



# National Transportation Safety Board Aviation Accident Final Report

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

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## 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

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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

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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

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	29, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	06/01/2006
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	04/01/2006
<b>Flight Time:</b>	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

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	10/01/2006
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	02/01/2006
<b>Flight Time:</b>	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

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

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PHF, 43 ft msl	Distance from Accident Site:	
Observation Time:	0654 EST	Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	8 Miles
Lowest Ceiling:	Overcast / 600 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.77 inches Hg	Temperature/Dew Point:	4° C / 2° C
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	Report 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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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](#).