Ground collision, McDonnell Douglas MD-11 and Boeing 747-243B, PP-SPE, January 23, 1996

Micro-summary: This Boeing 747-243B was struck by a McDonnell Douglas MD-11

Event Date: 1996-01-23 at 1810 EST

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

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

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National Transportation Safety Board NTSB ID: MIA96FA068A Aircraft Registration Number: PPSPE FACTUAL REPORT Occurrence Date: 01/23/1996 Most Critical Injury: None AVIATION Occurrence Type: Accident Investigated By: NTSB Location/Time Nearest City/Place State Zip Code Local Time Time Zone FL 33159 1810 EST MIAMI Distance From Landing Facility: Direction From Airport: Airport Proximity: On Airport

Aircraft Information Summary

Aircraft Manufacturer Model/Series Type of Aircraft

McDonnell Douglas MD-11 Airplane

Sightseeing Flight: No Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

HISTORY OF FLIGHTS

On January 23, 1996, about 1810 eastern standard time, a McDonnell-Douglas MD-11, Brazil registration PP-SPE, operated by VASP Brazilian Airlines as flight 844 (VSP 844), collided during taxi from landing at Miami International Airport with a Boeing 747-243B, Italian registration I-DEML, operated by Alitalia as flight 631 (AZA 631). VSP 844 was arriving at Miami from Sao Paulo, Brazil. AZA 631 was taxiing for departure to Rome, Italy. Visual meteorological conditions prevailed at the time and instrument flight rules flight plans were filed for both flights. Both airplanes sustained substantial damage. The airline transport-rated captain, first officer, 10 flight attendants, and 197 passengers on VSP 844 were not injured. The airline transport-rated captain, first officer, flight engineer, 2 extra flight crew, 14 flight attendants, and 231 passengers on AZA 631 were not injured. VSP 844 had departed Sao Paulo, Brazil, en route to Miami on January 23, 1996, about 0955. AZA 631 was originating at the time of the accident.

At 1800:30, the flight crew of AZA 631 made initial radio contact with the FAA Miami Air Traffic Control Tower ground controller advising, "Miami good evening Alitalia six thirty one foxtrot one nine request pushback." The ground controller approved their request. At 1801:48, the flight crew of VSP 844 made initial radio contact with the FAA Miami Air Traffic Control Tower local controller advising, "Miami tower VASP eight forty four heavy for I-L-S runway niner right." The local controller replied, "VASPI eight forty four heavy Miami tower you're following twin Cessna traffic on a two and a half mile final runway niner right cleared to land hold short of runway one two for landing and departing traffic wind one three zero at one four." The flight crew acknowledged their landing clearance.

At 1805:41, the flight crew of AZA 631 advised the ground controller, "ground Alitalia six three one is ready for taxi plus we need nine right." The ground controller replied, "Alitalia six three one heavy Miami ground roger turn left hold short of runway one two expect nine right." At 1805:53, the flight crew responded, "that's a left turn hold short expect nine right." At 1806:03, the local controller transmitted, "VASPI eight forty four heavy turn left hold short of runway one two and stay with me." The flight crew replied, "hold short one two with you." At 1806:56, the local controller transmitted "VASPI eight forty four heavy hold short of twelve for landing traffic." The flight crew acknowledged the transmission. At 1807:22, the ground controller transmitted, "Alitalia six thirty one heavy taxi up to and hold short of runway one two please all the way up to and hold short of twelve." The flight crew of AZA 631 acknowledged the transmission.

At 1807:54, the ground controller instructed, "Alitalia six thirty one heavy cross one two taxi to nine right." At 1808:00 the flight crew replied, "we have an aircraft ah opposite of Alitalia six three one." The ground controller did not immediately respond but rather at 1808:13, the ground controller again transmitted, "Alitalia six thirty one heavy cross runway one two." At 1808:17, the flight crew of AZA 631 acknowledged the clearance. At 1809:22, the flight crew of AZA

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for transmitted, "Alitalia six three one (unintelligible)." Concurrent with this transmission, the local controller transmitted to the flight crew of VSP 844, "VASPI eight forty four heavy can you turn right there on sierra." On the ground control frequency, at 1809:26, the ground controller transmitted "Alitalia six thirty one heavy can you continue via sierra." At 1809:27, the flight crew of VSP 844 replied "turn right on sierra VASPI eight forty four." At 1809:32, the flight crew of AZA 631 responded to the ground controller transmission, stating, "you mean to the right ah negative." At 1809:38, the ground controller replied, "Alitalia six thirty one heavy continue via sierra the VASPI's gonna continue up to and hold short of runway one two." At 1809:46, the flight crew of AZA 631 responded, "ok we'll....."

