



National Transportation Safety Board Aviation Accident Final Report

Location:	Old Bridge, NJ	Accident Number:	IAD05LA099
Date & Time:	07/17/2005, 1618 EDT	Registration:	N13FH
Aircraft:	Cessna 525	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 2 None
Flight Conducted Under:	Part 91: General Aviation - Executive/Corporate		

Analysis

The airplane departed with a full load of fuel, flew approximately 35 minutes, and upon touchdown, weighed approximately 9,500 pounds. According to data recovered from the Enhanced Ground Proximity Warning System, the approach became unstabilized 0.1 miles from the runway threshold, triggering an aural sink rate warning. The airplane touched down fast on the first 1/3 of the runway. The pilot realized the airplane would not stop in the remaining distance, so he aborted the landing; however, before becoming airborne, the airplane overran the runway, struck multiple objects, and was substantially damaged. According to performance information, at 9,500 pounds, on a wet runway, 3,550 feet was required, 306 feet greater than available.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper preflight planning, his failure to consult performance data, and his failure to obtain the proper touchdown point, which resulted in a runway overrun. Contributing factors to the accident were the excessive airspeed, overweight condition, and wet runway.

Findings

Occurrence #1: OVERRUN

Phase of Operation: LANDING

Findings

1. (C) PREFLIGHT PLANNING/PREPARATION - IMPROPER - PILOT IN COMMAND
2. (C) PERFORMANCE DATA - NOT USED - PILOT IN COMMAND
3. (C) PROPER TOUCHDOWN POINT - NOT OBTAINED - PILOT IN COMMAND
4. (F) AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION - WET
5. (F) AIRSPEED - EXCESSIVE - PILOT IN COMMAND
6. (F) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: LANDING

Findings

7. OBJECT - FENCE

Factual Information

HISTORY OF FLIGHT

On July 17, 2005, about 1618 eastern daylight time, a Cessna 525, N13FH, sustained substantial damage during a runway overrun while landing at Old Bridge Airport (3N6), Old Bridge, New Jersey. The certificated airline transport pilot received minor injuries, and the two passengers were not injured. Day visual meteorological conditions prevailed for the flight that departed Sussex County Airport (GED), Georgetown, Delaware. An instrument flight rules flight plan was filed for the flight conducted under 14 CFR Part 91.

According to the pilot's written statement, during a visual approach for runway 24 at Old Bridge Airport, he lost sight of the runway due to clouds that had moved into the area. The clouds were associated with a thunderstorm that was about 1 to 2 miles north of the airport. The pilot notified McGuire Approach that he was executing a missed approach and requested the GPS 24 approach. He was then given a heading of 060 degrees, and told to climb to 2,000 feet msl.

Approximately 3 miles from STENY intersection, which was the final approach fix, the pilot was cleared for the GPS Runway 24 approach, and proceeded directly to STENY. At approximately 1 mile from STENY, he extended the flaps to the approach position. Upon crossing STENY he then lowered the landing gear, and started his descent to the minimum descent altitude of 600 feet msl.

Approximately 3 miles from the runway, the airplane's airspeed was 115 knots indicated, and he had sight of the entire airport. The visibility was better than 5 miles, and the ceiling was greater than 750 feet, with cloud to ground lightning in the area.

About 2 miles from the runway he extended the flaps to the landing position, and slowed the airplane to 108 knots. He could see that the runway was wet, but was absent of standing water. He landed "on the numbers," extended the flaps to the ground position and applied full braking.

After touchdown, the pilot believed that the braking action was "nil." He further stated, "I could feel no braking at all." Approximately 1/3 of the way down the runway, he decided that he did not have enough room to stop, so he applied full power and retracted the flaps to the takeoff position. The airspeed did not seem to accelerate at a normal rate, and the airplane failed to obtain flying speed. It then rolled off of the runway pavement.

PILOT INFORMATION

The pilot held an airline transport pilot certificate, with multiple ratings including airplane multi-engine land, and type ratings for the Boeing 737, Cessna 500, and Cessna 525S. He reported a total flight time of 8,370 hours, with 6,293 hours in multi-engine airplanes and 795 hours in the Cessna 525. His most recent FAA first-class medical certificate was issued on December 6, 2004.

AIRPLANE INFORMATION

The airplane was manufactured in 1997. The airplane's most recent annual inspection was completed on March 3, 2005. At the time of the inspection, the airplane had accrued 1,907.7 total hours of operation.

METEOROLOGICAL INFORMATION

The reported weather at The Monmouth Executive Airport (BLM), Farmingdale, New Jersey, 14 nautical miles southeast of the accident site, at 1615, included: winds from 160 degrees at 11 knots, gusting to 14 knots, visibility 10 miles, a broken ceiling at 1,500 feet, temperature 81 degrees Fahrenheit, dew point 75 degrees Fahrenheit, and an altimeter setting of 29.38 inches of mercury.

AIRPORT INFORMATION

Old Bridge Airport had one runway, oriented in a 06/24 configuration. The runway was asphalt, and in good condition. The runway was 3,594 feet long by 50 feet wide.

Multiple obstructions existed at the approach end of runway 24, which displaced the threshold by 400 feet. A 24-foot tall tree was located 230 feet from the approach end of the runway pavement, and 20 feet left of the centerline. 19-foot high trees were located 125 feet from the approach end of the runway pavement, and 6 foot high vegetation was located 50 feet from the approach end of the runway pavement.

