

NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF AVIATION SAFETY
WASHINGTON, D.C.

October 31, 2000

Survival Factors Group Chairman's Factual Report of Investigation

A. Accident : DCA00MA030

Location : Burbank, California

Date : March 5, 2000

Time : 1811 Pacific Standard Time ¹

Airplane : Boeing 737-3T5, Flight 1455, N668SW

Operator : Southwest Airlines

B. Survival Factors Group

Chairman : Mark H. George
National Transportation Safety Board
Washington, D.C.

Member : Tammy Akers
Transport Workers Union – Local 556
Dallas, TX

Member : Victoria Anderson
Federal Aviation Administration
Washington, DC

¹ All times are reported in Pacific Standard Time unless otherwise noted.

Member	:	Bruce Malcolm Air Cruisers Company Renton, WA
Member	:	Michael Massoni Transport Workers Union Dallas, TX
Member	:	Jon Otiker Southwest Airlines Dallas, TX
Member	:	Lauren Peck Southwest Airlines Dallas, TX
Member	:	Russell D. Stephens, Jr. International Brotherhood of Teamsters Dallas, TX
Member	:	Bob Thomas Southwest Airlines Pilots Association Baltimore, MD
Member	:	Tamara Swann Federal Aviation Administration Louisville, KY
Member	:	Herman Wallawine Boeing Aircraft Company Renton, WA

C. Summary

On March 5, 2000, at 1811 PST, Southwest Airlines flight 1455, a Boeing 737-300, over ran runway 08 at the Burbank Glendale Pasadena Airport, Burbank, California, and collided with an airport blast fence and airport perimeter wall. The airplane left the airport property, and came to rest on Hollywood Way Boulevard. There were 137 passengers, three flight attendants, and two flight crew onboard flight 1455. One passenger was an off-duty Southwest Airlines flight attendant. Ninety-four passengers and four crewmembers sustained no injuries. Forty-one passengers and one flight crewmember sustained minor injuries. Two passengers sustained serious injuries. The airplane was destroyed during the accident.

D. Details of the Investigation

1.0 Airplane Configuration

The airplane was configured with 137 coach-class passenger seats, 2 cockpit flight crew seats, 2 cockpit observers' seats, an aft-facing double flight attendant jump seat on the forward bulkhead, and a forward-facing double flight attendant jumpseat on the aft bulkhead (see figure 1, cabin configuration).

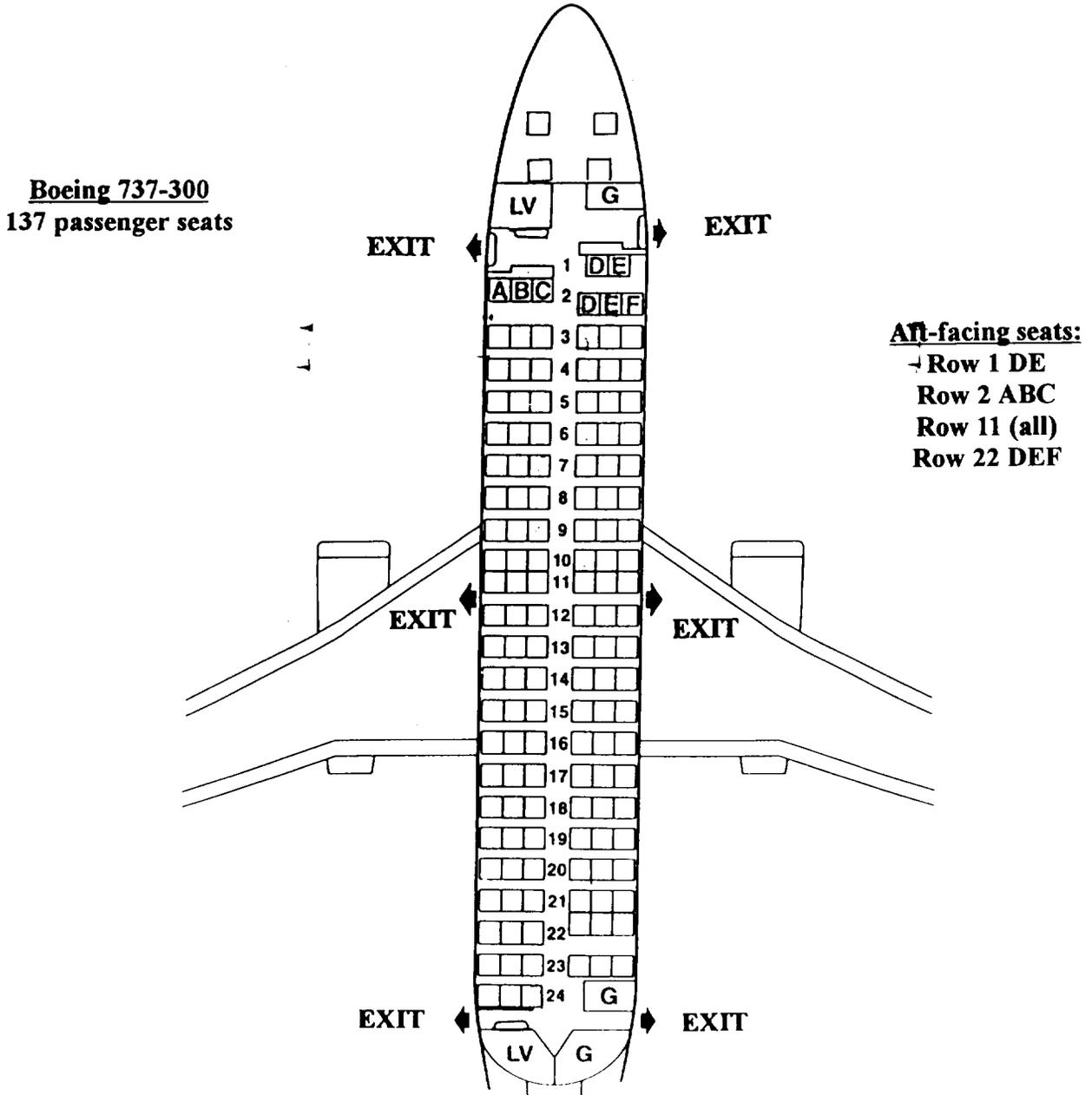


Figure 1.
Cabin configuration

2.0 Crew Information

2.1 Cockpit Crew Interviews

Summaries of flight crew interviews are included in the Operations Group Factual Report.

2.2 Cabin Crew Interviews

On March 7, 2000, the Survival Factors Group interviewed the 3 flight attendants assigned to the flight, and one off-duty flight attendant who was traveling in uniform. The following are summaries of those interviews.

Flight attendant "A"

Forward jump seat, outboard

Age: 38, Height: 5'5", Weight: 117 lbs.

She was not in the "brace" position, and had not completed a "30 second review" prior to landing.² The approach seemed "smooth," but a little faster than normal. The landing was also "smooth," but the airplane did not seem to be slowing down after it was on the runway. She did not think the airplane would stop, and expected it to take off again. The airplane made a right turn and she heard crashing noises. The forward galley slide "came out and inflated" while the airplane was still moving. The windscreen and jumpseat diverted the slide away from her. The airplane came to a stop. She could not see into the cabin because the slide blocked her view. She listened for an evacuation command from the flight deck, but did not hear one. She looked out the window and saw a gas station. She got out of her jumpseat and opened the forward boarding door. The door would not open all the way, but it opened enough for the slide to deploy. The slide deployed and inflated, but was "twisted around" a fire hydrant directly outside the door.