At 1809:47, the ground controller transmitted, "Alitalia six three one heavy change to my frequency one two one point eight." The flight crew acknowledged the frequency change. At 1810:13, the flight crew of AZA 631 transmitted, "ah ground Alitalia six three one stop please." At 1810:17, the ground controller transmitted, "Alitalia six thirty one Miami can you continue taxing via sierra do you have enough room there." There was no response from the flight crew. At 1810:46, the ground controller transmitted, "Alitalia six three one heavy can you move up at all for me please." At 1810:49 the flight crew replied, "yeah we can move up but we have been hit by the VASP." At 1810:55, the ground controller responded, "ok move up as much as you can for traffic landing runway one two please." Concurrent with this transmission, an aircraft advised the local controller, "and tower be advised that ah that D-C ten just hit that seven forty seven when he was taxing around." At 1811:02, the flight crew of VSP 844 transmitted, Miami VASP eight forty four are we cleared to cross one two." The local controller replied, "VASPI hold short of twelve." The flight crew acknowledged. At 1811:07, the flight crew of AZA 631 transmitted to the ground controller, "Alitalia six three one (unintelligible)." At 1811:23, the local controller transmitted, "and ah who was the aircraft that ah reported that." The pilot responded, " that's two two three he's got ah part of his wing tip fell off when he hit the side of the ah seven forty seven I think."

At 1812:11, the ground controller transmitted to an airport authority vehicle, "ramp twenty there's been ah report of ah M-D eleven a VASPI that possible ah that ah the ah hit the wing tip of the Alitalia seven forty seven crossing ah on the south side of runway one two can you check that for me please see if there is any fod out there." The driver replied, "ok." At 1812:43, the ground controller transmitted, "Alitalia six thirty one heavy there's been a report that the M-D eleven possibly hit the end of your wing tip there." The flight crew replied, "yes that's why I told you there was not enough space for two planes." The flight crew then advised, "anyway Alitalia six three one has been hit on the cone nose and on the wing from the M-D eleven." At 1813:07, the local controller instructed the flight crew of VASP 844 to cross runway one two and to contact the ground controller. The flight crew acknowledged their clearance. At 1813:13, the ground controller inquired, "Alitalia six thirty one heavy roger you say the wing did hit your wing was that correct." The flight crew replied, "The M-D eleven has hit first our nose then our left ah tip." The ground controller transmitted, "Alitalia six thirty one heavy can you turn east bound on taxiway tango to hold short of runway one two." There was not an immediate reply from the flight crew. After discussions with the driver of a ramp vehicle concerning debris from the collision, at 1816:39, the flight crew of AZA 631 was cleared to cross runway one two and return to their gate. The flight crew acknowledged the crossing instruction and advised the ground controller that they were clear of the runway at 1817:34.

The captain of VSP 844 stated that after landing on runway 9R he turned off the runway onto taxiway "V". He was instructed by the tower controller to hold short of runway 12 and stay on the tower frequency. He held his position on the taxiway for about 7 minutes. AZA 631 was across runway 12 waiting to cross the runway on taxiway "V". AZA 631 was on the ground control frequency. AZA 631 taxied across the runway and stopped in front of his aircraft on taxiway "V". After a little while he was instructed by the tower controller to make a right turn on taxiway "S" and hold short of runway 12. In his judgment he was too close to AZA 631 to proceed and he opted to make visual contact with the captain of AZA 631. He received a visual reply from the captain of AZA 631 that he could make the right turn. He started the right turn and after some seconds felt the aircraft

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shake. He thought he had hit a taxiway light because he had pulled to the far right side of the taxiway. He checked the condition of his aircraft's tires on the aircraft's electronic configuration page and finding them normal he continued to taxi. Attempting to visually check the position of AZA 631, he saw only the tail and the aircraft seemed to be moving. He then felt his aircraft shake again. He received clearance from the tower controller to cross runway 12. As he crossed the runway he was notified by a flight attendant that they had collided with AZA 631. He was then instructed to change to the ground control frequency and was cleared to taxi to the gate.

