAS system with commands to CLIMB, CLIMB. There was no initial traffic advisory (TA) on the intruding aircraft only an RA commanding a climb. Houston Center also never informed us of any conflicting traffic at this altitude. I immediately followed command prompts to climb with Touch Control Steering (TCS) mode. I disconnected the autopilot and continued to follow the TCAS commands. At this time Captain saw a black T38 military fighter jet very close moving from our left side and low turning towards us. The T38 passed below left to right and out of view. I saw the military jet when it was in front of us banking away and it was black with fine visual details of a jet. I was flying the aircraft and the Captain contacted Houston center informing them that we received an RA and had to climb to avoid oncoming traffic. The controller seemed confused not understanding what had happened. The Captain asked the controller about the traffic and never received an answer to why we weren't advised of the traffic. I reactivated the autopilot and assumed control of radio one as the Captain called the Flight Attendants. The A FA answered and informed Captain that everything was ok. Captain was told that there was a PAX with a cut and she would call him with more information. I continued to fly the aircraft and was given further descents to New Orleans airport. Captain requested the medical services meet us at the gate. I entered speeds, runway ILS 10 in FMS and briefed the approach. Captain further coordinated with FA to which they advised him there were two doctors and they were treating a cut on his leg. I've asked for gear down to expedite our descent as we were number one for landing. I landed uneventfully and Captain taxied off the runway 10 to C4. At the gate EMT met the aircraft who and helped the injured passenger. The B FA advised the passenger before he entered the lavatory that the seat belt sign was on and that he should return to his seat. I think we did an excellent job!

Semedin Poturak
Shuttle America FO [*personal identification information removed by David Tew, NTSB*]

2.4 Irregularity Report: Shuttle America Flight Attendant (F/A) Sarah Daugherty

This information below was copied from an Irregularity Report filed by F/A Daugherty on August 10, 2010:

****

S5 Cabin Safety Report

1. Report Filed By: Sarah Daugherty
2. Employee Number: [*personal identification information removed by David Tew, NTSB*]
3. Base: IND
4. Incident Date: 08/09/2010
5. Local Time: 1315
6. Flight Num: 7630
7. Flight Segment: ORD to MSY
8. Location: AFT LAV
9. Gate: C4
10. A/C type: EMB170
11. Tail: 856RW
12. Flt Phase: Descent
13. WX Condition: Clear/Dr
14. Cabin Lighting: OFF
15. Event Title: ---------- Emergency Landing Other Required

Briefing given? :
Smoker on board during briefing?:
"No Smoking" Sign illuminated?:
Other Events: Injured Passenger
Passenger Details
16. Passengers Involved: Y
Passenger Name: Passenger A[3]
Passenger Address:
Passenger City:
Passenger Phone:
Gender: M
Seat No.: 15B
Other Passengers: Doctors onboard: Passenger B[4] [personal identification information removed by David Tew, NTSB]. Passenger C[5] [personal identification information removed by David Tew, NTSB].
Witness Details
17. Witnesses: Y
Witness Name: Passenger D[6]
Witness Address:

[3] Passenger A name deleted by David Tew, NTSB
[4] Passenger B name deleted by David Tew, NTSB
[5] Passenger C name deleted by David Tew, NTSB
[6] Passenger D name deleted by David Tew, NTSB

