



National Transportation Safety Board Aviation Accident Final Report

Location:	Sunny Isles Bch, FL	Accident Number:	MIA02FA041
Date & Time:	12/06/2001, 2258 EST	Registration:	N582HG
Aircraft:	Convair Div. of Gen. Dynamics 340-580STC	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Minor

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

The airline completed weight and balance and dispatch release forms for the initial flight showed an incorrect fuel load at the time the engines were started. The first officer performed a walk-around before the first flight leg which included checking the fuel tanks. A total of 460 gallons of fuel were added to the fuel tanks, and a delay loading cargo occurred. After both engines were started to begin the first flight, the engines remained operated for between 9-10 minutes before they were secured due to a radio problem. Maintenance personnel reracked the VHF radios, and again the engines were started where the airplane remained on the ramp 3-4 minutes before taxiing to the runway. The airplane remained at the runway hold short area for between 20 and 25 minutes before returning to the ramp due to a radio problem. The engines were secured, and a new VHF radio was purchased and installed. The company did not prepare new dispatch release, or weight and balance forms for the flight taking into account the additional fuel consumed with the engines operating. The engines were started, and the airplane was taxied to the runway and departed for the planned first leg. The airplane landed uneventfully at the destination airport where the cargo was offloaded. The first officer performed a walk-around which included checking the fuel tanks; 300 gallons of fuel were added to the fuel tanks (150 gallons in each side). The flight departed to return and when near the coastline, the flight was vectored to an airport other than the planned destination due to an issue with U.S. Customs. The flight landed uneventfully, and experienced a delay clearing customs. While on the ground before departure on the accident flight, the first officer reportedly performed a walk-around which included checking the fuel tanks with the captain looking on. The first officer reported that each fuel tank had approximately 1,100 pounds of fuel, and he and the captain both agreed before takeoff as to the quantity of fuel on-board as indicated by the magna-sticks. No fuel was purchased. Following starting of both engines for the accident flight, the first officer checked the fuel quantity gauges indications against the magna-sticks indications he observed; the fuel quantity gauges indicated approximately 200 pounds more. The flight departed, proceeded eastbound, and climbed to approximately 2,100 feet msl. During a right turn from a southeast to westerly heading, the right engine experienced a loss of horsepower which decreased from 900 to zero. The right engine was secured as a precaution, and priority handling to the destination airport was requested with air

traffic control. The left engine horsepower remained the same (900) for a period of 31 seconds following the right engine horsepower decrease, then increased to 2,200, and remained at that value for 1 minute 13 seconds. The left engine horsepower then began to decrease and dropped to zero. The airplane was turned to the east, then turned to the south and ditched. The captain and first officer evacuated but remained with the airplane, and made it to shore where the first officer advised his wife that something was wrong with the fuel gauges. Following recovery of the airplane, pressure testing of the left fuel tank revealed no evidence of preimpact leakage. Pressure testing of the right fuel tank revealed slight leakage past the fuel cap. Boroscope examination of the engines, and functional test of each engine ignition system, fuel control units and fuel pumps revealed no evidence of preimpact failure or malfunction. Examination of the installed magna-sticks revealed no evidence of preimpact failure. The left fuel tank was drained and found to contain 2 gallons of Jet A fuel, while the right fuel tank was drained and found to contain approximately 540 gallons of salt water and 1/2 gallon of Jet A fuel. Fuel consumption calculations performed by FAA personnel revealed that at the time of engine start for the accident flight, the fuel tanks contained approximately 714 pounds of fuel. According to a representative of the engine manufacturer, the amount of fuel drained from the engine components post accident was consistent with, "low residual fuel."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadequate dispatch of the airplane by company personnel prior to the first leg of the flight due to failure of company personnel to prepare a new flight release and weight and balance after considerable time on the ground with the engines operating. Also causal, was the inadequate preflight of the airplane by the captain by which he failed to note the low level of fuel in the fuel tanks before departure resulting in total loss of engine power of both engines due to fuel exhaustion and subsequent ditching of the airplane. A finding in the accident was the inaccurate fuel quantity gauges.