The captain of AZA 631 stated he received taxi instructions from the ground controller to taxi via taxiway "V" and hold short of runway 12. While holding short of the runway 12 he observed VSP 844 across the runway taxing on taxiway "V". The ground controller cleared him across runway 12 and he immediately informed the ground controller of the position of VSP 844. The ground controller, nevertheless, directed him to cross runway 12. Upon crossing runway 12, but not completely clear of the runway, he was unable to continue taxing because of the relative position of VSP 844. He advised the ground controller of the situation and was told to contact ground control on 121.8 mhz. He did not know what frequency VSP 844 was on. As he was changing frequencies he observed VSP 844 continue its taxi up "V" and about to make a right turn on "S". He was completely stopped with the brakes set. He did not have any visual contact with the flight crew of VSP 844. He immediately yelled into the microphone "stop! stop!" but VSP 844 continued. He watched helpless as VSP 844s left winglet struck his nose and then VSP 844 continued to taxi. He immediately advised the ground controller that VSP 844 had struck them and the ground controller urgently ordered him to immediately taxi forward because of landing traffic on runway 12. His tail was not clear of the runway at this time. Fearful of a more disastrous runway collision, he taxied forward approximately 30 yards. In the process, his left wing tip struck the left winglet of VSP 844. He then received ATC instructions and returned to the gate.

The local controller stated she was working the north and south local control positions combined. She was at the north local control position located in the northeast corner of the tower cab. It was dusk and she could observe aircraft at the terminal area and in the area of runway 12 and taxiway "V". Her work load was moderate. She was responsible for all aircraft taxing on the south side of runway 12 and for all aircraft operating on any of the runways.

VSP 844 landed on runway 9R and as the flight turned off of the runway at "T4" intersection onto taxiway "V", she instructed the flight crew to hold short of runway 12 and remain on the local control frequency. The flight came to a stop on taxiway "V" at the intersection of taxiway "S". The ground controller asked for permission to clear AZA 631 across runway 12 on taxiway "V". She gave the permission. She expected VSP 844 to make a right turn on taxiway "S" and clear the way for AZA 631. When the flight crew of VSP 844 remained stopped on "V" and not make the expected right turn, she then expected AZA 631 to make a right turn on "S" and clear the way for VSP 844. AZA 631 crossed the runway at the ground controllers instructions and stopped. The ground controller and tower cab supervisor informed her that AZA 631 was clear of runway 12. With the two flights now stopped, she asked the flight crew of VSP 844 if they could make a right turn onto taxiway "S". The flight crew repeated the question and began to initiate a right turn in not a slow manner. She then instructed the flight crew to hold short of runway 12, because she was not sure they were going to stop short of the runway.

The ground controller stated he was working the north and south ground control positions combined. He was located at the ground control position on the north side of the tower cab, facing east/northeast. The tower cab supervisor was located between him and the local controller. It was dusk, there were no tower shades pulled down, and he could easily see the aircraft at the terminal. His workload was light to moderate and it was not a very complex operation.

The flight crew of AZA 631 called for pushback from gate F-19. He cleared the flight for pushback and anticipated they would require runway 9R. AZA 631 was cleared to taxi and hold short of runway 12 on the north side. When the flight was holding he observed VSP 844 on the south side

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of runway 12 between runway 9R and taxiway "S". He received approval from the local controller to have AZA 631 cross runway 12. He thought that VSP 844 would make a right turn and cross runway 12 at taxiway "S". When he cleared AZA 631 across the runway he did not hear the flight crew report that there was traffic across the runway from them. As AZA 631 crossed the runway he did not believe that VSP 844 was in a position to prevent AZA 631 from making a right turn on "S". He instructed the flight to make a right turn on "S". The flight reported they could not make the turn. He then notified the local controller and she asked the flight crew of VSP if they could make a right turn. He did not hear the flight crew of AZA 631 say stop please. AZA 631 was stopped at this time with the tail just clear of the runway edge. He then heard the flight crew of AZA 631 report that they had been hit by VSP 844.