The "C" flight attendant asked her for assistance out of the forward jumpseat because she was pinned by the inflated galley slide. She unfastened the "C" flight attendant's lap belt. From inside the cockpit, the first officer kicked out the upper panel of the cockpit door, reached into the cabin, and pushed the slide back so the "C" flight attendant could get up from the jump seat. There was an off-duty flight attendant who came to the front of the cabin and redirected passengers aft. Flight attendant "A" attempted to use the PA system to begin commands, but the PA system did not work. She told the off-duty flight attendant to use the megaphone to direct the passengers to the rear. She did not remember whether or not the emergency lights were on. She saw a pilot standing on the ground outside the airplane. She asked him if passengers were evacuating from the back. He said that they were. She tried to call the "B" flight attendant on the interphone to verify that passengers were evacuating, but there was no answer. She looked out the door and saw people exiting from the left over wing exit. A man on the ground outside the 1L

² Southwest Airlines' procedures call for flight attendants to assume the "brace-for-impact" position, and to perform a "30 second review" prior to every takeoff and landing. Excerpts from the Southwest Airlines flight attendant manual detailing these procedures are in Attachment 1.

door identified himself as a doctor and offered to help with any injuries. She helped him up into the airplane through the boarding door to help the captain.

The passengers evacuated in an orderly manner. She called to passengers who had already evacuated to “stay together and move away from the airplane.” She instructed passengers not to take their carry-on baggage with them. A Southwest Airlines operations supervisor passed a knife up to her from the ground to stab and deflate the galley slide. The operations supervisor came into the airplane and assisted the doctor in getting the captain off of the airplane. A fireman came down the aisle and said to get everyone off the airplane. She exited through the forward entry door, using the fire hydrant to step down to the ground.

Flight attendant “B”

Aft jumpseat

Age: 32, Height: 5’5”, Weight: 140 lbs.

She always sits in the “brace” position when landing at Burbank because of the steep approach and short runway. She did not do a “30-second review.” The landing seemed “normal,” but “really, really fast.” She looked out the window on the 2L door and realized the airplane was not stopping. The airplane turned right and started shaking. During the shaking, she was “thrown around” on the jumpseat. The aft entry light cover came unhooked and swung down. The galley contents remained secure. The airplane stopped and it was very quiet. The cabin was “hazy” and she smelled burning rubber. She got off the jumpseat and looked out the window on the 2L door to assess conditions. She expected to hear an “evacuate” command, but none came. She tried to use the interphone to call the flight attendants in the forward part of the airplane. The “chimes” worked, but the interphone did not. Passengers gathered at the back of the plane and yelled at her to open the door. She heard the off-duty flight attendant in the front of the airplane yell for passengers to exit toward the back, so she opened the aft, left door. She did not turn on the emergency lights because it was light enough in the cabin, and she wanted to get the door open. She did not open the right door because the attitude of the airplane was “nose down, rolled left,” and the left slide barely touched the ground. She assumed the right slide would be too steep to use. She told the first passenger at the door to stay at the bottom of the slide and steady it for the rest of the passengers.

Passengers tried to evacuate the airplane with their luggage. She told them that they could not take their bags, and most were compliant. One passenger threw his suitcase down the slide, hitting another passenger on the slide. After all of the passengers were off the airplane, she retrieved the megaphone. A firefighter came down the aisle and told her to get off the airplane. At that time, the main cabin lights went out. She dropped the megaphone and exited through the aft, left exit. She did not observe passengers evacuate through any exit other than the aft, left exit. She thought the evacuation was “controlled,” and went “smoothly.” There were no lap children or non-ambulatory passengers on board.

Flight attendant "C"

Forward jump seat, inboard

Age: 37, Height: 5'5", Weight: 125 lbs.

She briefed the passengers at the over wing exits during boarding. The passengers at the overwing exits told her she had "six strong guys there." The approach seemed "normal." She had her feet flat on the floor, her hands by her sides, and she did a "quick" review of safety procedures before landing.

After the airplane was on the ground, it suddenly turned to the right as if it was turning onto a taxiway, but she thought that it was going too fast to do that. The airplane was vibrating badly. The galley slide inflated during the right turn, and pinned her in the jumpseat. She noticed her jumpseat had broken, with the back of the seat slanted toward the floor. She saw and smelled "fumes" in the cabin. She did not hear any commands from the flight deck. The "A" flight attendant helped her get her lap belt unfastened. The first officer leaned through the cockpit door and helped her out of her harness.

She looked into the cockpit and saw the captain sitting in his seat. He had blood on him. A doctor came to the forward entry door and climbed onboard to help the captain. Someone handed her a knife to slash the slide. She slashed the slide, but it did not deflate. A firefighter in the cabin (aft of the slide) told her to get the few remaining passengers at the front of the cabin off the airplane. She helped the passengers over the slide and through the forward entry door. She exited through the forward entry door. She noticed the main cabin lights were on during the evacuation, but went out after the passengers were all out.

Flight attendant (off-duty)

Age: 44, Height: 5'9," Weight: 129 lbs.

She was off-duty on the flight segments from Oakland to Las Vegas and Las Vegas to Burbank (flight 1455). There was a 2-hour delay on flight 1455. During the delay, she met the crew. She was not sure if she was seated in row 4 or 5, but remembered it was the "C" seat (on the aisle, left side). On approach, the airplane speed seemed "very high," but the approach felt "smooth." She based her description of the approach on her experience as a private pilot (approximately 220 hours); the feeling on prior landings; and from looking out the window. After the airplane landed, she felt the brakes being applied and released, several times. She felt a sharp right turn and heard a loud noise. The ride became "bumpy." She saw passenger service units (PSU's) swing down and strike passengers. She did not notice any oxygen masks that dropped. She saw "debris" flying around the airplane. The passenger seated next to her "panicked" and grabbed her by the neck before the airplane stopped.

The airplane came to an "abrupt" stop. She did not hear any announcements from the cockpit. She noticed that the main cabin lights were on, and remained on throughout the evacuation. The emergency lights were not on. She ran to front of airplane and observed the galley slide deployed

and inflated inside the airplane. The "A" flight attendant was trapped in the forward entry area and "C" flight attendant was trapped on the jump seat.

She realized the forward exits were blocked. She turned around, crossed her arms over her chest, and yelled to the passengers, "This exit is blocked, move to the back." The "A" flight attendant told her the public address (P.A.) system was not working, so she grabbed the megaphone and continued redirecting passengers toward the rear of the airplane. She saw a passenger trying to remove a carry-on bag from the overhead bin. She began yelling commands to the passengers to "leave their belongings." The passengers did not panic and they followed her orders.

A passenger offered her a knife to puncture the slide. She declined because she was afraid it would "burst and hurt someone." She turned and saw the captain leaning over the inflated slide. He was "bloody and hurt." She asked him twice if he was okay. He acknowledged her the second time she asked.

