
Ground Collision between Boeing 747-368, HZ-AIS and Aerospatiale ATR-42-300, N242AT, July 25, 1993

Micro-summary: This Boeing 747-368 struck an ATR-42 while taxiing.


Event Date: 1993-07-25 at 0948 EDT

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

Investigative Body's Web Site: <http://www.nts.gov/>

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		NTSB ID: NYC93FA137A		Aircraft Registration Number: HZAIS	
		Occurrence Date: 07/25/1993		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place JAMAICA		State NY	Zip Code 11430	Local Time 0948	Time Zone EDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer BOEING		Model/Series 747-368		Type of Aircraft 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 FLIGHT					
<p>On Sunday, July 25, 1993, at 0948 eastern daylight time, while taxiing for takeoff, a Boeing 747-368, HZ-AIS, operating as Saudian Arabian Airlines flight SVA 039, and an Aerospatiale ATR-42-300, N242AT, operating as Flagship Airlines (dba American Eagle) flight 4944, collided on the ground, at John F. Kennedy (JFK) Airport, Jamaica, New York. The collision involved the left wing of the B747 and vertical stabilizer and rudder of the ATR-42. The B747 received minor damage and the ATR-42 received substantial damage. There were no injuries to the occupants. Visual meteorological conditions prevailed. Both flights had filed instrument flight rules flight plans. Flight 039 was operating under 14 CFR Part 129, and flight 4944 was operating under 14 CFR Part 121.</p>					
<p>Flight 039 was the continuation of a flight from Saudi Arabia. At JFK there was a flightcrew change and the flight was scheduled to continue on to Dulles Airport, Washington, DC. Flight 039 was parked at Delta Airlines terminal 1A. The on coming flight crew had been on 48 hours of rest.</p>					
<p>Flight 4944 was an originating flight for the flightcrew. The destination was National Airport, Washington, DC. The airplane was parked in the commuter area for American Eagle. This was the first flight after 4 days of rest for the crew.</p>					
<p>Both flight were instructed to taxi to runway 4L. Upon crossing runway 31L, both flightcrews contacted the control tower. As flight 4944 neared taxiway KIL0 BRAVO on taxiway KIL0, they were asked if they would accept an intersection departure, and they replied they would. Flight 4944 pulled onto taxiway KIL0 BRAVO to await their departure sequence.</p>					
<p>As flight 039 neared taxiway KIL0 BRAVO, on taxiway KIL0, the pilot deviated to the right, however, the left wing made contact with the vertical stabilizer of N242AT (Flight 4944).</p>					
<p>In a written statement, made after the accident, the captain of flight 039 stated:</p>					
<p>...As I was approaching [taxiway] KB and to give myself more clearance I taxied off centerline to the right thinking I would be clear of the American Eagle. Meanwhile I heard over the VHF Frequency (AE)[American Eagle] calling and advising position at KB[KIL0 BRAVO] and been hit. I stopped the aircraft immediately....</p>					
<p>In a written statement, the Purser (senior flight attendant) on flight 039, who was seated at the L1 position in the cabin stated:</p>					
<p>...During our taxiing, I observed a small commuter aircraft...As we passed behind this aircraft, I felt a small jolt but I was unable to see anything. I got the impression</p>					
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National Transportation Safety Board

FACTUAL REPORT

AVIATION

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Narrative (Continued)

initially, that we may have clipped the American Eagle Aircraft, as I thought I had seen the AA [American Eagle] A/C moving as we passed it. The Captain was in the middle of a welcoming P.A. to the pax[passengers]. But he broke off mid-way....

The interrupted public address from the captain was also mentioned in two other written statements from flight attendants.

When interviewed after the accident, the captain of flight 039 stated he thought we would clear the airplane while on the taxiway centerline. He said he moved to the right for more clearance.

The accident occurred during the hours of daylight at 40 degrees, 37.57 minutes north and 73 degrees, 47.07 minutes north.

AIRCRAFT INFORMATION

HZ-AIS The airplane, a Boeing 747-368, has a wing span of 195 feet, 8 inches. According to Boeing, the wing landing gear is 41 feet, 4 inches wide, measured from the outside tires. The left wing tip is 126.8 feet rearward, and 95.35 feet outboard of the left pilot seat. Sitting in the left seat of HZ-AIS, this investigator found it was possible to see the wing tip, only if the seat belt was loosened, and he rotated in the seat to the left.

