



National Transportation Safety Board Aviation Accident Final Report

Location:	Newport News, VA	Accident Number:	NYC07LA087
Date & Time:	03/26/2007, 0730 EDT	Registration:	N527PA
Aircraft:	Gates Learjet 36A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Public Aircraft		

Analysis

During the takeoff roll, the flightcrew heard a "loud pop," and the airplane began to pull to the left. The pilot flying (PF) aborted the takeoff, and the airplane began to "fishtail" down the runway. The drag chute was activated by the pilot not flying (PNF); however, it appeared to be inoperative and the pilots were unable to stop the airplane on the runway. The airplane continued off the right side, impacted a runway light, and came to rest in the grass. Examination of the airplane revealed that both of the left main landing gear tires had blown, and the left main landing gear was separated from the airplane. Due to severe fragmentation of the tires, the origin of the tire failure could not be identified. Additionally, the strap of the drag chute had separated from the airplane, and was located in the vicinity of the blown tires. Airport personnel reported observing rocks and pieces of metal on the runway after the accident. Both tires were installed on the airplane approximately 3 weeks prior to the accident, and had accumulated 19 hours and 10 cycles since their installation. According to the airplane manufacturer, the drag chute should be deployed on landing at least once during each six-month interval. The drag chute should then be inspected and re-packed per the Maintenance Manual instructions. According to maintenance records, the drag chute was most recently re-packed during a routine inspection, three months prior to the accident, and the airplane had flown 59 hours since then. The drag chute had not been deployed prior to, or after the inspection.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the landing gear tires due to foreign object damage (FOD) on the runway. Contributing to the accident was the failure of the drag chute.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. LANDING GEAR, TIRE - FAILURE
2. (C) AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION - FOREIGN SUBSTANCE COVERED
3. (F) MISC EQPT/FURNISHINGS - FAILURE

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: TAKEOFF - ABORTED

Findings

4. OBJECT - RUNWAY LIGHT

Factual Information

On March 26, 2007, at 0730 eastern daylight time, a Gates Learjet 36A, N527PA, was substantially damaged during takeoff from the Newport News/Williamsburg International Airport (PHF), Newport News, Virginia. Both certificated airline transport pilots were not injured. Instrument meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed for the local public use flight conducted under 14 Code of Federal Regulations Part 91.

According to the operator, the purpose of the flight was to comply with a contract to support U.S. Navy operations.

According to the pilots, as the airplane approached 120 knots during the takeoff roll from runway 20, they heard a "loud pop." The airplane began to pull to the left, and the pilot flying (PF) aborted the takeoff by retarding the throttles and applying maximum braking. The airplane began to "fishtail" down the runway and the pilot not flying (PNF) activated the drag chute. The drag chute appeared to be inoperative, and the pilots were unable to stop the airplane on the runway. The airplane continued off the right side, impacted a runway light, and came to rest in the grass.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that both of the left main landing gear tires had blown, and the left main landing gear was separated from the airplane. The strap of the drag chute had separated at the woven loop used to secure the drag chute to the airplane, and the strap was located in the vicinity of the blown tires. Additionally, substantial damage was noted to the left wing spar.

The airplane had been modified with "pods" on both wings, in compliance with a Supplemental Type Certificate (STC), to support its military missions. The weight of the aircraft at takeoff was approximately 17,112 pounds. The maximum gross weight of the airplane was 18,300 pounds.

Airport personnel reported observing rocks and pieces of metal on the runway after the accident. Runway 20 was a 6,526-foot-long and 150-foot-wide, concrete runway.

According to maintenance records maintained by the operator, the tires were installed on March 3, 2007. Both wheels had 19.83 hours and 10 cycles since their installation.

Due to severe fragmentation of the tires, the origin of the tire failure could not be identified.