Three to five passengers went forward, over the inflated slide, and exited the airplane through the forward entry door. A firefighter approached from the rear of the airplane, and told her to get off the airplane. The cabin lights went off. She asked the firefighter if all passengers were out of the airplane, and he said "yes." She walked down the aisle toward the rear of the airplane, checking for passengers. She noticed that the left over wing exit plug was removed. She walked back to the front of the airplane. She and the "C" flight attendant then stabbed the slide with the passenger's knife, but it did not deflate. She did not observe the pilots evacuate. She and the "A" flight attendant were the last occupants to leave through the forward entry door. She was assisted off the slide by a Southwest Airlines captain who had come from the terminal. Once she was off the airplane, she was taken by a tug to a phone, and she called her husband. Afterward, she returned to the airplane to assist with the passengers.

2.3 Flight Attendant Training

All of the flight attendants were qualified on the B737-300 airplane. Excerpts from the Southwest Airlines initial and recurrent training programs are contained in Attachment 2.

Flight Attendant Name and Position	Hiring Date	Initial Training Completion Date	Recurrent Training Completion Date
Cyndie Williams (A)	04/22/94	04/24/94	01/07/00
Beth Fearn (B)	09/27/95	09/29/95	02/20/00
Susan Leino (C)	03/26/99	04/03/99	N/A
Wanda Zimmer (off-duty)	05/23/96	06/01/96	05/31/99

3.0 Witness Interviews

*Southwest Airlines captain
Phone interview, 3-9-2000*

He was sitting in an airplane parked at gate 6 at the Burbank airport. His flight had arrived at approximately 1747. He heard a noise, looked out the left cockpit window, and saw a hole in the blast fence. He unfastened his seatbelt, grabbed a Halon fire extinguisher from the airplane, and ran to the accident airplane. He approached the airplane from the "five o'clock" position, and ran around the airplane's left side. He saw passengers exiting the airplane from the aft left exit. He went around the left wing and proceeded toward the front of the airplane. He saw people "milling around" by the left front of the airplane, so he advised them to move away. He saw passengers exiting the airplane from the left over wing exit. They were getting to the ground by sliding off the leading and trailing edges of the wing. He helped 2 or 3 passengers down from the leading edge of the wing. He saw fuel leaking from the airplane. He looked toward the forward entry and noticed that the door was about one third of the way open. He saw one or two flight attendants and the first officer inside the airplane. The forward entry door was about 3 feet above the ground. He saw a slide that was inflated inside of the airplane. He went to the left cockpit window and looked at the captain. He noticed that the captain was bloody, and was "flipping" cockpit switches. The captain appeared to be in shock, and his activities in the cockpit did not seem "coordinated." He helped three flight attendants out of the forward entry door. The escape slide for the front left exit was on top of a fire hydrant. He looked toward the back of the airplane and noticed that there were no more people exiting from the left side of the airplane. He walked to the right side of the airplane, and saw an undamaged, metallic blue car with no one inside. He returned to the left side of the airplane. He got in an ambulance with the captain and first officer from the accident airplane and rode with them to a hospital.

*Southwest Airlines captain
Phone interview, 3-10-2000*

He was seated in the cockpit of a Southwest Airlines airplane parked at gate 3 at the Burbank airport. He heard his first officer ask, "Are they going to stop?" He looked to his left and saw an airplane penetrate the blast fence. He saw a "ball of fire" and smoke come from the engines. The airplane veered to the right and went out of sight. He got a ride on a tug and proceeded to the crashed airplane. He got off the tug and ran through the debris to the right side of the crashed airplane. He saw passengers coming out the right over wing exit and standing on the right wing. He directed the passengers off of the wing by sliding down the trailing edge flaps. He went to the left aft side of the airplane where he observed passengers leaving the airplane through the left aft exit. Two people were holding the slide and passengers were coming down the slide with no trouble. The evacuation was well-organized even though the slide was at a steep angle. He went to the left wing and saw passengers on the wing "milling" about. He saw "a couple" of passengers come down off the trailing edge of the wing. He yelled for the rest of the passengers to come down that way, too. He also saw a couple of passengers go off of the leading edge of the wing. He ran under the airplane to the right wing again. The evacuation out of the right over wing exit was "pretty much finished," so he ran under the airplane again to the left of the

airplane. He saw 8 passengers exit from the right over wing exit, and 6 passengers exit from the left over wing exit. He saw the last few people come off of the left aft slide.

He went to the front of the airplane. As he passed under the left wing where he noticed a “good-sized puddle” of fuel on the ground. There were passengers “milling around” by the airplane, so he told them to move away, and go down the road that was perpendicular to the airplane’s left side. There were three pilots at the front, left side of the airplane. One pilot was sitting on the ground and the other two were standing above and behind the seated pilot. He noticed that the forward entry door was only partially open due to a light pole blocking its full path. The escape slide had deployed but was bent under the airplane door and “wrapped around” a fire hydrant. He helped two flight attendants come down from the left front door.

He stepped up on the fire hydrant and pulled himself inside the front left door. The slide from the forward service door had inflated inside of the airplane and looked like a “crumpled ball.” It was “out of the way” enough for him to get by. In the cabin, he noted that luggage was “everywhere,” large ceiling panels were hanging down, and PSUs were hanging down. It was “just dark enough” in the cabin that he could not clearly see. He thought that the emergency lights were on but was not certain.

He grabbed the emergency flashlight from the forward flight attendant station. Then, he went aft down the aisle to look for passengers that might be still on board. He walked to the back of the airplane. There were many pieces of luggage in the aisle, and “tons” of bags in the aft galley area. He walked back to the front of the airplane and noticed lights on the instrument panel in the cockpit. He wanted to check the positions of the switches. The cockpit door was jammed shut and the upper panels were missing. A firefighter helped him climb into the cockpit. From the positions of the switches, it appeared that the evacuation checklist had been “fairly well” completed. The only action he took was to close the cover to the standby power switch. He confirmed that the auxiliary power unit (APU) had been shut down. He kicked the cockpit door in order to get it open enough for him to leave the cockpit. He noticed that the forward flight attendant jumpseat was jammed and would not go into its “stowed” position. He and a firefighter left the airplane through the forward entry door.

Outside the airplane, he saw firefighters spraying foam under the airplane. There were no passengers near the airplane. A paramedic was attending to the captain of the accident airplane. The left wing had stopped leaking fuel. The fire chief asked him how much fuel was on board the airplane. He estimated the fuel at 6000 to 7000 pounds. A representative of the NTSB showed up and took various things from the airplane cockpit. He, the captain and first officer from the accident airplane, and a passenger were taken from the scene in an ambulance.