Findings

Occurrence #1: MISCELLANEOUS/OTHER
Phase of Operation: STANDING - PRE-FLIGHT

Findings

1. (C) DISPATCH PROCEDURES - INADEQUATE - COMPANY/OPERATOR MANAGEMENT
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND

Occurrence #2: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE - NORMAL

Findings

3. ENGINE INSTRUMENTS,FUEL QUANTITY GAGE - INACCURATE
4. FLUID,FUEL - LOW LEVEL
5. FLUID,FUEL - EXHAUSTION

Occurrence #3: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #4: DITCHING
Phase of Operation: EMERGENCY LANDING

Factual Information

HISTORY OF FLIGHT

On December 6, 2001, about 2258 eastern standard time, a Convair 340-580STC, N582HG, registered to World Aviation Services, Inc., and operated by Trans Air Link Corporation, was ditched in the Atlantic Ocean, near Sunny Isles Beach, Florida, following a precautionary shutdown of the right engine and a subsequent loss of engine power from the left engine. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 CFR Part 91 positioning flight from the Fort Lauderdale-Hollywood International Airport (KFLA), to the Opa-Locka Airport, Opa-Locka, Florida. The airplane was substantially damaged and the airline transport-rated captain and first officer sustained minor injuries. The flight originated about 2250, from Fort Lauderdale, Florida.

The captain reported that prior to departing Fort Lauderdale, he went to the airplane after clearing customs from the previous flight from the Bahamas. The first officer performed a quick walk-around which included checking the fuel while he watched. The total fuel capacity was estimated to be between approximately 320 to 340 gallons (2,144 to 2,278 pounds of fuel). The left fuel gauge indicated approximately 200 pounds less than the magna-stick reading while the right fuel gauge agreed with the magna-stick indication. The engines were started, air traffic control was advised the destination was the Opa-Locka Airport, and the flight taxied to the runway. After takeoff the flight proceeded on a heading of 100-110 degrees, climbed to 2,000 feet mean sea level, and while over water, the flight was vectored heading 270 degrees. When the flight was within about 1/2 mile from the shoreline, the captain heard a strange noise he associated with negative torque sense "NTS'ing" from the right engine; there were no lights or indications. A precautionary shutdown of the right engine was performed, and at that point, the left fuel gauge indicated 600-700 pounds of fuel remaining and the right fuel gauge indicated approximately 900 pounds of fuel remaining. The crossfeed valve was opened to provide fuel to the left engine, and air traffic control was contacted and priority handling to the Opa-Locka Airport was requested. He intended on flying to the Opa-Locka Airport on one engine. Air traffic control asked if they were declaring an emergency, and the response was no, he considered the securing of the right engine as a precaution. While the first officer was talking with air traffic control, the same "NTS'ing" occurred to the left engine, which didn't completely lose power. The first officer advised air traffic control that they were going to ditch the airplane. They were unable to see a nearby airport but felt they were close to the Opa-Locka Airport; at that time he didn't know exactly where they were located. He banked to the left and flew towards the ocean, and the left engine lost power completely. The first officer advised air traffic control of the intention of ditching, and he maneuvered the airplane between two buildings, and turned to the south. He wanted to do a restart of the right engine, but didn't think he could because the propeller was feathered, and AC power was needed to unfeather the propeller. The first officer continued talking with air traffic control, and because of safety concerns, a restart of the left engine was not attempted. While flying in a southerly heading at approximately 150 knots, at a low altitude, he asked for full flaps several times. He saw a pier with lights, veered to the left, flared, and heard the tail hit the water.

The first officer stated that during his check of the fuel tanks before takeoff, each fuel tank contained approximately 1,100 pounds of fuel. While in the cockpit with the captain before electrical power was applied, he and the captain agreed on the quantity of fuel on-board as indicated by the "drip sticks." After the engines were started for the flight, the fuel gauges were