Witness City:
Witness Phone:
Witness Gender: M
Other Witnesses: Assisted in moving the injured PAX from the lav to the seat.
Seat No.:18D
18. Passengers Injured: Y
Passenger Name List Requested: N
19 Factual Description:
We were on the initial decent into MSY, 15 minutes prior to landing. The Fasten Seat Belt Sign was turned ON, an announcement had been made, and a walk-through had just been completed. I was "B" flight attendant, and I had just taken a seat in my jumpseat when an elderly man came to use the aft lav. I informed him that "the Fasten Seat Belt sign was ON". He acknowledged me and entered the lav. Less than a minute later, I felt a strong jolt to the aircraft and an abrupt change in altitude. I heard a loud banging in the lav. I stood up, knocked on the door and asked, "Sir, are you okay?" I received no reply, but continued to hear loud banging. I knock again and asked if the man was alright, and when I still received no answer, I opened up the lav door. The man tumbled towards me into my arms and I asked the man, "How are you hurt? How can I help you?" He replied it was his 'leg'. I looked down and saw a pool of blood on the lav floor, which began to stream out, in our decent, into the galley floor. The PAX from 18D rushed to help me hold the man and together we were able to assist him over to the closet available chair, which was the aft FA jumpseat. The floor continued to become soaked in blood. As we were trying to help the man from the lav, "A" FA saw what was happening and notified the Captain and asked for medical personnel to report to the back of the aircraft. She brought back the Grab & Go Kit and grabbed the EEMK [Enhanced Emergency Medical Kit] on her way back. I told the other PAX to stay with the injured man, and I grabbed the FAK [First Aid Kit] and broke the seals. Two men approached the aft galley and stated that they were doctors. The PAX from 18D and I let the doctors take over immediate care for the injured man, and we assisted by obtaining any items that the doctors needed. I gave them latex gloves, a bottle of water, trashbags, and items to construct a makeshift splint and tourniquet. The "A" FA continued to update the flight deck, and she prepared the rest of the cabin for landing. Once the splint was in place, the doctors moved the injured man to row 18. I helped the man fasten his seatbelt and the doctors propped his wounded leg up on 18 C. One of the doctors sat in 18D, and the other knelt in the aisle so that he could help support the man's wounded leg and keep it elevated. Less than a minute before landing, I knew that I would not have enough time to properly secure my aft galley, so I did the best I could with the time available. I secured as many items I as I could, but in order to prevent any stray articles from flying forward upon landing, I pushed any remaining items to the floor towards the forward bulkhead of the aft galley. Shortly before landing, I sat in my jumpseat and assumed the brace position. Upon arrival, I informed the PAX to please remain seated once we arrive at the gate because a medical response team was meeting our aircraft. We arrived at the gate and at the "A" FA's signal, I disarmed and crosschecked the 2L and 2R doors accordingly. Medical personnel boarded the aircraft and took over. The paramedics asked me if it was possible to deplane from the aft of the aircraft. I called and confirmed with the Captain that the 2L door could be used with a 'PAX Lift Unit'. I obtained the onboard wheelchair for the paramedics, at their request, and opened the 2L door, after receiving the "Okay" from the captain and ensuring the door was DISARMED. The man was then deplaned through the 2L door with the paramedics.

(20) Recommendations: I realized that there is simply not enough time in this type of emergency to get out the manual and flip through to find where each needed item is in the FAK and EEMK. I knew the brief overview of the EEMK in terms of BLUE, ORANGE, and YELLOW sections and where the trauma shears were and gloves, but as the doctors were asking for very specific items, I felt like I was stumbling through the medical bags to find them. I feel that if Flight Attendants were given the opportunity to have a 'hands-on' learning experience with the EEMK and FAK's that it would help cut down the 'searching time' and allow for more 'aiding time'. Also, whenever we arrived at the MSY gate, I was shocked to find out the paramedics did not bring a stretcher or anything of the sort, and it was left to us, the crew, to figure out a way to help the man off the aircraft so that the paramedics could take him to the hospital.
---------- End of Report ----------
****

2.5 Irregularity Report: Flight Attendant Sarah Jeffers

This information below was copied from an Irregularity Report filed by F/A Jeffers on August 10, 2010.

****
S5 Injury Illness Report

1. Report Filed By: Sarah Jeffers
2. Employee Number: [*personal identification information removed by David Tew, NTSB*]
3. Base: IND
4. Incident Date: 08/09/2010
5. Local Time: 1130
6. Flight Num: 7630
7. Flight Segment: ORD to MSY
8. Location: Aft Lavatory
9. Gate: C4
10. A/C type: EMB170
11. Tail: 856RW
12. Passenger Data

Passenger Name: Passenger A
Passenger Address:
Passenger City:
Passenger Phone:
Passenger Gender: M
Seat No.:

13. Medical Data

MedicalData1: Y
MedicalData2: N
MedicalData3: Y
MedicalData4: N
Physician Name: Passenger B
Physician Address:

Physician City:
Physician Phone: [*personal identification information removed by David Tew, NTSB*]
Medical Details: Passenger C (other doctor on board who assisted) [*personal identification information removed by David Tew, NTSB*]
14. Injury Type - Broken Bone(s)
Other Injuries:
Did you witness the incident: N
15. Flt Phase: Descent
16. Incident Location: Aircraft Lavatory
17. Conditions:
20. Witness Data
Witness Name: Passenger D
Witness Address:
Witness City:
Witness Phone:
Witness Gender: M
Other Witnesses/Details:
21) Passenger Name List requested: N

---------- Factual Description ----------
Shortly after the captain had illuminated the fasten seat belt sign indicating our initial descent during Flight 7630 from ORD to MSY on August 9th 2010, and despite the fact that the fasten seat belt sign announcement had been made, Passenger A left his seat to use the aft lavatory.