Southwest Airlines Operations Supervisor, Burbank
Interviewed 03/10/00

He did not see the actual crash, but saw the damaged fence on a monitor in “Operations.” He ran downstairs, got on a belt loader, and arrived at the crashed airplane before the fire trucks. The passenger evacuation was in progress from the left, aft exit, but he did not see anyone coming out the right side of the airplane. The egress from the left aft slide was going well, so he went to

the left wing and he helped "a few" passengers off the trailing edge. He went underneath the left wing and noticed a small puddle of fuel that had come from a leak near the outboard leading edge of the wing. He went to the left, forward entry door. The door was up against a light post which prevented it from full opening. He estimated that it had swung an arc of "approximately 135 degrees" before it contacted the light pole. The door threshold was approximately "chest height." The slide at the forward entry door had inflated and "twisted around" a fire hydrant. The left cockpit window was open, and he could see the captain flipping switches and looking "dazed." He observed blood on the captain. He did not see the first officer. He assisted a female passenger from the airplane. He deflated the slide at the forward entry door by opening the deflation valve. He observed a slide that had inflated inside the forward galley. It was approximately waist high. He handed his knife to one of the flight attendants who tried to puncture the slide, however it did not deflate. He then climbed up into the airplane and stabbed the slide "a couple" of times. Inside the airplane, there was enough light that he could see all the way to the back, but was not sure if the emergency lights were on. The upper panel on the cockpit door panel was missing. He helped the captain out of the cockpit through the place where the panel was missing. He did not see the first officer in the airplane. He saw two flight attendants in the forward entry area, and a Southwest Airlines captain that came from the rear of the cabin. He helped the captain of the crashed airplane out of the forward entry door with the assistance of a fireman on the ground. He helped the two flight attendants out of the airplane through the forward entry door, and then exited. He estimates that he was inside the airplane for about one minute.

After he left the airplane, he began moving passengers to the north of the airplane, aft of the tail. He said that there were six flight attendants in the vicinity, and was not sure where they all came from. He went to right side of the airplane and saw a light gray car with no occupants. He did not notice any lighting on the outside of the airplane.

4.0 Passengers

Southwest Airlines does not assign seats to passengers. Any reference to seat numbers in this report was self-reported by the passengers.

4.1 Passenger Interviews

Passenger questionnaires were mailed to passengers approximately two weeks after the accident. To date, 51 questionnaires have been returned to the Safety Board, and are in Attachment 3. The following passengers were selected for interviews based on information obtained through passenger questionnaires, which indicated they observed the emergency evacuation in the overwing exit area.

Seat 7B

Male, age 57, 5'6," 195 lbs.

Telephone interview 5-25-2000

He was sitting in row 7, seat B, and his wife was in seat 7A. The flight was very smooth. As they neared Burbank, the airplane suddenly rolled "significantly" to the left and headed for the

runway. It was "like the pilot was going on a strafing run." The airplane struck the runway very hard, and the pilot immediately applied brakes and the "reversers." The braking action was so "forceful" that the airplane "shuddered and groaned" as it tried to slow down. The airplane veered right and impacted a fence. He saw "parts flying" off the airplane, and heard "metal grinding" as the airplane went through the fence. When the airplane stopped, he got up and started to go aft. As he did, he saw a pilot (wearing a hat) trying to get out of the cockpit. The lights inside the airplane went off for a second and then came back on. He proceeded aft to the left overwing exit. He did not notice if the right overwing exit was open. Along the way, he observed other passengers retrieving their luggage. He and his wife went out the left overwing exit, and slid down the trailing edge of the wing to the ground. A man from the gas station nearby helped them off of the wing. A police officer directed him to a parking lot. He and his wife "flagged down" an airport shuttle van, and were taken back to the terminal.

Seat 11A

Male, age 31, 6'2," 180 lbs.

Telephone interview, 5-12-2000

He had read the passenger information card, and remembered that during boarding, a flight attendant had alerted the passengers in his section of the airplane that they were seated in an exit row. The approach was very "steep." The passengers around him were commenting about how "steep and fast" it was. After the airplane landed, he observed the spoilers on the left wing deploy, and felt "very strong" deceleration forces. The airplane veered "hard" to the right and he observed the left engine and wing strike a fence. When the engine contacted the fence, he saw fire "shoot out" of the engine. He thought that parts would fly off the engine, so he ducked his head. After the airplane came to a stop, some of the passengers stood up, and he heard someone say, "Get the exit open." He did not hear the flight attendants. He stood up and opened the left over wing exit, then threw the hatch out of the airplane, and off the leading edge of the wing. He was surprised at how easily it opened, and how light it was. He stepped out onto the wing. Other passengers followed him out. There was no panic among the passengers. One passenger jumped off the leading edge of the wing near the left engine. He thought that that was dangerous because he could hear the engine still turning, and it seemed higher off the ground than the back of the wing. He looked at the forward exit on the left side of the airplane and noticed that the slide seemed to be bent at an unusual angle. He looked at the aft exit on the left side and thought that the slide looked steep, but he could see passengers using it. He slid down the trailing edge of the wing and helped people get from the wing to the ground. A short time after he reached the ground, the wing flaps extended further. Two of his traveling companions stayed up on the wing and helped passengers get to the ground. There was a pilot on the ground directing passengers to go aft, toward the tail, and move away from the airplane.

Seat 12B

Male, age 33, 6'1," 190 lbs.

Phone interview: 5/2000

He had flown into Burbank many times before and by comparison, this approach seemed "steeper and faster" than usual. The airplane landed "solidly," and the passengers started clapping. The braking forces were "significant." He was looking out the window and saw the

spoilers deploy on the left wing. The airplane suddenly turned to the right. He saw the left engine hit a fence and “belch a fireball” out the engine’s aft end. When the airplane stopped, there was a “haze” in the cabin. Passengers began standing up and yelling. A passenger across the aisle opened the left overwing exit, and threw the exit hatch out of the airplane. He did not see or hear any of the flight attendants. He was the second or third person out of the left overwing exit. While he was on the wing, he heard the left engine “spinning down.” He slid to the ground from the leading edge of the wing, outboard of the engine. He helped several other passengers off the wing at the same place he got off the wing. He saw fuel leaking from under the left wing. He saw the aft, left slide, and it was at a “very steep angle.” He did not notice the front, left exit. Firemen sent passengers away from the airplane, toward the tail.

Seat 12D

Female, age 38, 5’3,” 107 lbs.

Phone interview: 5/2000

Before takeoff, she listened to the safety briefing, and remembered a flight attendant had also briefed the passengers in her area that they were seated in an exit row. Her husband was seated in 11D, and had studied the placard on the right overwing exit during the briefing. The approach was “fast and steep” all the way down. After landing, the passengers applauded. The airplane made a “sharp bank to the left.” She heard “crashing” sounds, and saw debris and dust “flying around” outside the airplane. After the airplane stopped, a passenger behind her yelled, “Get the door open!” Her husband opened the right overwing exit hatch, dropping it on the lap of the passenger in 11F. He then picked it back up, and threw it out the exit. She, her husband, and the 4 remaining passengers from rows 11 and 12, seats D, E, and F went out the right overwing exit. She did not see any passengers or rescue personnel on the right side of the airplane. After they were out on the right wing, they decided that the wing was too high for them to jump to the ground, so all six passengers re-entered the airplane through the right overwing exit, crossed the aisle, and evacuated through the left overwing exit. She slid down the trailing edge of the left wing onto the ground. She was bused back to the terminal.

5.0 Description of site

The airplane left the Burbank airport property and stopped on Hollywood Way Boulevard. Refer to the Structures Group Chairman’s Factual Report for location and description of external damage.

6.0 Airplane Documentation

6.1 Cockpit

There was dried blood on the console, and on the map light above the captain’s seat.