The tower cab supervisor stated there were three controllers on duty in the tower cab, not including himself. This was standard staffing for the traffic conditions. He observed both AZA 631 and VSP 844 about the same time. AZA 631 was just about to cross runway 12. VSP 844 was moving slowly on "V" and just crossing "T". He did not hear the ground controller coordinate the crossing of AZA 631 with the local controller. He next observed both aircraft on taxiway "V", south of runway 12, facing each other. AZA 631 was stopped with the tail clear of the runway edge. He stated that he discussed the position of AZA 631 with the local and ground controllers and they determined the aircraft was clear of the runway. He heard the local controller ask the flight crew of VSP 844 if they could make a right turn and then observed the aircraft start moving.

The pilots of two aircraft, one that landed before VSP 844 and one that landed after VSP 844, stated they were waiting to cross runway 12 at taxiway "Y". They were on the local control frequency. They saw VSP 844 and AZA 631 stopped nose to nose on taxiway "V". They stated the nose of AZA 631 was at the north end of the "V" and "S" taxiway intersection and that the tail of the aircraft was over the hold short line for runway 12 and possibly over the runway. They heard the local controller ask VSP 844 if they could make a right turn. They heard the pilot reply affirmative and initiate a right turn. The left wing of VSP 844 passed the nose of AZA 631 and they observed debris fall from the two aircraft. AZA 631 was still stopped at this time. They did not observe the second collision. One of the pilots then reported to the local controller that there had been a collision between VSP 844 and AZA 631. They stated that VSP 844 had the wing navigation lights illuminated and AZA 631 had the taxi lights on the nose landing gear illuminated and that both aircraft were well lit.

DAMAGE TO AIRCRAFT

VSP 844, a McDonnell Douglas MD-11 sustained substantial damage to the left winglet. Damages to the aircraft were estimated to be \$460,000. AZA 631, a Boeing 747-243 sustained substantial damage to the radome, nose pressure bulkhead, and left wing tip. Damages to the aircraft were estimated to be \$1,642,000

OTHER DAMAGE

Two taxiway lights on the southeast corner of the intersection of taxiways "V" and "S" were damaged by the right main landing gear of VSP 844.

PERSONNEL INFORMATION

The captain of VSP 844 holds an Airline Transport Pilot (ATP) Certificate, No. 2151, issued by Brazil on October 17, 1995, with a McDonnell-Douglas MD-11 type rating and an instrument flight rules rating. The MD-11 type rating expires on October 31, 1996, and the instrument flight rules rating expires on April 30, 1996. The captain holds a first class medical certificate with no limitations, issued on January 12, 1996. The certificate expires on July 12, 1996. According to company records, the captain has 17,000 hours of total flight time with 1,600 hours in the MD-11.

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The first officer of VSP 844 holds a Commercial Pilot certificate, No. 11358, issued by Brazil on December 19, 1995, with a McDonnell-Douglas MD-11 type rating and a instrument flight rules rating. The MD-11 type rating expires on December 31, 1996 and the instrument flight rules rating expires on June 30, 1996. The first officer holds a first class medical certificate with no limitations, issued on December 13, 1995. The certificate expires on June 13, 1996. According to company records, the first officer has 3,500 hours total flight time with 1,500 hours in the MD-11.

The flight crew of VSP 844 had been on flight duty about 11 hours and had accumulated 9 hours 25 minutes of flight time at the time of the accident.

The captain of AZA 631 holds an Airline Transport Pilot (ATP) Certificate, No. 2594, issued by Italy on December 21, 1995, with a Boeing 747 type rating. The certificate expires on June 21, 1996. The captain holds a first class medical certificate with no limitations, issued on December 21, 1995. According to company records the captain has 17,593 hours of total flight time with 6,002 hours in the Boeing 747.

The first officer of AZA 631 holds a commercial pilot certificate, No. 6662, issued by Italy on March 23, 1995, with a Boeing 747 type rating. The certificate expires on March 23, 1996. The first officer holds a first class medical certificate with no limitations, issued on March 23, 1995. According to company records the first officer has 3,993 hours of total flight time with 292 hours in the Boeing 747.

The flight engineer of AZA 631 holds a flight engineer certificate, No. 2298, issued by Italy on March 29, 1995, with a Boeing 747 rating. The certificate expires on March 29, 1996. According to company records, the flight engineer had 14,690 total flight hours as a flight engineer.

AZA 631 had an additional two flight crew members, a pilot observer and a flight engineer observer. The flight crew of AZA 631 had been on duty for about 2 hours and had accumulated no flight time.