The airplane made a sudden shift in altitude. The A flight attendant was standing in the forward galley and was able to remain standing by grabbing the assist handle for the 1-R door.

After the A flight attendant felt stable to move around the cabin she began doing a walk through in the cabin to check on the passengers. After reaching the back galley with no issues with passengers she saw the B flight attendant and Passenger A standing together in the aft galley.

The B flight attendant had her arms underneath the armpits of Passenger A and appeared to be supporting his weight. Passenger A was explaining to the B flight attendant that something was wrong with his leg. The A flight attendant then observed a lot of blood on the floor.

Since the back interphone was blocked off by the B flight attendant and Passenger A, the A flight attendant walked to the front of the cabin to call the flight deck. As the A flight attendant was entering the first class cabin the pilots called the cabin via the interphone. The pilots asked if everything was ok in the cabin and the A flight attendant informed the flight deck that a passenger was cut and he was being assisted in the back galley. She informed the flight deck she was going to do a PA request for doctors and she would call them back with more information.

The A flight attendant made a PA requesting a doctors assistance in the aft galley. Two male passengers then reported to the aft galley (Passenger B and Passenger C). The A flight attendant went back to the aft galley to assess the situation. A passenger who was seated in 18D (Passenger D) had left his seat and was standing in the back galley assisting the B flight attendant. The two

doctors started attending to Passenger A. At this point, the B flight attendant informed the A flight attendant that the two male passengers who had come back were doctors. She stated the passenger was going to need to medical attention upon our arrival into MSY. She asked the A flight attendant to obtain as much information as she could about Passenger A.

The A flight attendant relocated the remaining passengers in row 18. The A flight attendant returned to the forward interphone and called the flight deck to inform them two doctors were assisting Passenger A and we would need medical assistance on the ground.

On her way back to the aft galley, the A flight attendant informed Passenger E[7] of the situation. The A flight attendant was unable to obtain much information from her but was given Passenger A's boarding pass. Passenger E was reseated in 18D to be near her husband. At this time, the A flight attendant observed the two doctors making a tourniquet on Passenger A's leg (who had been relocated to seats 18A and C). She observed the B flight attendant and passenger D handing the two doctors the items they requested from the First Aid Kits and the EEMK. She observed a lot of blood and also a bone protruding from the lower part of Passenger A's left leg. The B flight attendant informed the A flight attendant to retrieve the First Aid Kit from the forward galley.

The A flight attendant returned to the forward galley and retrieved the grab and go kit as well as the First Aid Kit. She made one final call to the flight deck to inform them that Passenger A's injury was more serious than initially reported to them but that there were doctors in the aft galley attending to him. The pilots informed her that the flight would be met by medical personnel at the gate and had obtained priority landing into MSY.

The A flight attendant then prepared the cabin for approach and landing by making the necessary PA and doing a compliance check in the cabin. Before returning to the forward galley to sit in her jump seat, she relocated the passengers in row 17 so that the passengers assisting the B flight attendant and Passenger A would have a place to sit for landing.

Upon landing in MSY and arriving at the gate, medical personnel boarded the aircraft to assist Passenger A.

---------- Recommendations ----------

---------- End of Report ----------
****

2.6 Statement: Pilots' Statement from the United States Air Force T-38 accident crew

During en route cruise from Fort Campbell AAF to Chenault field, while between VUZ tacan and McComb tacan. T-38 pilots were leveled at FL 280 and they saw another civilian airliner converging above them. The T-38 pilots rocked their wings as they crossed approximately 1 mile in front of the airliner. As they crossed in front, the T-38 pilots were watching the aircraft and it

[7] Passenger E name deleted by David Tew, NTSB

appeared to be wing level pointed at them, but slightly above. Upon crossing the civilian airliner's nose, the T-38 pilots continued to watch the civilian aircraft as it passed to their 6 o'clock. At that point the T-38 pilots saw the civilian airliner begin to maneuver. After the aircraft had passed behind the T-38, the T-38 pilots overheard the air traffic controller speaking with civilian aircraft about a TCAS resolution advisory. The controller confirmed with the T-38 pilots over the radio that they did not have them off altitude during the pass by. Investigation is underway

3.0 SHUTTLE AMERICA COMPANY INFORMATION

Shuttle America was established in 1995 and began operations on November 12, 1998 as a low-fare commuter airline, headquartered in Windsor Locks, Connecticut. The airline was currently headquartered in Indianapolis, Indiana and served as a feeder airline for both Delta Airlines and United Airlines.