6.2 Cabin

Both emergency flashlights were present in the charging bracket above the forward flight attendant jumpseat, and were operational. Both emergency flashlights were in the charging

bracket above the aft flight attendant jumpseat, and were operational. The two megaphones were removed from their stowage positions (see Attachment 6). One was found in passenger seat 22D, and the other was found in passenger seat 24D. Both were operable. The forward flight attendant control panel switches were in the following positions: entry light switch – “off,” work light switch- “off,” window lights – “dim,” ceiling lights – “dim,” ground service toggle – “off.” The interphone handset was hanging by the cord. The aft flight attendant control panel switches were in the following positions: entry light switch – “off,” work light switch – “off,” emergency light switch - red cover in down position, switch set to “normal.” The group did not document the position of the handset at the aft flight attendant station. Safety Board investigators from the Los Angeles field office documented the location and weight of all carry-on luggage remaining inside the airplane after the accident. This information is in Attachment 4.

A Survival Factors Group member (representing the Transport Workers Union) observed the airplane on the evening of the accident, before the airplane was moved. He stated that:

“The forward and aft galleys were intact, and all compartments were closed and secured by one of two available latches. The aft closet door was open, and all contents were secured except for 2 carpet sweepers that were on the floor in the aft entry area.”

6.2.1 Cabin Damage

Cabin damage was limited to displaced passenger service units (PSU's), PSU spacers, and interior trim.

- Row 1, seats DEF, aft side of PSU open.
- Row 2, seats ABC, dislodged window reveal (frame).
- Row 2, seats ABC, PSU hanging by maintenance lanyard.
- Row 2, seats DEF, spacer panel above seats dislodged and lying on floor between rows 1&2.
- Row 3, seats DEF, spacer above seats was hanging on electrical wires.
- Row 4, seats ABC, PSU was hanging on maintenance lanyard.
- Row 4, seats DEF, PSU was hanging on maintenance lanyard.
- Row 5, seats ABC, PSU was hanging on maintenance lanyard.
- Row 5, seats DEF, oxygen panel was down and masks were deployed.
- Row 5, seats DEF, PSU spacer was bent downward.
- Row 6, seats ABC, PSU forward edge was slightly open.

- Row 6, seats DEF, PSU was hanging on maintenance lanyard.
- Row 7, seats DEF, spacer panel was found on floor.
- Row 8, seats ABC, spacer panel was found on floor.
- Row 8, seats DEF, spacer panel was found on floor.
- Row 8, seats DEF, sidewall panel was deformed inboard.
- Rows 7&8, seats DEF, ceiling panel was hanging on short lanyard.
- Row 9, seats ABC, exterior window was cracked.
- Row 9, seats DEF, spacer panel was pushed up.
- Rows 7, 8, 9, and 10, seats ABC, all PSU & spacer panels were moved aft approximately 1-1/2 inches.
- Row 10, seats DEF, oxygen panel was open, and masks were deployed.
- Row 11, seats ABC, inboard, aft corner of PSU was down approximately 1 inch.
- Rows 13 and 14, seats DEF, PSU panels were shifted aft approximately 1 inch.
- Row 16, seats ABC, outboard edge of spacer panel was open and down approximately ½ inch.
- Row 16, seats DEF, spacer panel was found on the floor.
- Row 18, seats ABC, outboard edge of spacer panel was open and down approximately ½ inch.
- Row 18, seats DEF, spacer panel was found on the floor.
- Row 21, seats ABC, inboard aft corner of PSU was open approximately ½ inch.
- Rows 21 & 22, seats ABC, left ceiling panel was down, and found on the floor. The short lanyard showed no signs of damage. The long cable swage had failed.
- Aft entry way light lens, hinged on one edge, hanging on the short lanyard.

6.3 Exits

The forward left (1L), aft left (2L), and both type III overwing exits were opened and used during the evacuation. A flight attendant from the accident airplane reported that the 1L exit door did not open fully. The forward right (1R), and aft right (2R) exits were not opened. All exits were examined after the airplane was returned to the airport, and were undamaged and operable.

6.4 Escape slides

The 1L escape slide deployed and inflated when the 1L exit was opened. The outside surface of the slide cover for the 1R slide was dented (Photo 11). There were scratch marks on the aft side of the slide cover. The lower pan shelf piano hinge on the 1R slide cover was deformed downward. The door interior lining top panel was indented inboard at a point approximately 28" from the forward edge of the door. The gauge-viewing window was missing from the cover. The 1R slide had two longitudinal cuts on the left main tube, one near the center restraint, and one near the upper flotation handle. Neither of the toe restraints (part #19347-105) had deployed. The mid restraint assembly on the left side was intact.

The 1L, 2L, and 2R escape slides were examined after removal from the airplane, and were undamaged.

A Survival Factors Group member (representing the Transport Workers Union) observed the airplane on the evening of the accident, before the airplane was moved. He stated that:

“The 2R slide was found in the door-mounted slide pack with the girt installed in the floor girt bar brackets.”

The group member stated that he disarmed the slide, and placed the girt bar in the stowage brackets.

Escape Slide Documentation	
1L	Air Cruisers, part number: ACC 61620-468, customer number: 052A, Date of manufacture: 01/91, last inspection: 06/99, next inspection: 01/2002. Three information placards on slide cover: 1) "caution escape slide - no seat," 2) "slide inflates automatically when engaged and door is opened," 3) "Air Cruisers SB 103-25-23R1 accomplished." Cover part number located on inside surface of cover, 65-56682-xx, 2/2/93, assembly part number 65.
1R	Air Cruisers, part number: ACC 31591-478, customer number: 317, Date of manufacture: 03/86, last inspection: 12/99, next inspection: 06/2002, On the inside of the slide cover: "LH FWD, IL28, SB25-12-02 incorporated." On the pan: "ACO-3257-25, revision #2 CW." Placards on the inboard face of the cover: 1) "caution escape slide - no seat," 2) "Air Cruisers SB-103-25-23R1 accomplished," 3) "slide inflates automatically when engaged and door is opened," 4) "latch installation placard," 5) "this door/aircraft modified per AD-91-24-04, SB 103-25-19, installation of slide without SB incorporated in not allowed Reference MA EO 25-60-01, MA-737-25-03," 6) Temperature compensating placard (below gauge viewing window).

Escape Slide Documentation	
2L	Air Cruisers, part number: ACC 61323-469, customer number: 1038A, Date of manufacture: 06/96, last inspection: 01/99, next inspection: 07/2001. Same placards as on the 1L slide.
2R	Air Cruisers, part number: ACC D31354-433, customer number: 770, Date of manufacture: 11/86, last inspection: 01/98, next inspection: 09/2000, bottle gauge reading in the "green" band. Same placards as on the 1L slide.

6.5 Seats and restraints

The cockpit seats, restraints, and inertia reels were undamaged and functional. There was a bloodstain on the captain's right shoulder harness, 14 inches from the buckle.

