Aviation Investigation Final Report

Location:	CALDWELL, New Jersey	**Accident Number:**	NYC99LA019
Date & Time:	October 9, 1998, 18:03 Local	**Registration:**	N800JK
Aircraft:	Piper PA-34-R200	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Minor, 3 None
Flight Conducted Under:	Part 91: General aviation - Executive/Corporate		

Analysis

The pilot was cleared for the option after flying the only available localizer approach through a 1,200-foot overcast. She opted to land straight ahead with a 6-knot tailwind, and landed about 1,500 feet down the 4,500 foot runway. During the rollout, the pilot found she had almost no toe brake pressure, and when she attempted to pump up brake pressure through an emergency handle, there was still no pressure of any significance. The airplane rolled off the end of the runway, and into a brook. Wreckage examination revealed no ruptures of the hydraulic lines, some hydraulic fluid pooled under the rudder pedals, and leaks from both brake cylinders. No brake pressure could be established using the toe brakes, and the emergency hand brake had to be pumped four times before any toe brake pressure developed. Airplane maintenance had been performed three months earlier, which included bleeding the brake system and replenishing the reservoir.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of both the normal and emergency brake systems.

Findings

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

Findings

1. (C) LANDING GEAR,NORMAL BRAKE SYSTEM - FAILURE,TOTAL
2. (C) LANDING GEAR,EMERGENCY BRAKE SYSTEM - FAILURE,TOTAL
3. WEATHER CONDITION - TAILWIND

Factual Information

On October 9, 1998, at 1803 Eastern Daylight Time, a Piper PA-34-R200, N800JK, was destroyed while landing at Essex County Airport (CDW), Caldwell, New Jersey. The certificated commercial pilot and two passengers were uninjured, while a third passenger received minor injuries. Visual meteorological conditions prevailed at the time of the accident. An instrument flight plan was filed for the flight between Worcester Regional Airport (ORH), Worcester, Massachusetts, and Caldwell. The corporate flight was conducted under 14 CFR Part 91.

The pilot stated that while on the localizer approach, the tower controller told her that there was new weather, and to expect a straight-in to Runway 22 instead of the circling approach she had anticipated. When the pilot crossed the final approach fix, she knew the airplane was high, so she added a second notch of flaps. When she saw the runway, the airplane was still high, so she reduced the power to idle and added the last notch of flaps. She landed long, but felt she had enough runway to stop. When she applied the brakes, the right brake had no pressure, while the left brake only had "a little." She grabbed the emergency hand brake and tried to pump up the toe brakes, but "did not get much, if any, response." The airplane continued off the end of the runway and into a brook.

The airport tower controller stated, and was confirmed by audio tapes, that the pilot had subsequently been cleared "for the option," and that the airplane landed long on the 4,500-foot Runway 22. Three other witnesses stated that the airplane landed just south of Taxiway "B," which was about 3,000 feet from the departure end of the runway.

A Federal Aviation Administration (FAA) Inspector reported that both main landing gears had been ripped out of the wings, but that the brake lines were not ruptured. Hydraulic fluid on the cockpit floor, under the brake pedals, did not appear to be caused by the accident. Another FAA Inspector stated that he could not develop any brake pressure by pumping the pedals, and that both master cylinders were leaking. He also said that he finally obtained some brake pressure after pumping the emergency handle four times, and that there was air in the brake lines.

On July 10, 1998, about 50 hours prior to the accident, maintenance was performed on the airplane which included bleeding the brake system and replenishing the reservoir.

Weather observed immediately after the accident included winds from 050 degrees magnetic at 6 knots, visibility 3 statue miles in mist, and an overcast at 1,200 feet above ground level. The runway was wet, and the localizer approach utilized by the pilot was the only one available.

Pilot Information

Certificate:	Commercial	**Age:**	25,Male
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:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	November 25, 1998
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	2780 hours (Total, all aircraft), 133 hours (Total, this make and model), 2630 hours (Pilot In Command, all aircraft), 185 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N800JK
Model/Series:	PA-34-R200 PA-34-R200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	34730215
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 2, 1998 Annual	**Certified Max Gross Wt.:**	4200 lbs
Time Since Last Inspection:	61 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2234 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-C1E6
Registered Owner:	KNIPPER AVIATION, LLC.	**Rated Power:**	200 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CDW ,173 ft msl	**Distance from Accident Site:**	
Observation Time:	18:07 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Unknown	**Visibility**	3 miles
Lowest Ceiling:	Overcast / 1200 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	15°C / 14°C
Precipitation and Obscuration:	Light - None - Drizzle		
Departure Point:	WORCESTER , MA (ORH)	**Type of Flight Plan Filed:**	IFR
Destination:	(CDW)	**Type of Clearance:**	IFR
Departure Time:	13:00 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	ESSEX COUNTY AIRPORT CDW	**Runway Surface Type:**	Asphalt
Airport Elevation:	173 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	22	**IFR Approach:**	Localizer only
Runway Length/Width:	4553 ft / 80 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Cox, Paul
Additional Participating Persons:	ROBERT BROMIRSKI; TETERBORO , NJ
Original Publish Date:	February 16, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45177