indicating approximately 200 pounds more than the quantity indicated by the "drip sticks." No fuel was added while on the ground at the KFLA airport. Visual flight rules (VFR) flight following was requested with air traffic control (ATC), and the airplane was taxied to and departed from runway 9L. After takeoff the flight was cleared to climb to 2,000 feet on a heading of 100 degrees, and proceeded over the ocean for approximately 1 minute when the flight was vectored heading 270 degrees. At a point in the flight when the shoreline was in sight, he began hearing a "weird sound coming from the right engine." He checked the rpm and fuel gauges, and noted that the right rpm gauge needle was climbing but never to the green arc; the needle was fluctuating. He was prepared to execute the propeller overspeed checklist but noted that the right fuel gauge needle was "making heavy oscillations", and was moving "strong." It moved twice to zero then returned to the original reading. The left fuel tank gauge needle did not fluctuate. He advised the captain he was losing the right engine and with concurrence from him, performed a precautionary shutdown of the right engine using the emergency handle. Power was applied to the left engine, and rudder trim was applied. The captain also began "transferring" fuel from the right fuel tank to the left engine after the right engine was secured. Air traffic control (ATC) was notified of the situation, and priority handling to the Opa-Locka Airport was requested. He thought about restarting the right engine but did not attempt to due to the circumstances. A short time after securing the right engine, the left engine tachometer began fluctuating as the right had, but to a lesser extent. He advised the captain to fly to the ocean and advised ATC of the intent to ditch. The flight was descending at 1,500 fpm and he intended on lowering full flaps but his attention was diverted outside and he could not confirm that the flaps fully extended. The flight proceeded in a southerly direction paralleling the shoreline, and before ditching east of a buoy, he placed his hand on the flight controls. The ditching was soft and he donned his personnel floatation device (PFD); he smelled fuel in the water.

A witness observed the airplane flying southeast bound towards the ocean and when near the shoreline, the airplane banked to the right flying southbound paralleling the beach. The airplane was ditched east of a buoy and remained floating after the ditching.

Following the ditching, the captain and first officer evacuated the airplane from the first officer's sliding window, waited with the airplane while it moved closer to shore, then made it to the beach with the first officer assisting the captain and assistance from a buoy offered by rescue personnel. While on-shore, the first officer advised his wife in spanish of the ditching, and there was something wrong with the fuel gauges. He advised her he thought they had fuel but didn't, and that he didn't know what occurred because he had fuel and the fuel gauges indicated he had fuel, but then there was no fuel, and everything shutoff. Both occupants were then taken by ambulance to a local hospital for treatment.

Review of recorded radar data from the Miami Air Traffic Control Tower revealed that the first recorded transponder return occurred at 2250:30, at which time the airplane was at 200 feet mean sea level (msl) flying on a easterly heading. The flight continued, climbed to 2,100 feet msl which occurred at 2253:10, while flying a east-southeasterly heading. The next radar return 28 seconds later indicates the airplane was at 2,000 feet msl, on a westerly heading. The airplane maintained the westerly heading and approximately 2,000 feet msl until 2256:34, at which time the airplane was on a east-southeast heading flying at 1,000 feet msl. The airplane remained at that altitude and heading for the next radar target 5 seconds later, at which time the airplane began descending and turning towards a southerly heading. The airplane continued descending while flying on a southerly heading until the last recorded radar

return at 2257:48, at which time the airplane was at 200 feet msl flying on a nearly due south heading.

PERSONNEL INFORMATION

The captain was the holder of an airline transport pilot certificate, with a Convair 340/440 type rating, reissued on September 6, 2001. He was the holder of a first class medical certificate which was issued on August 8, 2001, with the limitation, "Holder shall wear lenses that correct for distant vision." He was hired by Trans Air Link in August 2001, and prior to employment had previously flown the Convair 340-580STC airplane. He reported a total flight time of 12,765 hours, with 1,940 hours total time in the accident make and model airplane. He was also reported to have accumulated 1,881 hours as pilot-in-command in the accident make and model airplane.

The first officer was the holder of an airline transport pilot certificate, which was issued on December 12, 2000. He was the holder of a first-class medical certificate which was issued on October 15, 2001, with no limitations. He was hired by Trans Air Link in February 2001, and prior to his employment with that company, had not flown the Convair 340-580STC airplane. He reported a total flight time of 2,569 hours, of which 271 hours were in the accident make and model airplane.

