Aviation Investigation Final Report

Location:	Atlanta, Georgia	**Accident Number:**	MIA02LA168
Date & Time:	September 15, 2002, 10:03 Local	**Registration:**	N73NR
Aircraft:	Cessna 310L	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot performed a VOR approach to the 3,378 foot-long, 0.7 percent upsloping runway which became in sight at the "visual descent point." The airplane was landed on the wet runway with full flaps approximately 1,500 feet from the approach end of the runway between 80 and 85 mph. After touchdown the pilot announced to the passenger of having no brakes and retracted the flaps. She announced to the passenger again of, "...still no brakes"; the airplane did not begin to slow until the flaps were retracted. The airplane traveled off the end of the runway and a left skid was initiated causing the right main landing gear to collapse. She further reported, "Note: this runway has been seal coated with black paint sealer. It is very slick when wet. Much more so than asphalt." Examination of the main landing gear tires by FAA revealed the damage was consistent with hydroplaning. Additionally, "Tread reversal is evident particularly on the right main tire. Both tires had a section of approximately 10 inches long across the entire width where tread separation was evident." Runway 9-27 was crack sealed and coal-tar sealer/rejuvenator was applied before the accident date. Following the process, wet friction tests on treated and untreated areas of the runway revealed the treated area of the runway experienced a loss of 0.05 to 0.08 Mu (friction coefficient value) when compared with the untreated area, but the total treated area had an average of 0.72 Mu. New design/runway construction Mu value is .72. No one of the airport director's staff are aware of any problems associated with the runway crack sealing/seal coating. The Aeronautical Information Manual (AIM) indicates in part that pilots are cautioned that descent from the MDA at the missed approach point (MAP) may be inadvisable or impossible, on a nonprecision approach even if current weather conditions meet the published ceiling and visibility. The aircraft's speed, height above runway, descent rate, and runway length need to be considered by the pilot to determine if a safe landing can be accomplished. The performance chart in the airplane owner's manual indicates the ground roll distance is 720 feet and the total distance over a 50-foot obstacle is 1,301 feet; the chart does not specify distance to add when landing on a wet runway or distance to subtract due to an upsloping runway .

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's misjudgment of speed/altitude and her failure to perform a go-around.

Findings

Occurrence #1: OVERRUN
Phase of Operation: LANDING - ROLL

Findings
1. (C) PROPER TOUCHDOWN POINT - NOT ATTAINED - PILOT IN COMMAND
2. (C) GO-AROUND - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings
3. TERRAIN CONDITION - GROUND

Occurrence #3: MAIN GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings
4. LANDING GEAR,MAIN GEAR - OVERLOAD

Factual Information

On September 15, 2002, about 1003 eastern daylight time, a Cessna 310L, N73NR, registered to a private individual, experienced collapse of the right main landing gear during the landing roll at the Dekalb-Peachtree Airport, Atlanta, Georgia. Instrument meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed for the 14 CFR Part 91 personal flight. The airplane was substantially damaged and the commercial-rated pilot and one pilot-rated passenger were not injured. The flight originated at 0940, from the Newnan Coweta County Airport, Newnan, Georgia.

The pilot stated that she performed a VOR approach to runway 27 using the autopilot and maintained 120 miles-per-hour (mph) until the "[visual descent point]", at which point the runway was in sight. Full flaps were extended at the visual descent point and the airplane was landed on the wet runway approximately 1,500 feet from the approach end of the 3,800-foot runway between 80 and 85 mph. She announced to the passenger of having no braking, retracted the flaps, and again announced, "...still no brakes." She reported that the airplane did not begin to slow until the flaps were raised. The airplane traveled off the end of the runway at which time a left skid was initiated; the airplane slowed to approximately 10 mph or less when the right main landing gear collapsed. She further reported, "Note: this runway has been seal coated with black paint sealer. It is very slick when wet. Much more so than asphalt."

The pilot-rated passenger stated the autopilot was engaged and used to the minimum descent altitude (MDA), with a speed of 120 mph. When the flight was at the [visual descent point] the runway became visible and the autopilot was disengaged. At that time full flaps were selected and the power was reduced to 15 inHg. He did not observe the airspeed indicator during the descent and reported the airplane touched down about 1,500 feet from the approach end of the runway. The pilot announced a couple of seconds later of "no braking" and she raised the flaps. The airplane began to slow but, "not quickly." Seeing the airplane would not stop on the runway he helped place the airplane in a skid which quickly slowed the airplane. Just before the airplane came to rest the right main landing gear collapsed. A copy of this passenger statement is an attachment to this report.