A 26:1 approach slope to the displaced threshold was published for the runway, and the available landing length was 3,194 feet. The runway sloped downward 0.6%.

A two light, 4.00 degree glide path, Precision Approach Path Indicator was installed on the right side of the runway.

Airport Services were obtainable at the airport, however; no approved fuels for the Cessna 525 were available.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest on a magnetic heading of 310 degrees, approximately 400 feet beyond the departure end of runway 24, after traveling down sloping terrain where it impacted numerous objects.

The upper and lower speedbrakes were in the retracted position. The wing flaps and the flap lever were in the takeoff position. Both main landing gear had collapsed, and the nose gear had separated from the airplane.

Examination of the normal and emergency braking system revealed, that the brake fluid reservoir was full. When electrical power was applied to the airplane, the power brake hydraulic pump motor operated and accumulator pressure was observed to be within the normal operating range. The anti-skid switch was in the "ON" position.

With the exception of a low-pressure indication in the emergency air bottle, no preimpact anomalies were noted to the brake or landing gear system.

WEIGHT AND BALANCE INFORMATION

The pilot stated that the accident flight time was approximately 35 to 40 minutes in length. The airplane had 3,250 pounds of fuel when he began to taxi, and at takeoff, was down to 3,050 pounds. He added that, this would have placed his gross weight at 10,200 to 10,300 pounds at takeoff. He also stated that the airplane's weight at landing was 9,500 pounds.

A review of the fuel provider's records revealed that the aircraft was filled with 2,050 pounds of fuel, prior to the accident flight. According to the fueler, the fuel order he had received from the

pilot was to "top it off."

TESTS AND RESEARCH

According to the FAA approved flight manual, the fuel system on the airplane holds approximately 3,220 pounds of usable fuel when filled to the bottom of the filler standpipe. It is also possible to exceed that amount by 220 more pounds of fuel, if the wing is filled to the top of the standpipe.

ADDITIONAL INFORMATION

Enhanced Ground Proximity Warning System

The airplane was equipped with an Enhanced Ground Proximity Warning System (EGPWS). Information obtained from the EGPWS revealed that approximately 0.1 nautical miles prior to the runway threshold, the airplane's ground speed was 133 knots, and the descent rate was 1,522 feet per minute. At the same time, the unit announced an aural "sink rate" warning. The data also indicated that the airplane contacted the runway approximately 0.2 nautical miles (1,215 feet) beyond the runway threshold.

Review of Available Performance Information

A review of Section IV and VII of the FAA approved flight manual revealed that landing performance information was available to the pilot. Standard performance conditions were based on a landing preceded by a steady 3 degree angle approach, down to the 50 foot height point with airspeed at 1.3 times the stalling speed or the minimum steady flight speed in the landing configuration.

Variable factors for wind, wet runway conditions and runway gradient was also available.

According to published performance information, at 9,500 pounds, airspeed at the 50-foot height point should be 107 knots. In a no wind condition, with a dry and level runway, the airplane required a landing distance of approximately 2,770 feet. The Advisory Information Section VII corrections for a wet runway increased that distance to approximately 3,550 feet.

During an interview conducted by the Safety Board on July 22, 2005 the pilot stated that he was "not sure if I looked at the wet runway stuff." On approach the EGPWS "blipped once" but he believed that nothing was out of the ordinary. He also believed that he touched down on all "three gears" just beyond the "numbers," which is what he was aiming for.

WRECKAGE RELEASE

The wreckage was released to a representative of the owner's insurance company on August 17, 2005.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	45, 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:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With Waivers/Limitations	Last Medical Exam:	12/01/2004
Occupational Pilot:		Last Flight Review or Equivalent:	03/01/2005
Flight Time:	8370 hours (Total, all aircraft), 795 hours (Total, this make and model), 8020 hours (Pilot In Command, all aircraft), 32 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N13FH
Model/Series:	525	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	525-0185
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	03/01/2005, Continuous Airworthiness	Certified Max Gross Wt.:	10400 lbs
Time Since Last Inspection:	50 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	1907.7 Hours	Engine Manufacturer:	Williams International
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	FJ44-1A
Registered Owner:	Hertrich Aviation Inc.	Rated Power:	1900 lbs
Operator:	Hertrich Aviation Inc.	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BLM, 159 ft msl	Observation Time:	1615 EDT
Distance from Accident Site:	14 Nautical Miles	Direction from Accident Site:	135°
Lowest Cloud Condition:		Temperature/Dew Point:	27° C / 24° C
Lowest Ceiling:	Broken / 1500 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	11 knots/ 14 knots, 160°	Visibility (RVR):	
Altimeter Setting:	29.38 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Georgetown, DE (GED)	Type of Flight Plan Filed:	IFR
Destination:	Old Bridge, NJ (3N6)	Type of Clearance:	IFR
Departure Time:	1550 EDT	Type of Airspace:	

Airport Information

Airport:	Old Bridge Airport (3N6)	Runway Surface Type:	Asphalt
Airport Elevation:	87 ft	Runway Surface Condition:	Wet
Runway Used:	24	IFR Approach:	Global Positioning System
Runway Length/Width:	3594 ft / 50 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 2 None	Latitude, Longitude:	40.325833, -74.352222

Administrative Information

Investigator In Charge (IIC):	Todd G Gunther	Adopted Date:	09/18/2006
Additional Participating Persons:	Harry Bishop; FAA FSDO-25; Teterboro, NJ Steven M Miller; Cessna Aircraft Company; Wichita, KS		
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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