AIRCRAFT INFORMATION

The airplane was initially manufactured as a Convair 340, serial number 46, and was modified in accordance with Supplemental Type Certificate SA4-1100, which included installation of Allison 501-D13D engines. The airplane was equipped with Aero Products propellers model A6441FN-606A. The airplane was also modified in accordance with a Supplemental Type Certificate for installation of Magna-stick fuel level quantity indicators in each fuel tank.

METEOROLOGICAL INFORMATION

A METAR weather observation taken at the Fort Lauderdale/Hollywood International Airport (KFL), on the day of the accident at 2253, indicates that few clouds existed at 2,900 feet mean sea level (msl), scattered clouds existed at 6,500 feet msl, the wind was from 110 degrees at 9 knots, the visibility was 10 statute miles, the temperature and dew point were 24 and 22 degrees Celsius respectively, and the altimeter setting was 30.04 inHg. The airplane came to rest 164 degrees and 8.51 nautical miles from KFL.

COMMUNICATIONS

The flightcrew was in contact last with Miami Air Traffic Control tower.

WRECKAGE AND IMPACT INFORMATION

The airplane was first observed by NTSB approximately 2-3 hours after the ditching resting on and parallel to the shoreline with the nose of the airplane heading northbound. The left wing was over the beach, and the right wing was partially submerged in the surf when first viewed by NTSB, and again the following morning. The empennage was separated near the cargo door but remained in close proximity to the fuselage. The right propeller was feathered and the left propeller blades were damaged. Fire department personnel reported smelling a slight odor of fuel initially but the odor quickly dissipated. The airplane was located at 25 degrees 56.03 minutes north Latitude and 080 degrees 07.20 minutes west Longitude.

The airplane was recovered to the beach where approximately 2 gallons of Jet A fuel were

drained from the left fuel tank. The right outboard magna-stick was checked which indicated approximately 540 gallons of fluid. The right fuel tank was drained and found to contain approximately 540 gallons of water and approximately 1/2 gallon of Jet A fuel. The cross feed fuel line was cut approximately 45 inches outboard of the right side of the fuselage, and also between the left side of the fuselage and the left engine nacelle; no fuel was located when either of the lines were cut. Approximately 2 ounces of fuel were drained from each of the left and right wings main tank drain valves, and approximately 32 ounces of fuel were drained from the right fuel/oil heat exchanger. Approximately 19 ounces of fuel were drained from the left fuel/oil heat exchanger. Only residual fuel was noted at the outlet of the left boost pump, and no fuel was noted at the outlet of the right boost pump. The left and right fuel quantity gauges in the cockpit were found to indicate slight greater than 100 pounds, and slightly less than 800 pounds, respectively. The landing gears were retracted.

The airplane was transported to a facility where it was secured for further examination. The left and right fuel tanks were pressure checked; leakage was noted from the left fuel tank on the outboard section of the engine nacelle where damage occurred during recovery. Additionally, leakage was noted from the drain line from the auxiliary fuel pump where impact damage was noted. No leakage was noted from the fuel cap. Pressure testing of the right fuel tank revealed slight leakage from the fuel cap. The magna-sticks from both fuel tanks were retained for further investigation.

Boroscope examination of both engines by a representative of the engine manufacturer with NTSB oversight revealed no evidence of preimpact mechanical failure or malfunction. Testing of each engine ignition system from each relay to each igniter revealed no evidence of failure or malfunction. The fuel control unit and mechanical fuel pump from each engine were retained for bench testing which revealed no evidence of preimpact failure or malfunction of either fuel control unit or of either mechanical fuel pump. According to the engine manufacturer's representative, the quantity of fuel recovered from the engine components following recovery of the airplane was consistent with, "low residual fuel."

TESTS AND RESEARCH

Review of the airplane maintenance records revealed that the left fuel quantity gauge was last overhauled on April 28, 1995, and installed in the accident airplane on September 30, 1996. The right fuel quantity gauge was last overhauled on September 6, 1995 and installed in the accident airplane on April 1, 1996. A discrepancy dated January 27, 2001, indicates, "No.2 fuel quantity indicator reads one thousand pounds lower than number 1." Another discrepancy dated March 20, 2001, indicates, "Fuel quantity gauges need calibrated with 4,000 pounds in both sides R/H 3,500 lbs L/H 2,700 lbs." The corrective action for both discrepancies indicates both fuel quantity gauges were calibrated in accordance with the maintenance manual. There were no further recorded discrepancies related to the fuel quantity gauges.

