



National Transportation Safety Board Aviation Accident Final Report

Location:	WEST SEATTLE, WA	Accident Number:	SEA85FA034
Date & Time:	12/19/1984, 1108 PST	Registration:	N4247A
Aircraft:	de Havilland DHC-3 TURBO	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 2 Minor
Flight Conducted Under:	Part 91: General Aviation -		

Analysis

ACFT WAS PERFORMING TEST FLT MANEUVERS WHEN PROBLEMS WITH THE MODIFIED FUEL SYSTEM OCCURRED. ICE BLOCKING A FUEL VENT LINE CAUSED A PARTIAL COLLAPSE OF THE MAIN (ENGINE FEED) FUEL CELL WHICH PRODUCED AN ERROUNEOUS FUEL QUANTITY READING. IN ADDITION, THE MAIN TANK OVERFLOW SHUTOFF VALVE WAS LEAKING, SO TANK OVERFLOW OCCURRED. THE FUEL OVERFLOW CAUTION LIGHT ILLUMINATED AND AUXILIARY TANK FUEL PUMP FEED TO MAIN AUTOMATICALLY SHUT DOWN. DUE TO MISCALIBRATION, THIS SYSTEM OVERRODE PLT ATTEMPTS TO RESTART AUX FUEL PUMPS. PLT REMAINED IN TEST AREA TROUBLESHOOTING RATHER THAN IMMEDIATE RETURN TO BASE, FINALLY NOTED MAIN TANK GAGE CONTINUING TO READ 'FULL.' EN ROUTE TO BOEING FIELD, FUEL STARVATION OCCURRED. PLTOPTED TO ATTEMPT FORCED LNDG IN SMALL ATHLETIC FIELD IN RESIDENTIAL AREA RATHER THAN DITCH IN PUGET SOUND. THE ACFT TOUCHED DOWN IN INTENDED LNDG AREA, THEN BOUNCED ACROSS AN ADJACENT STREET. THE ARRESTING ACTION OF TELEPHONE WIRES ON THE VERTICAL FIN BROUGHT THE ACFT TO REST IN A RESIDENTIAL BACKYARD.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: MANEUVERING

Findings

1. (C) FUEL SYSTEM, VENT - BLOCKED(TOTAL)
 2. (F) FUEL SYSTEM, TANK - DISTORTED
 3. (F) ENGINE INSTRUMENTS, FUEL QUANTITY GAGE - FALSE INDICATION
 4. (F) FUEL SYSTEM, FUEL SHUTOFF - LEAK
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Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: MANEUVERING

Findings

5. FUEL SYSTEM, PUMP - SWITCHED OFF
 6. REMEDIAL ACTION - NOT POSSIBLE
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Occurrence #3: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings

7. (F) PRECAUTIONARY LANDING - DELAYED - PILOT IN COMMAND
 8. (F) FUEL SUPPLY - MISJUDGED - PILOT IN COMMAND
 9. (C) FLUID, FUEL - STARVATION
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Occurrence #4: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #5: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

10. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	61, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	Balloon; Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/09/1984
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	8500 hours (Total, all aircraft), 15 hours (Total, this make and model), 7500 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	Registration:	N4247A
Model/Series:	DHC-3 TURBO DHC-3 TURB	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Experimental	Serial Number:	421
Landing Gear Type:	Tailwheel	Seats:	3
Date/Type of Last Inspection:	11/21/1984, 100 Hour	Certified Max Gross Wt.:	8000 lbs
Time Since Last Inspection:	11 Hours	Engines:	1 Turbo Prop
Airframe Total Time:	7445 Hours	Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	PT-6A-135
Registered Owner:	COX AIRCRAFT CORPORATION	Rated Power:	787 hp
Operator:	COX AIRCRAFT CORPORATION	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BFI, 17 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1045 PST	Direction from Accident Site:	93°
Lowest Cloud Condition:	Unknown / 10000 ft agl	Visibility	60 Miles
Lowest Ceiling:	Broken / 10000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	-4° C / -8° C
Precipitation and Obscuration:			
Departure Point:	SEATTLE, WA (BFI)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	VFR
Departure Time:	1032 PST	Type of Airspace:	Class G

Airport Information

Airport:	BOEING FIELD	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	STEVEN MCCREARY	Report Date:	
Additional Participating Persons:	A. ZANUKOWSKI; SEATTLE, WA R. COX; BOEING FIELD, WA		
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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