The local controller, age 38, was hired by the FAA on January 5, 1984 as an ATC specialist. She had no prior military air traffic control experience and is not a licensed pilot. After attending the FAA Academy in Oklahoma City, Oklahoma, she was assigned to the ATC tower at Pompano Beach, Florida. She later transferred to the Fort Lauderdale-Hollywood ATC tower and then on March 22, 1992, transferred to the Miami ATC tower. She received certification on the local north and south positions on August 20, 1992 and was area rated at Miami on August 16, 1995. She received proficiency training for runway crossing on July 7, 1993, ATC scanning on September 15, 1993, and responsibility for "S" and "T" taxiways on September 13, 1994. She is medically certified with no waivers or limitations. At the time of the accident she had worked about 4 hours of a 9-hour shift.

The ground controller, age 36, was hired by the FAA on November 3, 1986, as an ATC Specialist. He has no prior military air traffic control experience and is not a licensed pilot. After attending the FAA Academy in Oklahoma City, Oklahoma, he was assigned to the ATC tower at Pompano Beach, Florida. On April 23, 1989, he transferred to the Miami ATC tower. He received certification on ground north and south positions on June 23, 1989, and was area rated at Miami on July 5, 1991. He received proficiency training for runway crossing on July 8, 1993, ATC scanning on September 2, 1993, and responsibility for "S" and "T" taxiways on September 21, 1994. He is medically certified with no waivers or limitations. At the time of the accident he had worked about 3 hours of a 9-hour shift.

The tower cab supervisor, age 38, was hired by the FAA on March 1, 1982, as an ATC Specialist. He had no prior military air traffic control experience and is a licensed private pilot. He attended the FAA Academy in Oklahoma City, Oklahoma, and on November 9, 1986, he was assigned to Miami ATC Tower. He was area rated at Miami on September 1, 1987, and became a tower

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cab supervisor in December 1989. He maintains currency in the tower cab positions and received proficiency training for runway crossing on July 6, 1993, ATC scanning on September 14, 1993, and responsibility for "S" and "T" taxiways on September 21, 1994. He is medically certified without waivers or limitations. At the time of the accident he had worked about 4 hours of a 9-hour shift.

AIRCRAFT INFORMATION

VSP 844 was a McDonnell-Douglas MD-11, serial No. 48412, Brazil registration PP-SPE. According to company records the aircraft received a transit check on the night of January 22, 1996, about 10 flight hours before the accident. The aircraft had 21,341 hours total flight time.

AZA 631 was a Boeing 747-243B, serial No. 22511, Italian registration I-DEML. According to company records, the aircraft received a transit check just before departure. The aircraft had 59,875 hours total flight time.

METEOROLOGICAL INFORMATION

The Miami International Airport 1821, surface weather observation was: clouds 3,000 feet scattered, 6,000 feet broken, visibility 10, temperature 72 degrees F, dewpoint temperature 59 degrees F, wind 110 degrees at 10 knots, altimeter setting 30.10 inches of HG.

Sunset was at 1758, and end of twilight was at 1823. At 1810, the altitude of the sun was minus 3.3 degrees at a bearing of 250.1 degrees. The altitude of the moon was 42.4 degrees at a bearing of 240.6 degrees. The moon had a 16 percent illumination.

AIRPORT INFORMATION

Miami International Airport (MIA) is owned by Metropolitan Dade County, Florida, and is operated by the Dade County Aviation Department (DCAD). The airport is located about 5 nautical miles northwest of downtown Miami. The airport field elevation is 11 feet above mean sea level.

The airport consists of three runways, identified as 12-30 which is 9,600 feet long by 150 feet wide; 9L-27R which is 10,500 feet long by 200 feet wide; 9R-27L which is 13,000 feet long by 150 feet wide. All runway surfaces are grooved asphalt, equipped with precision instrument lighting and markings.

Runways 9R and 12 intersect at the southeast corner of the airport. Aircraft arriving and departing on runway 9R must cross runway 12 during taxi to and from the runway. The dimensions, signs, and markings in and around the vicinity of the intersections of taxiways "S" and "V" and runway 12-30 meet current FAA standards.