The forward double flight attendant jumpseat seat pan inboard seat pivot arm bracket was sheared through the bottom of the shaft pivot hole. The seat pivot arm and seat pan were displaced 5 inches downward on the inboard side, and jammed into the side frame. The mounting bolts for the pivot bracket were loose, allowing the bracket to translate laterally approximately 3/8 inch. The pivot bracket and associated parts were submitted to the Safety Board Materials Laboratory for examination. The results of this examination are in Attachment 5. The forward jumpseat restraints were intact and operable.

The inboard armrest forward attachment on passenger seat 1D was cracked. The armrest was not loose or displaced. All other passenger and crew seats, and restraints were undamaged and functional. All tray table latches were examined. The latches on seats 14C, 14F, and 15C rotated freely, and were not secured by the détentes.

Seat and Restraint Documentation

	Seat	Restraint
Captain	Weber, "Pilot," Date: 9/79, Customer Number: 1061230-37, Serial Number: 52, TSO C-39a	Pacific Scientific, part number: 110124069, TSO C-22f Date: 8/99
First Officer	Weber, "Co-Pilot," Date: 1/76, Customer number: 1061230-32, Serial Number: 59, TSO C-39a	Pacific Scientific, part number: 110124069, TSO C-22f, Date: 8/99
First Observer (folding seat, right side)	4 Flight, Industries, Part number: 14130-25, Boeing number: 10-61205-25 (data plate not observed - information provided by airline)	American Safety, assembly part number 502298-407-226 model 50226.
Second Observer (behind captain)	Trans Aero Industries, P/N 92000-1, Model number: 2000, Serial Number: 84-047-1, Customer Part number: 10-61205-7, Boeing number: 1061310-17	Pacific Scientific, Lap belt part numbers: 1101240-7, -57; shoulder harness part number: 1101521-1; buckle part numbers: 1101061-1, -03.

	Seat	Restraint
Forward And Aft Flight Attendant Jumpseats	Burns Aerospace (Trans Aero Industries), Seat Assembly, Wall-mounted, Double, Type 1, Fwd/Aft, Model 737, Part number 90835-6 Two tags; 1) overhauled by SWA 11/26/97 RAI-A25-00026; RAI-A25-0031; B/E Aerospace Services Division, this seat modified by drawing/report #, SB 1113 revision D, date 11/26/97, kit #1251154, P/N 90835-6, Serial # 103956 M.F.D. 02/94, tag 2) Name – Seat Assembly C/A Wall MTD DBL, P/N 90835-6, serial number 103956, spec # 10-61365, manufactured 2/94. Seat bottom assembly P/N 19151009, cushion P/N 13151009, liner P/N 15151009, Date of manufacturer 12/96, complies with FAR 25.853(c) amendment 2559, effective 11/26/84, meets TSO-C72b when installed in cover with handstraps.	Davis, Model number FDC-6400-39
Passenger	Passenger Burns Aerospace, Model 2000A (triple seat assembly), TSO-C39a.	Davis Aircraft, model FDC6400-202, TSO-C22f.

6.6 Emergency equipment

For location of emergency equipment, refer to Attachment 6. Except for the 2 megaphones, all emergency equipment was found in the proper locations.

- Fire extinguisher (cockpit): manufacturer: Kidde, Halon 1211, type B/C size 1, # V-102619, classification 5-B/C. Gauge reading "in the green," last inspection 11/26/99, next inspection: 11/30/2005, repair tag: HRD Aerosystems, Inc., station repair #YN2R325L, Part number 898052, hydro test: 11/19/99.

- Fire extinguisher, water, manufacturer: Kidde, type 2, cat A, SAE spec # AS-A, TSO C-196, last inspected 3/29/99, next 5/2001.

- Fire extinguisher, Halon 1211, manufacturer: Kidde, type B:C size 1, # V-102798, classification 5-B-C, gauge reading in "green," last inspection 8/26/99, next due: 12/2004.

- Fire extinguisher, Halon 1211, manufacturer: Kidde, type B:C, size 1, # V-102759, classification 5-B-C, gauge reading in "green," repair tag: HRD Aerosystems Inc., FAA repair station #YN2R325L, P/N 898052, hydrostatic test date: 11/19/99.

- Emergency medical kit: 2 intact red seals, North Safety Products Health Care, Kit ID number: SWA 8094-SC, last inspected 8/26/99, next inspection: 5/2000.

- Megaphones (2 each), manufacturer: Voice Gun, model number: A12SA.

- Emergency flashlights (4 each), manufacturer: DME Corp, Model EF-1.
- Protective breathing equipment (PBE), cockpit, Essex PB&R, model #MR-10046RS, serial number: E9444388, replace by: 6/2004.
- Protective breathing equipment (PBE), manufacturer: Essex PB&R, model #MR-10046NS, serial number: E9901460, replace by: 6/2010.
- Protective breathing equipment (PBE), manufacturer: Essex PB&R, model #MR-10046NS, serial number: E9810302, replace by: 01/2010.
- Protective breathing equipment (PBE), manufacturer: Essex PB&R, model #MR-10046NS, serial number: E9702223, replace by: 12/2007, TSO C-116, inspection last 9/97, next 12/2007.
- Portable oxygen bottle, manufacturer: Scott Aviators Breathing, gauge reading 1700 psi, last inspected 8/23/99, next due 7/31/2000, oxygen regulator and cylinder assembly tag CTA-BF-23-A, serial 105798, overhaul certificate: Aviation Consults #2343728, mfg P/N 289-601-248.
- Portable oxygen bottle, manufacturer: Scott Aviators Breathing, gauge reading 1800 psi, last inspected 1/97, next due 1/2001, oxygen regulator and cylinder assembly tag CTA-BF-23-A, serial 54404, hydrostatic due tag, 1/2001, serial 8326P.
- Portable oxygen bottle, manufacturer: Scott Aviators Breathing, gauge reading 1800 psi, last inspected 9/2/97, next due 7/2002, oxygen regulator and cylinder assembly tag CTA-BF-23-A, serial 139924, hydrostatic test tag; due 8/2002, serial 376198.
- Portable oxygen bottle, manufacturer: Scott Aviators Breathing, gauge reading 1800 psi, last inspected 2/99, next 2/2004, oxygen regulator and cylinder assembly tag CTA-BF-23-A, serial 141385, hydrostatic test tag; due 2/2004, serial 416692.
- Emergency medical kit (cockpit): 2 intact red seals, North Safety Products Health Care, Kit ID number SWA 8094-SC, last inspected 8/26/99, next inspection: 5/2000.
- First aid kit (2 each), manufacturer: MSA, last inspected 1/97, due 1/2007.
- Latex gloves (3 pair)
- CPR mask (3 each), manufacturer: Respironics, Inc.

