



National Transportation Safety Board Aviation Accident Final Report

Location:	Newcastle, St Kitts And Nevis	Accident Number:	MIA04LA103
Date & Time:	07/13/2004, 1920 AST	Registration:	N829CA
Aircraft:	Learjet 35A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	4 None

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

The flightcrew stated that approximately 8 miles out on a visual approach for runway 10 they requested winds and altimeter setting from the control tower. They received altimeter setting 29.95 inches Hg., and winds from 090 degrees at 20 knots. About 5 miles out, in full landing configuration, they checked wind conditions again, and were told 090 at 16 knots. They were holding Vref of 125 knots plus 10 knots on final. The approach was normal until they got a downdraft on short final. The airplane sank and they reacted by immediately adding engine power and increasing pitch, but the airplane continued to sink. The airplane's main landing gear came in contact with the top of the barbwire fencing at the approach end of the runway. The airplane landed short of the threshold. The airplane was under control during the roll out and they taxied to the ramp. A special weather observation was taken at the Vance W. Amory International Airport at 1930, 10 minutes after the accident. The special weather observation was winds 090 at 15 knots, visibility 10 statute miles, scattered clouds at 2,000, temperature 27 degrees centigrade, dewpoint temperature 23 degrees centigrade, altimeter setting 29.95 inches hg.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's encounter with a downdraft.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: APPROACH

Findings

1. WEATHER CONDITION - DOWNDRAFT

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings

2. OBJECT - FENCE

Factual Information

History of the Flight

On July 13, 2004, about 1920 Atlantic standard time, a Learjet 35A, N829CA, registered to Antilles Aircraft Leasing Inc. and operated by Aviation Jet Charters, Inc., as a Title 14 CFR Part 91, air ambulance positioning flight, landed short and impacted with a fence during landing on runway 10 at Vance W. Amory Airport, Newcastle, St. Kitts and Nevis. Visual meteorological conditions prevailed and an instrument flight rules flight plan was filed. The airline transport-rated pilot, the airline transport-rated copilot, and two medical personnel reported no injuries. The airplane incurred substantial damage. The flight originated from Princess Juliana International Airport, St. Maarten, Netherlands Antilles, earlier that day, about 1900.

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Personnel Information

The Captain holds a U.S. FAA airline transport pilot certificate with airplane multiengine land and Learjet ratings, last issued on March 14, 1995. The Captain also holds a FAA airplane single engine land rating at the private pilot level. The Captain holds a U.S. FAA first class medical certificate issued on May 26, 2004, with the limitation that the holder must wear corrective lenses while exercising the privileges of the certificate. The Captain was hired by Aviation Jet Charters, Inc. on August 21, 1994. The Captain received a 6 month instrument proficiency check, in accordance with Title 14 CFR Part 135.297, on April 26, 2004. The Captain received a 12 month recurrent check, 6 month instrument check, and a 12 month line check, as required by Title 14 CFR Part 135, on September 12, 2003. At the time of the accident the Captain reported he had accumulated 6,500 total flight hours with 539 flight hours in the Learjet. All Learjet flight hours was reported to be as pilot-in-command.

The First Officer holds a U.S. FAA airline transport pilot certificate with airplane multiengine land and Learjet ratings, last issued on June 18, 2000. The First Officer also holds a FAA airplane single engine land rating at the commercial pilot level. The First Officer holds a U.S. FAA first class medical certificate issued on May 28, 2004, with the no limitations. The First Officer was hired by Aviation Jet Charters, Inc. on March 5, 2000. The First Officer received a 12 month recurrent check as required by Title 14 CFR Part 135, on September 12, 2003. At the time of the accident the First Officer reported he had accumulated 10,000 total flight hours with 539 flight hours in the Learjet.

Airplane Information

The airplane is a Learjet model 35A, serial number 459, manufactured in 1981. The airplane was equipped with 2 Garrett TFE-731-2-2B, 3,500 thrust pound engines. At the time of the

accident the airplane had accumulated 9,899 total flight hours. The airplane was last inspected on March 3, 2004, 175 flight hours before the accident, when it received an inspection in accordance with the operators continuous airworthiness program.

Meteorological Information

A special weather observation was taken at the Vance W. Amory International Airport at 1930, 10 minutes after the accident. The special weather observation was winds 090 at 15 knots, visibility 10 statute miles, scattered clouds at 2,000, temperature 27 degrees centigrade, dewpoint temperature 23 degrees centigrade, altimeter setting 29.95 inches hg.

The flightcrew reported that when they were on an 8 mile final approach the air traffic controller reported the winds were from 090 degrees at 20 knots, and when they were on a 5 mile final approach the air traffic controller reported the winds were from 090 degrees at 16 knots. They reported that they encountered a downdraft on short final approach.