Examination of the airplane and accident site was performed by an FAA inspector-in-charge (FAA-IIC). According to the FAA-IIC, examination of the main landing gear tires revealed the damage was consistent with hydroplaning. Additionally, the inspector reported, "Tread reversal is evident particularly on the right main tire. Both tires had a section of approximately 10 inches long across the entire width where tread separation was evident." A copy of the inspector statement is an attachment to this report.

According to a document submitted by The LPA Group Inc., to the DeKalb-Peachtree Airport Director, crack sealing and coal-tar sealer/rejuvenator of runway 09/27 was accomplished in

phases which ended on April 1, 2002, and March 11, 2002, respectively. Following crack sealing and coal-tar sealer/rejuvenator of the runway, wet friction tests of the runway surface were performed both on treated and untreated areas of the runway. The treated runway surface experienced a loss of 0.05 to 0.08 Mu (friction coefficient value) when compared with the untreated area, but the total treated area had an average of 0.72 Mu. The wet friction test of the runway was accomplished from the approach end of the runway to a point approximately 1,500 feet down the runway. A copy of the provided document is an attachment to this report.

Review of FAA Advisory Circular (AC) 150/5320-12C, dated March 18, 1997, revealed a table which depicts guidelines for friction values of runway surfaces for new construction, maintenance planning, and minimum friction. The table indicates that new design/construction Mu value is .72, while the maintenance planning Mu value is .52. The minimum Mu value is .42. A copy of the advisory circular is an attachment to this report.

The airport director reported that there have been no verbal or written complaints to his office following the crack sealing/seal coating was accomplished. Additionally, his staff are not aware of any problems related to the crack sealing/seal coating. A copy of the letter from the airport director is an attachment to this report.

Review of the Aeronautical Information Manual (AIM) dated February 21, 2002, and change 1 dated August 8, 2002, revealed in August 2002, special notice titled, "Pilot Operational Considerations When Flying Nonprecision Approaches" was incorporated on pages 5-4-17 and 5-4-18. The special notice states in part that pilots are cautioned that descent from the MDA at the missed approach point (MAP) may be inadvisable or impossible, on a nonprecision approach even if current weather conditions meet the published ceiling and visibility. The aircraft's speed, height above runway, descent rate, and runway length need to be considered by the pilot to determine if a safe landing can be accomplished. Excerpts from the AIM are an attachment to this report.

Runway 27 is 3,378 feet long and slopes up 0.7 percent. Review of the "Landing Performance" chart contained in the airplane owner's manual revealed that based on the estimated airplane gross weight at the time of the accident (approximately 4,400 pounds), and a pressure altitude of 1,250 feet and the notes contained in the chart, the ground roll distance is 720 feet and the total distance over a 50-foot obstacle is 1,301 feet. The notes in the chart do not specify distance to add when landing on a wet runway or distance to subtract due to an upsloping runway. Excerpts from the owner's manual are an attachment to this report.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	38,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
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--w/ waivers/lim	**Last FAA Medical Exam:**	August 26, 2002
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	May 2, 2002
Flight Time:	1116 hours (Total, all aircraft), 310 hours (Total, this make and model), 831 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 36 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N73NR
Model/Series:	310L	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	310L-0112
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	5200 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	IO-470-VO
Registered Owner:	Ricky J. Smith	**Rated Power:**	260 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KPDK,1002 ft msl	**Distance from Accident Site:**	
Observation Time:	10:00 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	1 miles
Lowest Ceiling:	Broken / 400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	21°C / 20°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Newnan, GA (KCCO)	**Type of Flight Plan Filed:**	IFR
Destination:	Atlanta, GA (KPDK)	**Type of Clearance:**	IFR
Departure Time:	09:40 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	DeKalb-Peachtree KPDK	**Runway Surface Type:**	Asphalt
Airport Elevation:	1002 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	27	**IFR Approach:**	VOR
Runway Length/Width:	3378 ft / 150 ft	**VFR Approach/Landing:**	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	33.875556,-84.30194

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	David W Shifflett; FAA FSDO; College Park, GA
Original Publish Date:	April 23, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=55732