7.0 Medical and Pathological

Eleven persons were treated at local hospitals. Injury information was provided by those hospitals. All crew and passengers were treated and released. The following details the information provided by hospitals:

Gender	Age	Height	Weight	Seat No.	Injury	Classification
Male	52	unknown	unknown	unknown	Scalp laceration.	minor
Male	25	unknown	unknown	unknown	Cervical and thoracic musculoligamentous strain and pain, slight to mild thoracic spine strain, slight to mild abdominal muscle strain.	minor
Male	28	unknown	unknown	unknown	Paracervical strain, parathoracic strain.	minor
Male	27	unknown	unknown	unknown	Cervical strain and spasm.	minor
Male	29	unknown	unknown	unknown	Mild cervical strain, smoke exposure.	minor
Male	39	unknown	unknown	unknown	Lower back strain, exacerbating existing condition.	minor
Female	37	unknown	unknown	unknown	Right shoulder sprain, neck strain, left wrist contusion.	minor
Male	23	unknown	unknown	unknown	Neck strain, back strain, blunt head trauma.	minor
Female	26	unknown	unknown	unknown	Cervical strain, shoulder sprain.	minor
Female	27	unknown	unknown	unknown	Cervical/lumbar strain/sprain.	minor
Female	39	unknown	unknown	unknown	Non-displaced fractured coccyx.	serious

Injuries obtained from passenger questionnaires are described below. Injury information was self-reported and may not be mutually exclusive from hospital records.

Gender	Age	Height	Weight	Seat No.	Injury	Classification
Male	46	5'9"	220	unknown	Injured tailbone (at the top of the slide), abrasions.	minor
Male	38	6'1"	190	12F	Arm, shoulder, neck and back strain.	minor
Female	39	5'7"	153	unknown	Arm and neck strain.	minor
Female	31	5'2"	115	unknown	Head, neck, knees, and back strain (incurred at the bottom of the slide).	minor
Female	51	5'3"	105	unknown	Abrasions of left arm and back.	minor
Female	37	5'6"	190	11F	Abrasion on left knee from exit hatch.	minor
Male	59	6'3"	245	unknown	Back pain and numbness in thighs from going off the end of the slide.	minor
Male	51	6'0"	185	9B	Head abrasion from striking head on seatback during crash.	minor
Female	42	5'7"	145	9A	Sprains, strains, and abrasions of leg, knee, hand, wrist, and back.	minor
Male	52	5'2"	180	2A	Light concussion; head and neck pains from hitting head on back of seat and side wall.	minor
Male	36	6'3"	175	21C	Abrasions on hand and arm.	minor
Male	23	6'0"	195	3D	Back and neck strain from crash.	minor
Female	unknown	unknown	unknown	6F	Bruised foot from jumping off the wing.	minor
Female	38	5'3"	110	12D	Arm and back sprain and strain from crash and during evacuation.	minor
Female	61	5'3"	135	unknown	Fracture of small bone in neck.	serious
Male	32	6'1"	190	12B	Back strain.	minor
Female	35	5'5"	122	unknown	Sprained wrist and separated rib.	minor

Gender	Age	Height	Weight	Seat No.	Injury	Classification
Male	47	5'8"	160	unknown	Facial abrasions from a overhead panel.	minor
Male	39	5'10"	180	unknown	Sprained back during the crash.	minor
Female	51	5'7"	145	7A	Head and neck pain; upper back ache.	minor
Female	44	5'9"	128	5C	Neck sprain from embrace from alarmed passenger; wrist injury.	minor
Male	44	5'10"	163	14D	Neck and shoulder strain from crash; chest contusion from bumping the exit opening during the evacuation.	minor
Male	64	6'2"	220	unknown	Arm, shoulder, neck and back strain.	minor
Male	61	5'6"	180	unknown	Head, neck, and back strains from jumping off the wing.	minor
Female	53	5'6"	160	unknown	Arm and back strain from crash and evacuation.	minor
Male	55	5'7"	170	unknown	Leg and arm abrasions from the impact.	minor
Female	41	5'3"	170	unknown	Leg, lower back, and hip strain from jumping off the wing.	minor
Female	54	5'7"	180	unknown	Arm abrasion from sliding off the wing.	minor
Male	78	5'10"	165	23E	Groin strain from the impact.	minor
Female	29	5'6"	135	unknown	Back strain.	minor
Male	53	6'3"	200	unknown	Wrist, back, neck, shoulder strains and sprains.	minor
Female	67	5'8"	157	unknown	Head and neck strain.	minor
Male	57	5'10"	195	7B	Neck and upper back strain.	minor

7.1 Injury Table

Injuries	Flight Crew	Flight Attendants	Passengers	Other	Total
Fatal	0	0	0	0	0
Serious	0	0	2	0	2
Minor	1	0	41	0	42
None	1	3	94	0	98
Total	2	3	137	0	142

8.0 Emergency Response and Airport Information

The following airport firefighter interviews were conducted by the Survival Factors Group. Refer to the Airport and Emergency Response Factual Report for additional information.

Firefighter No. 1

Crash truck 2

(Partnered with firefighter No. 3)

Interviewed: March 7, 2000

A call came in at 0811 PST via the “crash phone.” It was an “alert 3 on runway 8-26.” The call said that there was a “737 into the blast fence.” Another rescue vehicle, crash truck 1, had already responded, and reported, “The airplane was on Hollywood Way Boulevard.” Firefighter No. 3 (riding with him in crash truck 2) advised using gate 300 to access the scene.

He used gate 300, as advised. His was the first truck to the scene and was followed by crash truck 4. He used the P.A. in the truck to direct passengers to move behind the emergency vehicles. He saw a firefighter put a ladder up to the left wing to gain access to airplane. A “hand line” was deployed to the interior of the airplane through the left overwing exit. An additional “hand line” was deployed outside the airplane to spray a “little” fuel spill. He saw a “flight attendant and 2 or 3 passengers ” standing at the 2L exit.

He “blanketed” the area with foam and helped maintain an adequate supply of water and foam. He saw the overwing exits being opened, but did not see any passengers exit through them.

Firefighter No. 2

Rescue truck 17

(Partnered with Firefighter No. 4)

Interviewed March 7, 2000

He was notified that there was an “alert 3,” on runway 8-26. He went outside and saw a large plume of smoke at the end of the runway. Rescue truck 17 followed crash truck 4 and was the third emergency vehicle that went through gate 300 to the crash site. He saw “all three doors” open on the airplane’s left side as he approached in rescue truck 17. He saw passengers exiting through aft, left exit and other passengers being assisted off the left wing. He did not see any passengers deplane from right overwing exit. At the front, left exit he saw passengers being

helped out of the airplane “slowly.” He saw Southwest Airlines employees on-scene assisting with the rescue. He told the Southwest employees to move the passengers to a position behind the rescue vehicles.

He climbed a ladder up to the left wing and entered the airplane through the left overwing exit, followed by Firefighter No. 5. He did not see any interior lights in the cabin, and it was “pretty dark.” He went to the rear of the airplane, and noticed an “electrical smell.” He saw a flight attendant and 4 or 5 passengers in the aft cabin. He told the flight attendant to “keep doing what she was doing (evacuating passengers), and then get herself off.” He went forward in the cabin. Most of the overhead bins were closed and the aisles were clear. There were a few oxygen masks hanging out. A “hand line” was brought inside the cabin through the overwing exit.

At the front of the airplane, he saw a SWA pilot entering the airplane through the forward, left door. The pilot checked the cockpit switch positions. The pilot was not the pilot of the accident airplane. The “electrical smell” had dissipated and he stayed on the airplane for about five minutes longer. All the passengers were off the airplane when he left. He saw the “voice recorder” being taken off the airplane by two people who identified themselves as SWA employees. The “recorder” was secured in crash truck 4.