Airport Information

The Vance W. Amory International Airport, Newcastle, Nevis, West Indies, is located at 17 degrees, 12 minutes, 30 seconds North Latitude and 062 degrees, 35 minutes, 60 seconds West Longitude. The airport has 1 asphalt runway which is identified as 10 and 28. The runway is 4,003 feet long. The landing distance available on runway 10, the runway used by the accident flight, is 3,428 feet and the runway has a 575 foot displaced threshold. Runway 10 is equipped with a precision approach path indicator (PAPI) which is set at a 3.5 degree approach slope to the runway and allows for a 20 foot threshold crossing altitude.

Flight Recorders

The airplane was equipped with a Fairchild GA-100 cockpit voice recorder (CVR). The CVR was removed from the airplane after the accident and shipped to the NTSB, Vehicle Recorder Laboratory, Washington, D.C., for readout. Readout of the CVR indicated that all sounds recorded were from previous flights and that the CVR was not operational at the time of the accident. No sounds from the accident flight were recorded on the CVR.

Wreckage and Impact Information

Examination of the accident area by representatives of the Director of Civil Aviation, Eastern Caribbean States, showed that the airplane impacted a airport perimeter fence in the approach area of runway 10, knocking down 4 fence poles and about 40 feet of fencing. The fence was located on a small hill approximately 50 feet before the start of the runway. The airplane then touched down on the grass and rolled on to the runway surface. Evidence of fuel spillage was present on the runway and along the taxi path of the airplane to the parking ramp. The airplane continued to leak fuel after parking.

Examination of the airplane showed there were impact marks from the fence posts on the left and right wing leading edges and under wing areas. The left wing fuel tank was open by impact damage. The right and left main landing gear doors were damaged. The right wing flap and aileron were damaged. The left engine was displaced downward and the engine mount was damaged.

Medical and Pathological Information

The Captain, First Officer, and 2 Medical Crew Members were not injured. The Captain and First Officer did not submit to post accident toxicology testing.

Additional Information

The airplane was released by NTSB to the Captain on July 28, 2004. The cockpit voice recorder was released by NTSB to the Captain's representative on August 31, 2004.

The director of Civil Aviation for the Eastern Caribbean States delegated the investigation of the accident to the United States National Transportation Safety Board on July 19, 2004. The NTSB accepted delegation of the investigation.

Pilot Information

Certificate:	Airline Transport	Age:	53, Male
Airplane Rating(s):	Multi-engine Land; Single-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 With Waivers/Limitations	Last FAA Medical Exam:	04/01/2004
Occupational Pilot:		Last Flight Review or Equivalent:	04/01/2004
Flight Time:	6500 hours (Total, all aircraft), 539 hours (Total, this make and model), 5000 hours (Pilot In Command, all aircraft), 130 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport	Age:	36, Male
Airplane Rating(s):	Multi-engine Land; Single-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 Without Waivers/Limitations	Last FAA Medical Exam:	05/01/2004
Occupational Pilot:		Last Flight Review or Equivalent:	09/01/2003
Flight Time:	10000 hours (Total, all aircraft), 539 hours (Total, this make and model), 130 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Learjet	Registration:	N829CA
Model/Series:	35A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	459
Landing Gear Type:	Retractable - Tricycle	Seats:	
Date/Type of Last Inspection:	03/01/2004, Continuous Airworthiness	Certified Max Gross Wt.:	18300 lbs
Time Since Last Inspection:	175 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	9899 Hours at time of accident	Engine Manufacturer:	Garrett
ELT:	Installed, not activated	Engine Model/Series:	TFE-731-2-2B
Registered Owner:	Antilles Aircraft Leasing, Inc.	Rated Power:	3500 lbs
Operator:	Aviation Jet Charters LLC	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	PISA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	TKPK, 14 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1930 AST	Direction from Accident Site:	100°
Lowest Cloud Condition:	Scattered / 2000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	27° C / 24° C
Precipitation and Obscuration:			
Departure Point:	St. Maarten (TNM)	Type of Flight Plan Filed:	IFR
Destination:	Newcastle (TKPN)	Type of Clearance:	IFR
Departure Time:	1900 AST	Type of Airspace:	

Airport Information

Airport:	Vance W. Amory (TKPN)	Runway Surface Type:	Asphalt
Airport Elevation:	14 ft	Runway Surface Condition:	Dry
Runway Used:	10	IFR Approach:	Visual
Runway Length/Width:	4003 ft / 98 ft	VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	17.208333, -62.600000

Administrative Information

Investigator In Charge (IIC):	Jeffrey L Kennedy	Report Date:	01/31/2006
Additional Participating Persons:	Thomas Sowers; FAA Miami International Office; Miami, FL Robert Cunningham; FAA FSDO; Orlando, FL Herald A Wilson; Director of Civil Aviation; St. Johns, Antigua,		
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](#).