A review of the Learjet 36A Airplane Flight Manual, "Aborted Takeoff" checklist read as follows:

- "1. Thrust Levers - IDLE
2. Wheel Brakes - Apply
3. Spoilers - EXT
4. Drag Chute or Thrust Reversers (if installed) - Deploy, if necessary
5. Tailcone Access Door - Close and secure. Check chute riser does not jam the deployment ring as tailcone access door is closed.

NOTE: If drag chute deployment occurs above 150 KIAS, or if jettison or failure occurs above 100 KIAS, the drag chute system and adjacent structure must be thoroughly inspected for

damage before the next flight.

The drag chute should be deployed on landing at least once during each six-month interval. The drag chute should then be inspected and re-packed per the Maintenance Manual instructions."

According to maintenance records provided by the operator, the drag chute was most recently re-packed during a routine inspection, on January 18, 2007, at 15,093 hours. The airplane flew 59 hours since the inspection. The drag chute had not been deployed prior to, or after the inspection.

After the accident, the operator changed their procedures, to mirror the manufacturer guidance of deploying chutes prior to scheduled inspection/repack cycles.

The captain held an airline transport pilot certificate with ratings for airplane single-engine and multiengine land. His most recent FAA first-class medical certificate was issued on June 29, 2006.

The first officer held an airline transport pilot certificate with ratings for airplane single-engine land and multiengine airplane. His most recent FAA second-class medical certificate was issued on October 9, 2006.

According to operator records, the captain had accumulated 3,510 hours of total flight experience, 3,162 hours of which were in make and model. The first officer had accumulated 20,960 hours of total flight experience, 562 hours of which were in make and model.

The weather reported at PHF, at 0654, included wind from 300 degrees at 8 knots, 8 miles visibility, overcast clouds at 600 feet, temperature 4 degrees Celsius (C), dew point 2 degrees C, and altimeter setting 29.77 inches mercury.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	29, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Sea	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 With Waivers/Limitations	Last Medical Exam:	06/01/2006
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	04/01/2006
Flight Time:	3510 hours (Total, all aircraft), 3162 hours (Total, this make and model), 1879 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 59 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	60, 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):	Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	10/01/2006
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	02/01/2006
Flight Time:	20960 hours (Total, all aircraft), 562 hours (Total, this make and model), 18225 hours (Pilot In Command, all aircraft), 107 hours (Last 90 days, all aircraft), 51 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Gates Learjet	Registration:	N527PA
Model/Series:	36A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	019
Landing Gear Type:	Retractable - Tricycle	Seats:	3
Date/Type of Last Inspection:	01/01/2007, Continuous Airworthiness	Certified Max Gross Wt.:	18300 lbs
Time Since Last Inspection:	59 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	15152 Hours	Engine Manufacturer:	Honeywell
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TPE731
Registered Owner:	Pheonix Air Group	Rated Power:	3500 lbs
Operator:	Pheonix Air Group	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PHF, 43 ft msl	Observation Time:	0654 EST
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:		Temperature/Dew Point:	4° C / 2° C
Lowest Ceiling:	Overcast / 600 ft agl	Visibility	8 Miles
Wind Speed/Gusts, Direction:	8 knots, 300°	Visibility (RVR):	
Altimeter Setting:	29.77 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newport News, VA (PHF)	Type of Flight Plan Filed:	IFR
Destination:	(PHF)	Type of Clearance:	IFR
Departure Time:	0730 EDT	Type of Airspace:	

Airport Information

Airport:	Newport News International (PHF)	Runway Surface Type:	Concrete
Airport Elevation:	43 ft	Runway Surface Condition:	Dry
Runway Used:	20	IFR Approach:	None
Runway Length/Width:	6526 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	37.131667, -76.492778

Administrative Information

Investigator In Charge (IIC):	Jill M Andrews	Adopted Date:	06/30/2008
Additional Participating Persons:	Paul Ascoli; FAA/FSDO; Richmond, VA		
Publish Date:	01/25/2011		
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.