Firefighter No. 3

Crash truck 2

(Partnered with firefighter No. 1)

Interviewed March 7, 2000

An “alert 3 on runway 26” call came at 18:11. He was in crash truck 2, which followed crash truck 1 from the firehouse. Crash truck 1 was the first rescue vehicle through gate 300, and the first to the accident airplane. Crash truck 2 was positioned on the left side of the accident airplane. He did not see any smoke or fire coming from the airplane. He saw what he thought was fuel under each wing. There were “quite a few” passengers on the left side of the airplane.

He sprayed a “blanket” of foam under the aircraft. He saw steam rising from the airplane’s brakes. Two uniformed SWA employees (that identified themselves as maintenance personnel from LAX) told him that they were going to secure the flight data recorder and cockpit voice recorder boxes for the NTSB. He contacted a policeman for advice. The policeman relayed the question to the local NTSB, who told him that the boxes should be returned to the airplane. The maintenance personnel told him that they were not able to return them to the airplane, so Firefighter No. 3 secured the boxes in crash truck 4.

He saw luggage removed from the forward cargo compartment in order to gain access to, and disconnect the airplane’s batteries. Multiple attempts were made by mechanics to remove the fuel from the airplane, but all attempts had failed. He was relieved from duty prior to the completion of the airplane relocation.

Firefighter No. 4
Rescue truck 17
(partnered with Firefighter No. 2)
Interviewed March 7, 2000

He heard (through the crash phone) that there was an “aircraft through the blast fence on Hollywood Way”. He went outside and it looked like the crashed airplane was on fire. He saw an “orange glow” in the direction of the accident. Rescue truck 17 was the third vehicle that went through gate 300, onto Hollywood Way Boulevard. He and his partner positioned their unit on the left, aft side of the airplane. He saw all the exits on the left side of the airplane open, and 40 – 50 passengers had deplaned. More passengers were still evacuating. He saw passengers sliding off the forward and aft edges of the left wing. The aft, left escape slide was at a “bad angle,” so he halted the evacuation and repositioned the slide before the evacuation continued. The last person who went down the slide was a flight attendant. He saw no lights illuminated on the outside or the inside of the airplane.

He checked on an automobile that was near the airplane. He turned the ignition off, and gave the keys to a police officer. He told a flight attendant to move passengers away from the airplane. He remained in the area while the airplane was moved off of the street.

Firefighter No. 5
Crash truck 1
Interviewed March 7, 2000

He heard an “Alert 3 - aircraft on fire.” He left the firehouse in crash truck 1. As he approached blast fence, he observed an orange airplane tail behind the fence. His emergency vehicle was moving at a high rate of speed toward the blast fence when he realized he was not able to slow the vehicle. He braked hard, and made a “high speed” 270-degree right turn in order to avoid driving through the fence where the airplane had gone through. He thought it would be better to “roll” the truck than proceed through the fence. He radioed to the other emergency vehicles that gate 300 should be used to get to the crash site. He arrived at gate 300 at the same time that the other vehicles arrived, and they waited for him to open the gate. He “killed” the engine of his vehicle, and used his magnetic “swipe” card to open the gate. It took “multiple attempts” with the card to get the gate to open. As he re-entered crash truck 1, he saw the microphone from the radio had become lodged in the accelerator pedal on the truck, which held it in the full-open position. He drove crash truck 1 through gate 300 after all the other trucks had gone through.

After parking his truck, he walked toward the front of the airplane. He did not see any passengers on the left wing of the aircraft. He saw the forward, left escape slide in a “bent” position, and didn’t think anyone would be able to use it. He climbed a ladder to the left wing, and entered the airplane through the emergency exit behind Firefighter No. 2. Once inside, he went to the cockpit. He did not see anybody on board. As he neared the front, he saw a “piece of cloth or a life raft” partially blocking the door, and lights illuminated in the cockpit. The cockpit door was closed, but a “panel” was missing from it. He could not get into the cockpit, as his oxygen tank was too big. Looking into the cockpit, he saw the captain’s side window was open.

He saw two people outside the cockpit. One was a pilot wearing a dark leather jacket. He thought the pilot might be the pilot of the aircraft. The pilot said that he was going to “shut off the airplane’s power,” and entered the cockpit. He saw the pilot kick the cockpit door “off its hinges.” Firefighter No. 5 moved the “piece of cloth” away from the door and grabbed a flashlight from its holder above the flight attendant jumpseat. He used the flashlight to search for any other passengers or crewmembers in the airplane. He did not find anyone.

While he was onboard, a “hand line” was run into the airplane through the left overwing exit. Most overhead bins were still shut and the cabin was in disarray. After the pilot left the cockpit, the cabin went dark.

Firefighter No. 6

Crash truck 4

Interviewed March 8, 2000

He heard “Alert 3, Runway 8 – 26.” Crash truck 1 pulled out, and he went next in crash truck 4. He saw smoke at the end of the runway. He heard a radio call from Firefighter No. 3 “to proceed to gate 300.” Crash truck 2 arrived at gate 300 prior to crash truck 4. Crash truck 4 was the second vehicle through gate 300, and second to the scene. There was crash debris scattered in his vehicle’s path, so he shouted to people in the vicinity to help move the debris out of his path.

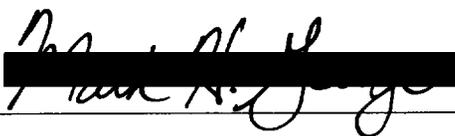
He positioned his emergency vehicle at the aft, left side of the airplane. He saw passengers evacuating down the slide “at a pretty good rate.” There were people at the bottom of the slide assisting the passengers as they came down the slide. He was assigned to monitor the pumps, gauges and communications frequency. He used the emergency vehicle P.A. system to instruct people to stay away from the airplane. He saw another firefighter place a ladder at the left overwing exit, and run a “hand line” into the plane. He saw fuel leaking from “engine 1,” on the crashed airplane. He heard (over the radio) that “all the airplane systems were shutdown, batteries were disconnected, and that there were injuries in the cockpit.” He saw another firefighter open the left overwing exit. He did not remember where the firefighter put the exit hatch. He did not see any passengers evacuating from the left overwing exit, at any time.

9.0 Evacuation

The captain, first officer, 2 flight attendants, and the off-duty flight attendant evacuated the airplane through the 1L door. The “C” flight attendant reported that some passengers evacuated from the 1L door, also. The remaining passengers escaped through the left and right overwing exits, and the 2L door. The “B” flight attendant evacuated through the 2L door. The 1R and 2R doors were not opened.

10. Attachments

1. Excerpts from Southwest Airlines flight attendant manual pertaining to takeoff and landing procedures.
2. Excerpts from the Southwest Airlines flight attendant initial and recurrent training programs.
3. Passenger questionnaires.
4. Documentation of carry on baggage location and weights.
5. NTSB Materials Laboratory Factual Report.
6. Excerpts from Southwest Airlines flight attendant manual pertaining to emergency equipment locations.
7. Overwing exit placards.
8. Passenger information card.
9. Photographs.
10. Southwest Airlines inadvertent slide deployment data.
11. Boeing slide compartment release bracket testing report.
12. Summary of Boeing customer survey of inadvertent slide deployments on B737 airplanes.



Mark H. George
Survival Factors Investigator

Mark H. George