N242AT The airplane, an Aerospatiale ATR-42-300, has an overall length of 74 feet, 5 inches. The nose wheel is located 5 feet aft of the nose of the airplane.

AERODROME INFORMATION

John F. Kennedy Airport is managed by the Port Authority of New York and New Jersey. It is a FAR 139 airport and receives federal funding. No restrictions were found for the use of intersection takeoffs at taxiway KILO BRAVO, when using runway 4L for departures, or for taxiing other airplanes behind an airplane holding on a stub taxiway.

Measurements of the runway and taxiway at taxiway, KILO (K), KILO BRAVO (KB), and runway 4 LEFT (4L) produced the following measurements:

Centerline of runway 4L to runway hold short line 283 feet, 2 inches; Runway hold short line to centerline of taxiway K, 167 feet, 7 inches; Width of taxiway K, at taxiway KB, 72 feet, 2 inches; Centerline of taxiway K to edge line on left 37 feet, 11 inches Centerline of taxiway K to edge line of right 34 feet, 3 inches

According to Mr. William DeGraaff, FAA Eastern Region, Airports Division, Safety and Standards Branch, the runway and taxiway markings at JFK met FAA requirements. The 280 foot distance, centerline of runway to runway hold short line had been in use since November 1980.

FLIGHT RECORDERS

HZ-AIS The cockpit voice recorder (CVR) and digital flight data recorder (DFDR) were forwarded to the NTSB Laboratory in Washington, DC, for review. The recording medium on both recorders was of useable quality.

According to the cockpit voice recorder report, the recorder had been bulk erased. At the end were 14 seconds of conversation which was transcribed.

The information in the flight data recorder was not inconsistent with interviews, and was not included in this report.

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N242AT The airplane was stationary at the time of the accident. The flight data recorder was not retained. The cockpit voice recorder was retained and listened to. The recording was of useable quality; however, it was not inconsistent with interviews and a transcript was not made.

WRECKAGE AND IMPACT INFORMATION

The airplanes were examined at the accident site on July 25, 1993.

HZ-AIS The airplane was on taxiway K, with the main landing gear approximately 250 feet beyond the centerline of taxiway KB. All wheels except the left wing landing gear were found to be on the west (right) side of taxiway K. The airplane was angled with the nose pointed approximately 10 degrees left of the centerline of taxiway K.

The wing flaps were extended to 20 degrees and the leading edge devices were extended. All damage was limited to the outboard section of the left wing. The number one leading edge device was off the airplane and the number two leading edge device was crushed back into the leading edge of the wing. There were two small punctures of the leading edge skin in the vicinity of the leading edge devices. The plastic navigation light cover on the left wing was broken.

When a photograph of the left wing was reviewed by Boeing, they placed the initial contact point at 108 inches (9 feet) from the wing tip.

N242AT The airplane on located on taxiway KB. The wing flaps were in the takeoff position. The nose of the airplane was rotated 50 degrees nose left. An arcing skid mark was found which originated on the centerline of taxiway KB, and terminated with the nosewheel of the airplane. The center of the skid originated 30 feet 3 inches from the runway hold short line. There was a small gouge mark in the asphalt that corresponded with the position of the outboard wheel of the right main landing gear. In addition, a mark was found on the wheel rim, and small pieces of asphalt were imbedded in the wheel rim. The left main gear had left an intermittent skid mark approximately 10 feet long, in the shape of a curving arc.

The number one leading edge device from HZ-AIS was found lodged in the vertical stabilizer of the ATR-42, just forward of the rudder (approximately 7 feet from the rear of airplane). In addition, horizontal scrape marks were visible between the point where the number one leading edge device was lodged in the vertical stabilizer and the end of the rudder.


ADDITIONAL DATA/INFORMATION


Additional statements were submitted by the flightcrew of HZ-AIS after they returned to Saudi Arabia. In these statements, the captain stated he was making a cabin public address at the time of the accident.