The company filed for bankruptcy protection under Chapter 11 in April 2001. The company emerged from Chapter 11 in December 2001 under new ownership of Wexford Capital, LLC.

At the time of the event, Shuttle America had five crew bases: Atlanta, Georgia, Columbus, Ohio, Chicago, Illinois, Indianapolis, Indian, and New York, NY. The Shuttle America fleet contained 41 Embraer 170 jetliners operated as United Express under contract to United Airlines. The Shuttle America fleet also contained 16 Embraer 175 jetliners operated as Delta Connection under contract to Delta Airlines.

4.0 TRAFFIC ALERT AND COLLISION AVOIDANCE SYATEM (TCAS) GUIDANCE

4.1 The following information, in part, was provided to Shuttle America flight crews in the Shuttle America General Operations Manual, Chapter 15: Domestic Reduced Vertical Separation Minimums (DRVSM), Section 9: TCAS Operations in DRVSM, Pages 15-8 to 15-11, Revision 4, dated 15 FEB 06:

Section 9 TCAS Operations in DRVSM Airspace

TCAS has been modified for our operations in DRVSM airspace. The old version of TCAS was commonly referred to as Version 6.04a which was designed for 2,000 foot separation above FL290. The new modification is Version 7 which is specifically designed for DRVSM operations. The basic operating philosophy of TCAS has not changed, only the altitude thresholds have been modified.

A. TCAS in DRVSM Airspace:

1. TCAS should be operated in the TA/RA mode during all operations in DRVSM airspace.

2. Climbs and descents ***will be limited to 1000 fpm*** *when*

operating within five (5) NM and +/-2000 feet to known traffic to help alleviate TCAS warnings.

3. While TA/RA alerts will not be commonplace in DRVSM airspace, factors that might create TA/RA alerts while operating in close proximity to other aircraft include:

- *Moderate or severe turbulence.*
- *Two aircraft maneuvering to attain 1000 foot vertical separation at clearance altitude with a combined vertical speed greater than 1500 FPM.*
- *Passing/being passed while operating within 1000 feet above/below (Typically T/A, which is more common than a RA.).*

4. If an RA is encountered while in DRVSM Airspace, crews will:

- *Follow the RA in accordance with Shuttle America procedures*
- *Advise ATC of the RA.*
- *Return to the assigned flight level (FL).*
- *Fill out the appropriate Irregularity Report.*

