



Aviation Investigation Factual Report

Location:	MIAMI, Florida	Accident Number:	MIA99FA038
Date & Time:	December 1, 1998, 04:13 Local	Registration:	N621FF
Aircraft:	Boeing 747-259B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	4 None
Flight Conducted Under:	Part 121: Air carrier - Non-scheduled		

Factual Information

HISTORY OF FLIGHT

On December 1, 1998, about 0413 eastern standard time, a Boeing 747-259B, N621FF, registered to Aerousa Inc., and operated by Tower Air Inc, received fire damage to the right wing during refueling at Miami International Airport, Miami, Florida. Visual meteorological conditions prevailed at the time. An IFR flight plan was on file, and canceled for the 14 CFR Part 121 cargo flight. The airplane was substantially damaged. The flightcrew of four, and one refueler on the ground reported no injuries. The airplane was being loaded with cargo at the time, and part of the crew was in the flight deck.

The first officer (FO) stated that the flight was originally scheduled to depart at 0100, "...but upon our arrival, no cargo had yet been loaded, and a delay of several hours was likely." The FO further said, "...both the engineer and I removed our shoes and uniform shirts and laid down in the bunk beds at the aft end of the upper deck. The aircraft APU was running for cooling. The next thing I knew was the engineer shaking me awake and saying we're on fire, get off the aircraft."

The captain said he boarded the airplane about 0245, and, "...the cargo loading process was well on its way and I got busy with determining the fuel load as there was a change and we were scheduled to go directly to GIG [Rio De Janeiro]...I cleared a couple of flight plan items with our dispatch over the phone and devoted my attention to the INS initialization procedure...suddenly we heard the Ground Crew Call signal. I answered the call and I was told: The aircraft is on Fire !!!!!!! There was a lot of urgency in this call. Based on this information I ordered my crew to evacuate the aircraft. On my way out I pulled the APU Fire Handle, as this seemed to be the only logical conclusion of a fire without any indication of a fire in the cockpit, and placed the Battery Switch to the off position...on my way out, running down the stairs to the ramp, I saw a huge fire under the right wing of the aircraft. There were flames shooting from the fuel truck over the wing between the No. 3 and the No. 4 engines. These flames were so high and wide spread that I firmly believed that the entire airplane and fuel truck were going to explode any second...in my professional judgement it is a miracle that the fuel truck with 40,000 plus pounds and the airplane with 200,000 plus pounds of fuel on board at that time didn't explode...." All the flightcrew members exited the airplane out the L1, boarding door.

According to the refueler, he had pumped 6,000 gallons of Jet "A" into the right wing and was standing on the deck over the pump, when he noticed "white to a light gray" smoke coming from the bottom of the truck's cab, and directly under him. He tried to disconnect the upper deck hoses from the airplane, but before he could, he saw flames coming from the same area of the truck. He jumped off the deck to the ground and attempted to put out the fire with a handheld extinguisher, without success. He then called his dispatcher, and the airport fire

trucks were dispatched and extinguished the fire.

An interview with a Tower Air maintenance technical representative, revealed that he had come on duty at 2300. It was his responsibility to ensure that maintenance was done according to Tower Air's procedures. He stated that everything was okay with the airplane before the fire. He did a walk around the airplane, checked the logbook, checked to see that the two Signature fuel trucks, one under each wing were grounded, and he found that both trucks were grounded. He then went with another ground person and stood on the left side of the airplane, near the nose. He then said that he noticed "sparks" at the lower right hand side of the fuel truck, that was located under the right wing, near the ladder. He quickly ran to the fuel truck on the left of the airplane and told the fueller to stop fueling. The fueller stopped and pulled the truck away. By the time he got back to the nose of the airplane on the left side, he could see flames on the lower side of the truck under the right wing. He immediately beeped the flight deck crew who were in the cockpit by pressing the call switch (ringing bell), located on the nose gear, several times. They beeped back once, he realized they were probably not aware of the urgency, so he decided to run up the stairs and yelled "Fire." When he got back down the stairs the fuel truck and wing were on fire.

The accident occurred during the hours of darkness approximately 25 degrees, 47 minutes north, and 080 degrees, 17 minutes west.

PERSONNEL INFORMATION

Information on the pilot is contained in this report on page 3, under First Pilot Information.

METEOROLOGICAL INFORMATION

Meteorological information is contained in this report on page 3, under Weather Information.

MEDICAL AND PATHOLOGICAL INFORMATION

Toxicological tests were conducted on the refueler, reportedly by his company, and revealed, no ethanol or drugs detected in Blood.

WRECKAGE AND IMPACT INFORMATION

The airplane's damage was concentrated mainly on the right wing. The leading edge of the right wing, between the numbers 3 and 4 engines, was burnt completely through. The leading edge flaps were melted as were numerous panels. The trailing edge flaps between engines 3 and 4, plus the underside skin was burnt. The number 3 engine had a large section of the strut and pylon burned away. The cowling on the number 4 engine was scored and burned. Examination of the fuel truck revealed that there was intense fire damage

near the truck's transmission. A hole was found in the fuel line from the pump to the hose, directly above the area of the most intense fire damage. The truck was burned in the engine, passenger and pump areas. Severe fire damage, to the area between the cab and tank was found. The fuel piping found in this same area, had some severe damage. The fuel meter and other metal parts had been completely consumed by fire and melted. Fire damage to the engine was to the rear and on the top.

ADDITIONAL INFORMATION

The Metropolitan Dade County Fire Department Report, (an attachment to this report) stated the fire department conducted an investigation of the vehicle to determine the cause of the fire. According to the report the fire damage on the truck's engine, "...was possibly due to burning jet fuel from fueling operations at the time of the fire. The truck driver stated that he saw smoke and then fire from under the vehicle in the area between the cab and tank. The fire damage is consistent with the information. Due to severe damage to the area tank/cab, the source of the fuel leak could not be determined."

The airplane was released to Mr. Peter Russo, Director of Safety, Tower Air, on December 3, 1998. Mr. Russo signed the NTSB Form 6120.15, Wreckage Release form on December 18, 1998.

Pilot Information

Certificate:	Airline transport; Commercial	Age:	44, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	September 1, 1998
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	11300 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N621FF
Model/Series:	747-259B 747-259B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	21730
Landing Gear Type:	Retractable - Tricycle	Seats:	9
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	833000 lbs
Time Since Last Inspection:		Engines:	4 Turbo jet
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	JT90-7Q
Registered Owner:	AEROUSA INC.	Rated Power:	
Operator:	TOWER AIR	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:	TOWER AIR	Operator Designator Code:	TWRA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	MIA ,11 ft msl	Distance from Accident Site:	
Observation Time:	04:56 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 7000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	14 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(MIA)	Type of Flight Plan Filed:	IFR
Destination:	VIRACOPUS (VCP)	Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	

Airport Information

Airport:	MIAMI INTERNATIONAL MIA	Runway Surface Type:	
Airport Elevation:	11 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): Yurman, Alan

Additional Participating Persons: GARY CRANFORD; MIAMI , FL

Report Date: June 30, 1999

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=45400>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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