According to the Saudi Arabian Airlines, Flight Operations (Part 121/91) Policy Manual, Item 9:

If, at any time, there is any doubt in the pilot's mind as to proper clearance, the aircraft should be stopped until he is assured that there is sufficient room.

Both airplanes were verbally released to their operators on July 25, 1993.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC93FA137A				
		Occurrence Date: 07/25/1993				
		Occurrence Type: Accident				
Landing Facility/Approach Information						
Airport Name JOHN F. KENNEDY		Airport ID: JFK	Airport Elevation 13 Ft. MSL	Runway Used 0	Runway Length	Runway Width
Runway Surface Type: Asphalt						
Runway Surface Condition: Dry						
Type Instrument Approach: NONE						
VFR Approach/Landing: None						
Aircraft Information						
Aircraft Manufacturer BOEING		Model/Series 747-368		Serial Number 23270		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats: 416	Certified Max Gross Wt. 833000 LBS		Number of Engines: 4	
Engine Type: Turbo Fan		Engine Manufacturer: Rolls-Royce		Model/Series: RB 211-524D4	Rated Power:	
- Aircraft Inspection Information						
Type of Last Inspection AAIP		Date of Last Inspection 07/1993	Time Since Last Inspection 249 Hours		Airframe Total Time 23888 Hours	
- Emergency Locator Transmitter (ELT) Information						
ELT Installed? Yes		ELT Operated? No		ELT Aided in Locating Accident Site?		
Owner/Operator Information						
Registered Aircraft Owner SAUDI ARABIAN AIRLINES		Street Address P.O. BOX 167				
		City JEDDAH		State OF	Zip Code	
Operator of Aircraft Same as Reg'd Aircraft Owner		Street Address Same as Reg'd Aircraft Owner				
		City		State	Zip Code	
Operator Does Business As:				Operator Designator Code: SAFF		
- Type of U.S. Certificate(s) Held:						
Air Carrier Operating Certificate(s): Flag Carrier/Domestic						
Operating Certificate:			Operator Certificate:			
Regulation Flight Conducted Under: Part 129: Foreign						
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger/Cargo						
FACTUAL REPORT - AVIATION						

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: NYC93FA137A
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	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 51
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport

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?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 05/1963
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	21198	1945								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	143	143								
Last 30 Days	14	14								
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? Yes	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point Same as Accident/Incident Location	State	Airport Identifier JFK	Departure Time 0000	Time Zone
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Destination WASHINGTON	State DC	Airport Identifier IAD	
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Type of Clearance: None

Type of Airspace: Class D

Weather Information

Source of Briefing:
Flight Service Station

Method of Briefing:

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
JFK	0956	EDT	13 Ft. MSL	0 NM	0 Deg. Mag.

Sky/Lowest Cloud Condition: Scattered 25000 Ft. AGL Condition of Light: Day

Lowest Ceiling: None 0 Ft. AGL Visibility: 20 SM Altimeter: 30.00 "Hg

Temperature: 28 °C Dew Point: 15 °C Wind Direction: 50 Density Altitude: Ft.

Wind Speed: 5 Gusts: Weather Conditions at Accident Site: Visual Conditions

Visibility (RVR): 0 Ft. Visibility (RVV) 0 SM Intensity of Precipitation: Unknown

Restrictions to Visibility: None


Type of Precipitation: None

Accident Information

Aircraft Damage: Minor Aircraft Fire: None Aircraft Explosion: None

Classification: Foreign Registered/U.S. Soil

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer				1	1
Cabin Attendants				18	18
Other Crew					
Passengers				130	130
- TOTAL ABOARD -				151	151
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	151	151

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Administrative Information

Investigator-In-Charge (IIC)
ROBERT L. HANCOCK,

Additional Persons Participating in This Accident/Incident Investigation:

- TOM CARMODY
FAA - AAI-100
WASHINGTON, DC
- FRANK HEUER
PORT AUTHORITY NY/NJ
JAMAICA, NY
- MOHAMMED BERENJI
SAUDIA AIRLINES DIR OF SAFETY
WASHINGTON, DC
- ROBERT GRABOWSKI
APA SAFETY/ACCIDENT INV.
ARLINGTON, TX