



National Transportation Safety Board Aviation Accident Final Report

Location:	Cedar Rapids, IA	Accident Number:	CHI05LA047
Date & Time:	12/20/2004, 1330 CST	Registration:	N252BK
Aircraft:	Learjet 25B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	4 None

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

The airplane collided with a berm following a loss of directional control while landing. The airplane was on a 14 CFR Part 91 positioning flight at the time of the accident. The pilots reported that they encountered what they thought were rough spots on the runway during the takeoff roll. The captain reported that after takeoff, he called for the co-pilot to raise the gear and engage the yaw damper. The crew then noticed an unsafe gear indication for the nose gear. The captain stated they leveled off at 5,000 feet and decreased the airspeed so they could recycle the landing gear. Cycling the landing gear did not resolve the problem. The crew then requested to return to the departure airport for landing. The landing gear was extended and a gear down and locked indication for all three landing gear was observed. The captain stated that on touchdown, the co-pilot extended the spoilers and armed the thrust reversers. He stated that after the nose wheel touched down the airplane made a sharp left turn and traveled off the side of the runway through the grass. The airplane contacted a four-foot high berm prior to coming to a stop on another runway. The captain stated he attempted to taxi the airplane only to discover that they did not have any nose wheel steering. Post accident inspection revealed the seal on the nose gear strut had failed which prevented the nose gear from centering.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot was not able to maintain directional control of the airplane due to the failure of the nose gear strut seal which prevented the nose wheel from centering. A factor associated with the accident was the berm that the airplane contacted.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF

Findings

1. (C) HYDRAULIC SYSTEM,SEAL - FAILURE,TOTAL
 2. (C) LANDING GEAR,STEERING SYSTEM - INOPERATIVE
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Occurrence #2: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (C) DIRECTIONAL CONTROL - NOT POSSIBLE - PILOT IN COMMAND
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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. (F) TERRAIN CONDITION - BERM

Factual Information

On December 20, 2004, at 1330 central standard time, a Learjet 25B, N252BK, operated by Barkin International Aviation, collided with a berm following a loss of directional control while landing on runway 13 (6,200 feet by 150 feet, dry asphalt) at the Eastern Iowa Airport (CID), Cedar Rapids, Iowa. The airline transport rated captain, commercial rated co-pilot, and two medical crew members were not injured. The 14 CFR Part 91 positioning flight was being conducted in visual meteorological conditions with an instrument flight rules flight plan on file. The flight originated from CID with an intended destination of McAllen, Texas.

Both pilots reported that they encountered what they thought were rough spots on the runway during the takeoff roll. The captain reported that after takeoff, he called for the co-pilot to raise the gear and engage the yaw damper. He stated he then called for the flaps to be retracted and for the climb checklist. He stated that both he and the co-pilot then noticed an unsafe gear indication for the nose gear. The captain stated they leveled off at 5,000 feet and he decreased the airspeed so that the co-pilot could recycle the landing gear. They informed the tower that they had a problem with the gear and that they wanted to stay in the area. The co-pilot cycled the landing gear four more times to no avail.

The captain stated they then requested a landing back at CID. He stated they had a gear down and locked indication for all three landing gear during the visual approach to runway 13. The captain stated that on touchdown, the co-pilot extended the spoilers and armed the thrust reversers. He stated that after the nose wheel touched down the airplane made a sharp left turn and traveled off the side of the runway through the grass. The airplane contacted a four-foot high berm prior to coming to a stop on runway 09. The captain stated he attempted to taxi the airplane only to discover that they did not have any nose wheel steering.

Post accident inspection revealed the seal on the nose gear strut had failed which prevented the nose gear from centering.

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	
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):	Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	11/30/2004
Occupational Pilot:		Last Flight Review or Equivalent:	06/01/2004
Flight Time:	6225 hours (Total, all aircraft), 350 hours (Total, this make and model), 5233 hours (Pilot In Command, all aircraft), 91 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	26, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	12/13/2004
Occupational Pilot:		Last Flight Review or Equivalent:	04/01/2004
Flight Time:	1107 hours (Total, all aircraft), 5 hours (Total, this make and model), 940 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Learjet	Registration:	N252BK
Model/Series:	25B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	107
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	06/19/2004, Continuous Airworthiness	Certified Max Gross Wt.:	15500 lbs
Time Since Last Inspection:	186 Hours	Engines:	2 Turbo Jet
Airframe Total Time:	11970 Hours at time of accident	Engine Manufacturer:	General Electric
ELT:	Installed, not activated	Engine Model/Series:	CJ610-6
Registered Owner:	BARKEN INTERNATIONAL INC	Rated Power:	2950 lbs
Operator:	Goldstar International, Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	DQIA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CID, 864 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1152 CST	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	14 knots / 23 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.54 inches Hg	Temperature/Dew Point:	-3° C / -13° C
Precipitation and Obscuration:			
Departure Point:	Cedar Rapids, IA (CID)	Type of Flight Plan Filed:	IFR
Destination:	McAllen, TX (MFE)	Type of Clearance:	IFR
Departure Time:	1300 CST	Type of Airspace:	Class D

Airport Information

Airport:	Eastern Iowa Airport (CID)	Runway Surface Type:	Asphalt
Airport Elevation:	864 ft	Runway Surface Condition:	Dry
Runway Used:	13	IFR Approach:	None
Runway Length/Width:	6200 ft / 150 ft	VFR Approach/Landing:	Precautionary Landing

Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	41.883889, -91.706389

Administrative Information

Investigator In Charge (IIC):	Pamela S Sullivan	Report Date:	09/13/2005
Additional Participating Persons:	Stephan A Smith; Des Moines, IA FSDO; Ankeny, IA		
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/ .		

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