



## National Transportation Safety Board Aviation Incident Factual Report

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<b>Location:</b>	Boise, ID	<b>Incident Number:</b>	SEA02IA044
<b>Date &amp; Time:</b>	03/01/2002, 1840 MST	<b>Registration:</b>	N410QX
<b>Aircraft:</b>	Bombardier DHC-8-401	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>		<b>Injuries:</b>	73 None

**Flight Conducted Under:** Part 121: Air Carrier - Scheduled

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On March 1, 2002, approximately 1840 mountain standard time, a Horizon Airlines Bombardier DHC-8-401, N410QX, experienced a failure of the number two hydraulic system during en route cruise to Boise, Idaho. The airline transport pilot, his first officer, the two flight attendants, and the 69 passengers were not injured, and the aircraft did not sustain any damage. The 14 CFR Part 121 scheduled passenger flight, which departed Seattle-Tacoma International Airport, Seattle, Washington, about two hours earlier, was being operated in visual meteorological conditions. The flight, which was on an IFR flight plan, eventually landed at its destination around 1900. There was no emergency evacuation.

According to the flight crew, during en route cruise, they noticed the number two hydraulic system quantity beginning to decrease. As they began to run the appropriate checklist, they noticed the illumination of several hydraulic system caution lights. Eventually, the number two system lost pressurization, and the rudder became dependent upon the sole remaining system (hydraulic system number one) for its movement. After the landing gear was extended manually, the aircraft landed without further incident, but it had to be towed from the runway, as the failure of the number two system rendered the nose wheel steering inoperable.

It was later discovered that the number two system hydraulic line to the elevator had failed, leading to a loss of pressure in the number two system. The reason for the failure could not be positively determined.

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	49, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	10/19/2001
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	01/17/2002
<b>Flight Time:</b>	16000 hours (Total, all aircraft), 50 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bombardier	<b>Registration:</b>	N410QX
<b>Model/Series:</b>	DHC-8-401	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	4053
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	74
<b>Date/Type of Last Inspection:</b>	01/02/2002, Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	64500 lbs
<b>Time Since Last Inspection:</b>	349 Hours	<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	726 Hours at time of accident	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	PW150A
<b>Registered Owner:</b>	Wells Fargo Bank NW, NA	<b>Rated Power:</b>	5071 hp
<b>Operator:</b>	Horizon Airlines	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	QXEA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4500 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Light and Variable /	Turbulence Type Forecast/Actual:	/
Wind Direction:	Variable	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	11 ° C
Precipitation and Obscuration:			
Departure Point:	Seattle, WA (SEA)	Type of Flight Plan Filed:	IFR
Destination:	Boise, ID (BOI)	Type of Clearance:	IFR
Departure Time:	1640 PST	Type of Airspace:	Class B

## Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	None
Passenger Injuries:	69 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	73 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	Orrin K Anderson
Additional Participating Persons:	Terry Bateman; Boise FSDO
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .