



National Transportation Safety Board Aviation Accident Final Report

Location:	MINNEAPOLIS, MN	Accident Number:	CHI95LA240
Date & Time:	07/26/1995, 1349 CDT	Registration:	N72WC
Aircraft:	CESSNA 550	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 91: General Aviation -		

Analysis

THE PILOT REPORTED THAT, DURING THE LANDING ROLL, HE DEPLOYED THE THRUST REVERSERS AND APPLIED THE BRAKES TO STOP THE AIRPLANE, BUT THE BRAKES HAD NO EFFECT. THE MECHANIC, WHO WAS SEATED IN THE RIGHT SEAT, DEPRESS THE BRAKES ON THE RIGHT SIDE, BUT THEY ALSO DID NOT OPERATE. THE PILOT STATED THAT THE AIRPLANE VEERED OFF THE LEFT SIDE OF THE RUNWAY AND CAME TO REST APPROXIMATELY 800 FEET 'OFF THE END' OF THE RUNWAY. AFTER DEPARTING THE RUNWAY, THE AIRPLANE ENCOUNTERED UNEVEN TERRAIN AND WAS DAMAGED. A POSTACCIDENT EXAMINATION REVEALED NO ANOMALIES WITH THE BRAKE SYSTEM, ANTI-LOCK SYSTEM, OR THE THRUST REVERSERS. THE TRANSDUCERS AND CONTROL VALVES WERE REMOVED AND TESTED. ALL TESTS WERE SATISFACTORY AND MET MANUFACTURER LIMITS. AFTER THE ACCIDENT, THE PILOT STATED THAT HE DID NOT OPERATE THE EMERGENCY BRAKE, AS RECOMMENDED/REQUIRED BY THE EMERGENCY PROCEDURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: failure of the landing gear braking system for undetermined reason(s) and the pilot's failure to perform the emergency procedure of operating the emergency brake system. Rough/uneven terrain was a related factor.

Findings

Occurrence #1: OVERRUN

Phase of Operation: LANDING - ROLL

Findings

1. (C) LANDING GEAR,NORMAL BRAKE SYSTEM - UNDETERMINED
2. (C) EMERGENCY PROCEDURE - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

Findings

3. (F) TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

On July 26, 1995, at 1349 central daylight time, a Cessna Citation 550, N72WC, operated by Pioneer Private Aviation Inc. of Minneapolis, Minnesota, sustained substantial damage while landing at Flying Cloud Airport, Minneapolis, Minnesota. The airplane was conducting a mechanical test flight to verify the operation of the air conditioning system when the accident occurred. The pilot and two mechanics reported no injuries. The local 14 CFR Part 91 flight operated without a flight plan in visual meteorological conditions.

After completing a maintenance test flight, the pilot reported that they returned to Flying Cloud Airport for landing. The pilot allowed the mechanic, who was seated in the right seat and is a commercially certificated pilot, land the airplane. During the final approach, the pilot stated that the mechanic allowed the airplane to float too far down the runway. The pilot stated he called for a go around and then took control of the airplane for the second landing attempt. The pilot stated the second attempt was a normal landing. During the landing roll, the pilot stated he deployed the thrust reversers and stepped on the brakes but the brakes had no effect. The mechanic tried to depress his brakes, but there was also no braking action. The airplane veered off the left side of the runway and came to rest approximately 800 feet from the end of the runway.

Postaccident examination found the brakes intact and in place. No hydraulic fluid was seen leaking. No abnormalities were found with the brake releases, anti-lock system, or the thrust reversers. The transducer and control valve were removed and tested. All tests were satisfactory and met manufacturer limits.

The Pilot Operating Handbook for the Cessna Citation 550 states in Section III Normal Procedures, "If, during landing, a hard brake pedal - no breaking condition is encountered, operate the emergency brake system." The pilot had stated to the FAA that he did not use the emergency brake system.

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	33, 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:	
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last Medical Exam:	05/01/1995
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	4890 hours (Total, all aircraft), 2820 hours (Total, this make and model), 4360 hours (Pilot In Command, all aircraft), 95 hours (Last 90 days, all aircraft), 44 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N72WC
Model/Series:	550 550	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	S550-0037
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	07/01/1995, Continuous Airworthiness	Certified Max Gross Wt.:	15100 lbs
Time Since Last Inspection:	44 Hours	Engines:	2 Turbo Jet
Airframe Total Time:	4874 Hours	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	JT15D-4B
Registered Owner:	PIONEER PRIVATE AVIATION, INC.	Rated Power:	2500 lbs
Operator:	PIONEER PRIVATE AVIATION, INC.	Air Carrier Operating Certificate:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	FCM, 906 ft msl	Observation Time:	1350 CDT
Distance from Accident Site:	0 Nautical Miles	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 5000 ft agl	Temperature/Dew Point:	27° C
Lowest Ceiling:	Unknown / 0 ft agl	Visibility	15 Miles
Wind Speed/Gusts, Direction:	3 knots, 180°	Visibility (RVR):	0 ft
Altimeter Setting:	29 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	(FCM)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1310 CDT	Type of Airspace:	Class B

Airport Information

Airport:	FLYING CLOUD AIRPORT (FCM)	Runway Surface Type:	Asphalt
Airport Elevation:	906 ft	Runway Surface Condition:	Dry
Runway Used:	27L	IFR Approach:	None
Runway Length/Width:	3909 ft / 75 ft	VFR Approach/Landing:	Full Stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	CHRISTINE M CORSONES	Adopted Date:	04/29/1996
Additional Participating Persons:	THOMAS KIEFFABER; MINNEAPOLIS, MN		
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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