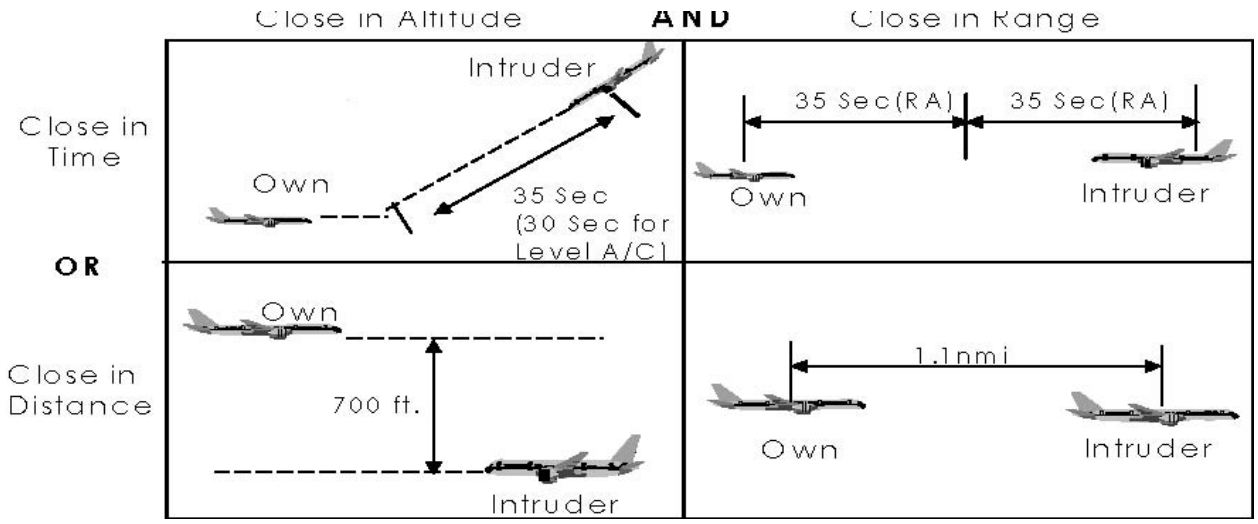
C. Revised Aural Annunciations

The following table depicts the revised Aural Annunciations for TCAS Version 7. The revised annunciations are highlighted:

TCAS Advisory	***Version 6.04a Annunciation***	***Version 7 Aural Annunciation***
Traffic Advisory	*Traffic, Traffic*	*Traffic, Traffic*
Climb RA	*Climb, Climb, Climb*	*Climb, Climb*
Descend RA	*Descend, Descend, Descend*	*Descend, Descend*
Altitude Crossing Climb RA	*Climb, Crossing, Climb; Climb Crossing Climb*	*Climb, Crossing, Climb; Climb Crossing Climb*
Altitude Crossing Descend RA	*Descend, Crossing Descend; Descend, Crossing Descend*	*Descend, Crossing Descend; Descend, Crossing Descend*
Reduce Climb RA	*Reduce Climb, Reduce Climb*	*Adjust Vertical Speed, Adjust*
Reduce Descent RA	*Reduce Descent, Reduce Descent*	*Adjust Vertical Speed, Adjust*
RA Reversal to a Climb RA	*Climb, Climb, NOW; Climb, Climb NOW*	*Climb, Climb, NOW; Climb, Climb NOW*
RA Reversal to a Descend RA	*Descend, Descend NOW; Descend, Descend NOW*	*Descend, Descend NOW; Descend, Descend NOW*
Increase Climb RA	*Increase Climb, Increase Climb*	*Increase Climb, Increase Climb*
Increase Descent RA	*Increase Descent, Increase Descent*	*Increase Descent, Increase Descent*
Maintain Rate RA	*Monitor Vertical Speed*	*Maintain Vertical Speed, Maintain*
Altitude Crossing, Maintain Rate RA (Climb and Descend)	*Monitor Vertical Speed*	*Maintain Vertical Speed, Crossing Maintain*
Weakening of Initial RA	*Monitor Vertical Speed*	*Adjust Vertical Speed, Adjust*
Preventive RA (No change in vertical speed required)	*Monitor Vertical Speed, Monitor Vertical Speed*	*Monitor Vertical Speed*

RA Removed	*Clear of Conflict*	*Clear of Conflict*

D. Threat Detection Criteria



4.2 The following information, in part, was provided to Shuttle America flight crews in the Shuttle America ERJ-170 Pilot Operating Handbook, Chapter 6: Abnormal Procedures, Section 12: TCAS, Pages 6-42, Revision 1, dated 15 MAR 2006:

Section 12 TCAS

A. TCAS Procedures

1. During the Before Start Checklist and flow, both pilots will activate the TCAS on their respective MFD.

2. Activate the MAP menu and select the TCAS title button using the CCD cursor pad. Push ENTER.

3. To control the TCAS display, move the cursor to the TCAS menu title and push ENTER. The TCAS menu is displayed. Select range, absolute altitude (ABS) and Normal or Expanded as desired.

B. TCAS Warnings

1. Traffic Advisory (TA)

a. If receiving a TA, do not maneuver based on a TA alone and attempt to see the reported traffic.

2. Resolution Advisory (RA)

If receiving an RA

Trigger	***PF***	***PM***
RA	*• Press and hold the TCS button (if autopilot is engaged)* *• Follow RA PFD guidance* *• Respect stall, GPWS, or windshear warnings* *• Maintain desired Airspeed* *• Perform a go around procedure with a CLIMB RA and the aircraft in a landing configuration*	*• Verify all actions have been completed and call out any omissions* *• Monitor airspeed* *• Advise ATC* *• Attempt to see reported traffic*
Clear of Conflict	*Release TCS and establish appropriate vertical/lateral modes to return to last ATC assigned altitude*	

Submitted by:

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Aviation Safety Investigator - Operations
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