ATC TOWER

The Miami Air Traffic Control Tower is operated by the FAA and is a tower cab facility collocated with a Terminal Radar Approach Control (TRACON) facility. The tower is a FAA level V facility which operates 24 hours a day. FAA statistics rank the tower as the 5th busiest in the U.S. The tower structure is located on the west end of the airport between the runway complex. The tower has Airport Surface Detection Equipment (ASDE-3) which at the time of the accident was not commissioned and was not operating.

The tower has 10 positions of operation that may be combined or separated as traffic conditions permit. At the time of the accident there were four controllers in the tower, the local controller, the ground controller, the flight data/clearance delivery specialist, and the tower cab supervisor. At the time of the accident the local control positions were combined into one position and the ground control positions were combined into one position.

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WRECKAGE AND IMPACT INFORMATION

VSP 844 and AZA 631 collided at the intersection of taxiway "V" and "S". After the collision VSP taxied to gate B-11 and AZA 631 returned to the departure gate, F-19. Debris from the radome and outer left wing of AZA 631 and left winglet of VSP 844 was located at the collision point on the taxiway.

ORGANIZATIONAL AND MANAGEMENT INFORMATION

VSP 844 was operated by Viacao Aerea Sao Paula S.A. dba VASP Brazilian Airlines (VASP), as a scheduled international passenger flight from Sao Paulo, Brazil, to Miami, Florida. VASP is a Brazilian certificated airline. The airlines main base of operation is Sao Paulo, Brazil.

AZA 631 was operated by Alitalia Airline, as a scheduled international passenger flight from Miami, Florida, to Rome, Italy. Alitalia is an Italian certificated airline. The airlines main base of operation is Rome, Italy.

ADDITIONAL INFORMATION

McDonnell-Douglas MD-11, Brazil registration PP-SPE, used on VSP 844, was released by NTSB to Mr. Paulo E. Trentini, General Manager U.S.A. Airports, Viacao Aerea Sao Paulo S.A., on January 24, 1996.

Boeing 747-243B, Italian registration I-DEML, used on AZA 631, was released by NTSB to Isa Michieli Phillips, Manager Station Operations Miami, Alitalia Airlines, on January 24, 1996.

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TACIONE REPORT		Occurrence Bate. 01/23/1990											
AVIATION			Occurrence Type: Accident										
Landing Facility/Approach Information													
Airport Name	Airport ID:	Airport Eleva	tion	Run	Runway Used Runwa		ay Length		Runv	way Width			
MIAMI INTERNATIONAL M				11 Ft	. MSL	9R	9R 13000				150		
Runway Surface Type: Asphalt													
Runway Surface Condition: Dry													
Type Instrument Approach: ILS-complete													
VFR Approach/Landing:													
Aircraft Information													
Aircraft Manufacturer McDonnell Douglas			Mode MD-	l/Series 11					Serial 4841	Number 12			
Airworthiness Certificate(s): Transport													
Landing Gear Type: Retractable - Tricycle													
Homebuilt Aircraft? No	Number of Seats:	391	Certifie	Certified Max Gross Wt.				618000 LBS Numb			er of Engines: 3		
				Engine Manufacturer: Mode CF6-					el/Series: 3-80			ed Power: 500 LBS	
- Aircraft Inspection Information													
Type of Last Inspection				Date of Last Inspection Time Si			Since Last Inspection			Airframe Total Time			
AAIP			01/1996	01/1996 9 Ho					ours 21341 Hours				
- Emergency Locator Transmitter (El	_T) Information												
ELT Installed? Yes	ELT Operat	ed? No		ELT Aided in Locating Accident Site?									
Owner/Operator Information													
Registered Aircraft Owner			Street Address 3780 KILROY AIRPORT WAY										
TOMBO AVIATION, INC.			City LONG BEACH								е	Zip Code 90846	
0 . (A) (Street Address										
Operator of Aircraft			PCA. COMANDANTE LINEU GOMES City State Zip Cod									Zip Code	
VIACAO AEREA SAO PAULO S	3A 		City SAO PAULO							OF	6	00000	
Operator Does Business As: VASP		Operator Designator Code: VCSF											
- Type of U.S. Certificate(s) Held: No	one												
Air Carrier Operating Certificate(s):													
Operating Certificate:				Operator (Certificat	e:							
Regulation Flight Conducted Under:	Part 129: Forei	gn											
Type of Flight Operation Conducted: Scheduled; International; Passenger Only													
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AVIATION				Occurrence	Occurrence Type: Accident								
First Pilot Information													
Name		City				Sta	ate	Date of Birth	Age				
On File On Fi										Or	ı File	On File	43
Sex: M	Seat Occupied	n Pilot	t Certificate Number: On File										
Certificate(s): Airline Transport; Foreign													
Airplane Ra	Airplane Rating(s): Multi-engine Land												
Rotorcraft/Glider/LTA: None													
Instrument Rating(s): Airplane													
Instructor Rating(s): None													
Type Rating/Endorsement for Accident/Incident Aircraft? Yes Current Biennial Flight Review?													
Medical Ce	ert.: Class 1	Medica	al Cert. Status	s: Valid Med	dicalno wa	aivers/lir	n.		Date of	Last M	1edical E	Exam: 12/1996	
- Flight Time Matrix All A/C This Make and Model		Airplane Single Engine	Airplane Mult-Engine	Night		Inst Actual	Instrument simulated		Rotorcraft	Glider	Lighter Than Air		
Total Time		17000	1600	2000	15000	7	000	1400) 10	000			
Pilot In Cor	mmand(PIC)	8500	1600	2000	6500	5	000	850) 1	50			
Instructor		6000		1000	1000	4	000		4				
Last 90 Da	ys	210	210		210					12			
Last 30 Da		140	140		140	-			+				
Last 24 Ho		9]	9		9	<u> </u>			10.11		Τ,	151100	
Seatbelt Us	sed? Yes	Shou	lder Harness	Used? Yes			OXICO	logy Perfo	rmed? No	1		econd Pilot? Y	es
Flight Pla	ın/Itinerary												
	ght Plan Filed: IF	 R											
Departure I						1	State	Air	Airport Identifier		Departure Time		Time Zone
SAO PAL							OF		SBGR		0845		EST
Destination	1						State	Air	Airport Identifier				
Same as Accident/Incident Location							Otato	MI					
Type of Cle	earance: IFR												
Type of Air	space: Class	D											
Weather	Information												
Source of Briefing: Company													
Method of Briefing:													
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NTSB ID: MIA96FA068A