The airplane was last inspected the day before the accident in accordance with a "B" check. Following that check, the Director of Maintenance for Trans Air Link personally checked the quantity of fuel in the fuel tanks using the magna-sticks. He reported that when he checked the fuel tanks, the left and right held 150 and 130 gallons of fuel, respectively. The airplane remained parked until the following morning, when it was positioned to the Florida Air Cargo ramp and 460 gallons of fuel were added to the fuel tanks. The airplane contained 740 gallons of fuel at the time of engine start, for the first flight.

The airline completed weight and balance form and dispatch release for the first flight leg indicated there were 4,667 pounds of fuel on-board for the flight. As previously mentioned, the airplane was determined to have a total of 740 gallons of fuel (4,958 pounds of fuel) at the time the engines were started to begin the first flight leg.

The flightcrew was scheduled to fly 2 legs on the accident date, the first flight leg was scheduled to depart at 0800. A discrepancy with the cargo delayed the first departure. Following starting of both engines for the first flight leg, the airplane remained on the ramp approximately 9-10 minutes with the engines operating. The engines were secured due to a discrepancy with one of the airplane's very high frequency (VHF) radios. A mechanic from Trans Air Link "re-[racked]" the radios, and verified communication capability with ground and local control. The engines were restarted and the airplane remained on the ramp approximately 3-4 minutes before taxiing to the runway. The airplane remained at the run-up area short of the runway approximately 20-25 minutes before taxiing back to the ramp where both engines were secured. A new radio was installed into the airplane, both engines were started, and the airplane remained on the ramp approximately 3-4 minutes before taxiing to the runway. No new flight release or weight and balance was prepared by company personnel taking into account the fuel consumed due to the operating engines. The first flight leg departed at 1457 hours, and landed uneventfully in Nassau, Bahamas, approximately 49-50 minutes later as reported by the flightcrew. After landing, the airplane taxied to the ramp where the cargo was off-loaded. While in Nassau, the first officer performed a walk around which included checking the fuel; 300 gallons of fuel were added to the fuel tanks (150 gallons a side). The flight was cleared for takeoff 22 minutes after a flight crew member contacted clearance delivery, and proceeded to the planned destination, but when the flight was near the U.S. coastline, the flight crew was advised that Customs was closed at the intended destination (Opa-Locka Airport). The flight crew elected to fly to the Fort Lauderdale/Hollywood International Airport, and landed uneventfully approximately 52 minutes after takeoff. The airplane was taxied to the Customs ramp, where both engines were secured and a Customs delay occurred. No fuel was purchased while at the Fort Lauderdale/Hollywood International Airport before departure on the accident flight.

Fuel consumption calculations were performed by an FAA inspector for all three flight legs to include the time spent on the ground at all three airports with the engines operating. The FAA inspector-in-charge requested air traffic control information from the Opa-Locka Air Traffic Control Tower. The request was not complied with; therefore, information concerning times at the Opa-Locka Airport were based on information provided by company personnel. The calculations determined that at the time the airplane departed on the first leg, the total fuel capacity was 3,758 pounds. As previously mentioned, the dispatch release indicated the required fuel load for the flight was 4,667 pounds. The calculations also indicate that for the flight to Nassau, the calculated fuel burn was 2,337 pounds, with an additional 100 pounds for taxi fuel burn after landing. Including the fuel that was purchased at Nassau (300 gallons), the airplane was calculated to have had 3,331 pounds of fuel on-board when the engines were started for the return flight. The calculations also indicate that the fuel consumption while on the ground at Nassau, the flight portion, and the ground portion at Fort Lauderdale was calculated to have consumed a total of 2,617 pounds. At the time of engine start at Fort Lauderdale, the calculated total fuel capacity was 714 pounds. The calculations indicate that 300 pounds of fuel were consumed during taxi to takeoff, resulting in 414 pounds of fuel remaining in the fuel tanks at the point of takeoff on the accident flight.

