



National Transportation Safety Board Aviation Incident Data Summary

Location:	Seattle, WA	Incident Number:	SEA07IA019
Date & Time:	11/16/2006, 1420 PST	Registration:	N9522S
Aircraft:	Cessna 172	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

While on a VFR straight-in approach in a Cessna 172, the flight instructor and her student were advised by the tower that a heavy Boeing 747, which was behind and above the 172, was executing a visual approach to an upwind parallel runway. Although the 747 crew did not have the 172 in sight, the flight instructor in the 172 spotted the 747 soon after being advised of its presence by the tower. The instructor maintained visual contact with the descending 747, and as the 747 neared a point where it would pass the 172, the instructor elected to continue the VFR approach at about the same altitude and on the same course as before. The instructor then watched as the still-descending 747 passed upwind of the 172 at a slightly higher altitude than the 172 was at. When the 747 reached a point about one-quarter mile in front of the 172, the 172 encountered the wake vortices from the 747, and immediately departed controlled flight. Recovery was completed about 150 feet above the terrain. At the time that the 747 passed the 172, the instructor was aware that there was a nine knot wind blowing almost directly across the parallel flight paths of the two aircraft, and although the instructor had requested a low approach at the runway, the instructor did not take evasive action when the 747 passed the 172 while on approach.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The instructor pilot's improper in-flight decision not to take evasive action as a heavy aircraft passed by while on an upwind parallel approach path to an adjacent runway, leading to a wake vortices encounter. Factors include a nearly direct crosswind blowing from the heavy aircraft toward the incident aircraft.

Findings

Occurrence #1: VORTEX TURBULENCE ENCOUNTERED
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND(CFI)
2. (C) WAKE TURBULENCE - ENCOUNTERED - PILOT IN COMMAND(CFI)
3. (F) WEATHER CONDITION - CROSSWIND

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	22
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine
Flight Time:	629 hours (Total, all aircraft), 59 hours (Total, this make and model), 542 hours (Pilot In Command, all aircraft), 70 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Student Pilot Information

Certificate:	Student	Age:	24
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	10 hours (Total, all aircraft), 10 hours (Total, this make and model), 6 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9522S
Model/Series:	172	Engines:	1 Reciprocating
Operator:	Galvin Flying Service	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	None	Engine Model/Series:	IO-360-L2A
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KBFI, 21 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:		Wind Speed/Gusts, Direction:	9 knots / , 210°
Temperature:	11 °C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Seattle, WA (KBFI)	Destination:	(KBFI)

Airport Information

Airport:	Boeing Field/King County Int. (KBFI)	Runway Surface Type:	Asphalt
Runway Used:	13L	Runway Surface Condition:	Dry
Runway Length/Width:	3709 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	None
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	47.587222, -122.333333		

Administrative Information

Investigator In Charge (IIC):	Orrin K Anderson	Adopted Date:	12/20/2007
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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