



# National Transportation Safety Board Aviation Incident Data Summary

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

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## 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

<b>Certificate:</b>	Flight Instructor; Commercial	<b>Age:</b>	22
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Instrument Rating(s):</b>	Airplane
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine
<b>Flight Time:</b>	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

<b>Certificate:</b>	Student	<b>Age:</b>	24
<b>Airplane Rating(s):</b>	None	<b>Instrument Rating(s):</b>	None
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	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

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

## Meteorological Information and Flight Plan

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

## Airport Information

<b>Airport:</b>	Boeing Field/King County Int. (KBFI)	<b>Runway Surface Type:</b>	Asphalt
<b>Runway Used:</b>	13L	<b>Runway Surface Condition:</b>	Dry
<b>Runway Length/Width:</b>	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 <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> .		

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