The cockpit voice recorder (CVR) and flight data recorder (FDR) were initially retained by the NTSB; the CVR was not transcribed due to factual accident information being available from other sources.

Read-out of the FDR was performed by the NTSB Vehicle Recorder Division, located in Washington, DC; no group was formed. The FDR recorded the accident flight. Approximately 2 minutes 47 seconds after becoming airborne, while flying at a recorded pressure altitude of 2,133 feet during a right turn from a southeast to a westerly heading, the right engine horsepower value decreased from 900 to less than zero, while the left engine horsepower value remained the same (also approximately 900), for the next approximate 31 seconds. The left engine horsepower value then increased to approximately 2,200, and remained at approximately that value for 1 minute 13 seconds. The left engine horsepower value then began to decrease reaching nearly zero approximately 5 minutes 4 seconds after takeoff. From that point the pressure altitude and indicated airspeed recorded values were observed decreasing, to the last recorded data which occurred approximately 7 minutes 51 seconds after becoming airborne.

Examination of the magna-sticks from both fuel tanks was performed with FAA oversight at the manufacturer's facility. Three of the four magna-sticks provided, "acceptable readings" during functional testing. The fourth magna-stick, which was damaged during recovery of the airplane could not be functionally tested due to the damage, but examination of it revealed no evidence of preimpact failure. The magna-sticks have markings that reflect gallons of fuel.

ADDITIONAL INFORMATION

The airplane minus the retained components was released to Hernando Gutierrez, president and owner of Trans Air Link Corporation, on January 10, 2002. All retained components were released to Ana Gutierrez, secretary of Trans Air Link, on October 21, 2003.

Pilot Information

Certificate:	Airline Transport	Age:	43, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	08/08/2001
Occupational Pilot:		Last Flight Review or Equivalent:	09/06/2001
Flight Time:	12765 hours (Total, all aircraft), 1940 hours (Total, this make and model), 3081 hours (Pilot In Command, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport	Age:	36, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	10/15/2001
Occupational Pilot:		Last Flight Review or Equivalent:	04/05/2001
Flight Time:	2569 hours (Total, all aircraft), 271 hours (Total, this make and model), 637 hours (Pilot In Command, all aircraft), 71 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Convair Div. of Gen. Dynamics	Registration:	N582HG
Model/Series:	340-580STC	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	46
Landing Gear Type:	Retractable - Tricycle	Seats:	3
Date/Type of Last Inspection:	12/05/2001, Continuous Airworthiness	Certified Max Gross Wt.:	58156 lbs
Time Since Last Inspection:	1.72 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	75103 Hours	Engine Manufacturer:	Allison
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	501-D13
Registered Owner:	World Aviation Services, Inc.	Rated Power:	3750 hp
Operator:	TRANS AIR LINK CORP	Operating Certificate(s) Held:	Supplemental
Operator Does Business As:		Operator Designator Code:	TALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	KFLL, 9 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	2253 EST	Direction from Accident Site:	344°
Lowest Cloud Condition:	Few / 2900 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	24° C / 22° C
Precipitation and Obscuration:			
Departure Point:	Fort Lauderdale, FL (KFLL)	Type of Flight Plan Filed:	None
Destination:	Opa-Locka, FL (KOPF)	Type of Clearance:	None
Departure Time:	2250 EST	Type of Airspace:	

Airport Information

Airport:	Fort Lauderdale/Hollywood Intl (KFLL)	Runway Surface Type:	Unknown
Airport Elevation:	9 ft	Runway Surface Condition:	Unknown
Runway Used:		IFR Approach:	Unknown
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	25.933889, -80.120000

Administrative Information

Investigator In Charge (IIC): Timothy W Monville **Report Date:** 12/30/2003

Additional Participating Persons: Stanley R Crum; FAA FSDO; Miami, FL
Catherine VanAssche; FAA FSDO; Long Beach, CA
Donald W Lauderbaugh; Trans Air Link Corporation; Opa-Locka, FL
Robert E Hutchinson; Kaiser ElectroPrecision; Irvine, CA
Robert E Ketchum; Rolls-Royce; Indianapolis, IN
Jose A Munoz; FAA FSDO; Miami, FL

Publish Date:

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).