



National Transportation Safety Board Aviation Accident Final Report

Location:	Columbia, SC	Accident Number:	DCA08MA098
Date & Time:	09/19/2008, 2353 EDT	Registration:	N999LJ
Aircraft:	Learjet LR60	Aircraft Damage:	Destroyed
Defining Event:	Runway excursion	Injuries:	4 Fatal, 2 Serious
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The NTSB's full report is available at <http://www.nts.gov/publictn/publictn.htm>. The Aircraft Accident Report number is NTSB/AAR-10/02.

On September 19, 2008, about 2353 eastern daylight time, a Bombardier Learjet Model 60, N999LJ, owned by Inter Travel and Services, Inc., and operated by Global Exec Aviation, overran runway 11 during a rejected takeoff at Columbia Metropolitan Airport, Columbia, South Carolina. The captain, the first officer, and two passengers were killed; two other passengers were seriously injured. The nonscheduled domestic passenger flight to Van Nuys, California, was operated under 14 Code of Federal Regulations Part 135. Visual meteorological conditions prevailed, and an instrument flight rules flight plan was filed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The operator's inadequate maintenance of the airplane's tires, which resulted in multiple tire failures during takeoff roll due to severe underinflation, and the captain's execution of a rejected takeoff (RTO) after V₁, which was inconsistent with her training and standard operating procedures.

Contributing to the accident were (1) deficiencies in Learjet's design of and the Federal Aviation Administration's (FAA) certification of the Learjet Model 60's thrust reverser system, which permitted the failure of critical systems in the wheel well area to result in uncommanded forward thrust that increased the severity of the accident; (2) the inadequacy of Learjet's safety analysis and the FAA's review of it, which failed to detect and correct the thrust reverser and wheel well design deficiencies after a 2001 uncommanded forward thrust accident; (3) inadequate industry training standards for flight crews in tire failure scenarios; and (4) the flight crew's poor crew resource management (CRM).

Findings

Aircraft	Tire casing - Incorrect service/maintenance (Cause) Tire casing - Failure Thrust reverser - Design (Factor) Powerplant parameters - Attain/maintain not possible
Personnel issues	Incorrect action selection - Pilot (Cause) Use of policy/procedure - Pilot (Cause) CRM/MRM techniques - Flight crew (Factor)
Organizational issues	Oversight of maintenance - Operator (Cause) Equipment design - Manufacturer (Factor) Equip certification/testing - FAA/Regulator (Factor) Equip certification/testing - Operator (Factor) Personnel selection/training - Not specified (Factor) Equipment monitoring - Manufacturer (Factor) Equipment monitoring - FAA/Regulator (Factor)

Factual Information

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History of Flight

Prior to flight	Aircraft maintenance event
Takeoff	Sys/Comp malf/fail (non-power)
Takeoff-rejected takeoff	Runway excursion (Defining event)
Post-impact	Fire/smoke (post-impact)

Pilot Information

Certificate:	Airline Transport	Age:	, Female
Airplane Rating(s):		Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	
Medical Certification:		Last Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Co-Pilot Information

Certificate:	Airline Transport	Age:	, Male
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	
Medical Certification:		Last Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Learjet	Registration:	N999LJ
Model/Series:	LR60	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	
Landing Gear Type:	Tricycle	Seats:	10
Date/Type of Last Inspection:		Certified Max Gross Wt.:	23500 lbs
Time Since Last Inspection:		Engines:	2 Turbo Fan
Airframe Total Time:	108 Hours	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	Installed, not activated	Engine Model/Series:	PW305A
Registered Owner:	Inter Travel and Services	Rated Power:	4600 lbs
Operator:	Global Exec Avaition	Air Carrier Operating Certificate:	On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	CAE	Observation Time:	2345 EDT
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	-7° C / -10° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	7 knots/ 14 knots, 60°	Visibility (RVR):	
Altimeter Setting:	30.23 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Columbia, SC (KCAE)	Type of Flight Plan Filed:	IFR
Destination:	Van Nuys, CA (KVNY)	Type of Clearance:	IFR
Departure Time:	2353 EDT	Type of Airspace:	

Airport Information

Airport:	Columbia Metropolitan (KCAE)	Runway Surface Type:	Asphalt
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	None
Runway Length/Width:	8601 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal, 2 Serious	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	4 Fatal, 2 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	William R English	Adopted Date:	07/16/2010
Additional Participating Persons:	Vikki Anderson; AAI-100		
Publish Date:	01/17/2017		
Note:	The NTSB traveled to the scene of this accident.		
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/ .		

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