Occurrence Date: 01/23/1996

Occurrence Type: Accident

	ETYBOR		Occ	currence	Type:	Acciden	ıt								
Weather Information															
WOF ID	Observation Time	Time Zone	WOF	WOF Elevation			WOF Distance From Accide				Direction Fron	ction From Accident Site			
NALO	4004	ГОТ		44 5+ 1	401		1 NM				OCO Don Mon				
MIA	1821	EST		11 Ft. N	/ISL	<u> </u>						360 Deg. Mag.			
Sky/Lowes	st Cloud Condition: Scat	tered				3	3000 Ft. AGL			Condition of Light: Dusk					
Lowest Ce	iling: Broken		60	6000 Ft. AGL			lity:	10	SM	Altii	meter:	30.00	"Hg		
Temperature: 22 °C Dew Point:				5 °C	°C Wind Direction: 110 Density A						nsity Altitude:	800	Ft.		
Wind Spee		Weather Condtions at Accident Site: Visual Conditions													
Visibility (R	RVR): 0 Ft.	Visibility	y (RVV)	0	SM	Intensity	of Precipita	ation: I	Unknown						
Restrictions to Visibility: None															
Type of Precipitation: None															
Accident Information															
Aircraft Dar	Airc	Aircraft Fire: None Aircraft					Aircraft Exp	losio	n None						
Classificati	on: Foreign Registere	d/U.S. Soil													
- Injury Sur	mmary Matrix	Fatal	Serious	Minor		None	TOTAL								
First Pil	lot					1	1								
Second	d Pilot					1	1								
Studen	t Pilot														
Flight Ir	nstructor														
Check I	Pilot														
Flight E	Engineer														
Cabin A	Attendants					10	10								
Other C	Crew														
Passen	igers					197	197								
- TOTAL A	ABOARD -					209	209								
Other G	Fround	0	0		0		0								
- GRAND	TOTAL -	0	0		0	209	209								

National Transportation Safety Board

FACTUAL REPORT AVIATION NTSB ID: MIA96FA068A

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Investigator-In-Charge (IIC)

JEFFREY L. KENNEDY

Additional Persons Participating in This Accident/Incident Investigation:

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GARY L ZINDARS NATCA MARIETTA, GA 30067

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