



# SPOKANE FLYER

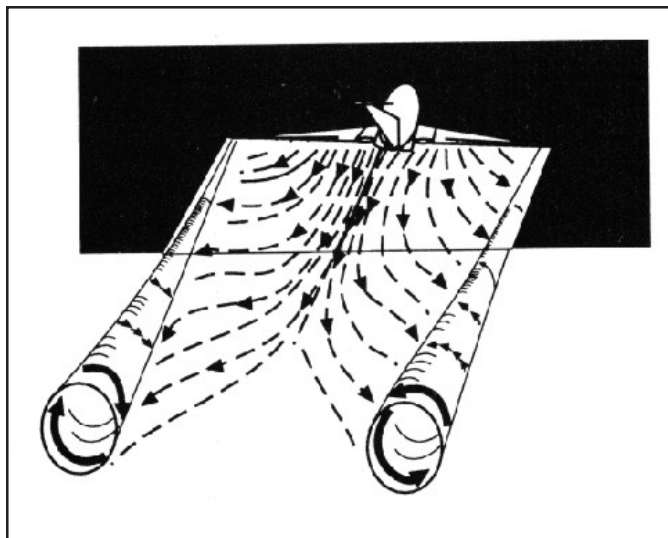
April 2008

## Wake turbulence and the inattentive pilot

by John Townsley

*“Poor in-flight planning and the pilot’s inability to maintain control of the airplane... Factors included ... wake turbulence ...”*

These are common statements in the nearly 100 aircraft accidents the NTSB data base lists between 2000 and 2008. Most accidents where wake turbulence was a factor occurred during the landing or takeoff and departure phases of flight.



Light winds, parallel runways, flying beneath the flight path of heavy aircraft or helicopters are well known for creating dangerous wake turbulence problems. When was the last time you heard the tower say “cleared to land, caution wake turbulence of landing Southwest 737...?”

Wake turbulence is caused by wing vortices generated by lift. According to the Airman’s Information Manual (AIM) vortex strength is governed by the weight, airspeed, and wing shape of aircraft. The vortices descend below the flight path of the generating aircraft. Helicopters also generate significant vortices. An important point to remember is that whether or not ATC warns of wake turbulence, it is the pilot’s responsibility to avoid wake turbulence encounters.

Vortices created by large, heavy aircraft can be encountered a thousand feet or more below the flight path, and for several miles behind. Wake turbulence is a consideration for all aircraft, but especially fixed wing aircraft flown by most general aviation pilots.

Sometimes the effects of wake turbulence can be catastrophic. Recall American Airlines flight 587, an Airbus A300-605R that crashed into a neighborhood near Queens, New York shortly after takeoff on 12 November 2001. Aggressive rudder use by the pilot resulted in excessive shear forces and the vertical stabilizer snapped off, resulting in uncontrolled descent to the ground. In another incident reported recently by AOPA a Piper Saratoga encountered wake turbulence while on visual approach. The pilot of the accident aircraft passed beneath the flight path of a landing Boeing 737 while flying at significantly greater than the maneuvering speed of his aircraft.

Wake turbulence from small, light aircraft can also be a factor in accidents. In July 2001 an antique Boeing E75N1 attempted to land in formation on Runway 21 L at Spokane Felts Field. The pilot reported encountering wake turbulence from the lead aircraft that caused the aircraft to “veer left and right”, and ultimately resulted in loss of control and damage to the aircraft. In some flight situations, even encountering wake turbulence that is self generated can be hazardous. In May 2005 an Aviat A-1B being used for predator control encountered it’s own wake while circling a coyote resulting in loss of control and a crash.

### NEXT CHAPTER MEETING

WEDNESDAY  
APRIL 16, 2008

6:00 P.M.

Marie Callender's Restaurant  
2111 N Argonne Rd.

Guest Presentation:  
MATT FUGAZZI  
&  
KERRY JONES

SPOKANE NATIONAL  
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**SPOKANE FLYER**

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Chapter general meetings are held on the 3rd Wednesday of every month except August and December. Board meeting are held on the 1st Thursday of every month.

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## President's Message: Gary White

Last month, Barry Huck (Western Aviation) brought examples of and discussed the installation of the new 406 MHz ELTs. He had several examples, including a new one on the market from Australia. Barry answered many questions I had regarding installation issues and ways that one can save some dollars at annual time such as pre-installing wires to the remote switch. Many members came with lots of questions and it was a great session.

Most of us have planned for a long cross country flight before. I know I've called flight service and received the "Standard Briefing", yet still been left with questions regarding the weather I might expect on the trip. So ... I log onto other web based products and try to get a better snap shot of what is occurring and what might occur during my flight.

There are some great web resources available. These include, but are not limited to: [www.wrh.noaa.gov/otx/](http://www.wrh.noaa.gov/otx/) (National Weather Service, Spokane), [www.aviationweather.noaa.gov/](http://www.aviationweather.noaa.gov/) (Aviation Weather Center), [www.faa.gov/airports\\_airtraffic/weather/asos/](http://www.faa.gov/airports_airtraffic/weather/asos/) (FAA Surface Weather Observation Stations), and [www.atmos.washington.edu/mm5rt/](http://www.atmos.washington.edu/mm5rt/) (University of Washington, Atmospheric Sciences Department: source for MM5-GFS and MM5-NAM models). Once you've accessed the web weather sites, what does it all mean? How can you see when a front has passed or if a trough is setting up? How do you interpret the satellite data (visible, infrared, water vapor)? How can you put the satellite data together with the GFS or NAM models and come up with a probable forecast for your situation?

Kerry Jones and Matt Fugazzi two forecasters from the Spokane office of the National Weather Service will be presenting at our general meeting. Their topic is "Satellite Weather Interpretation". I have had the privilege of listening to these gentlemen address a pilot group before, and I learned a lot. It's really fun to have someone present on a topic they know well and are passionate about. I'm glad I listened to Kerry Jones this fall when he advised buying new snow tires! Please join us on Wednesday April 16th!

See you there!

Gary

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BY MICHAEL AND STEFAN STRASSER



Through special arrangements with Michael and Stefan Strasser, we are pleased to have the Chicken Wings comic strip in *Spokane Flyer*. For more strips, products, and offers, check out their website at: [www.chickenwingscomics.com](http://www.chickenwingscomics.com)



### WPA Word Puzzle

It's back! Weather is our theme this month so we have a weather word search puzzle. Solve this one on a foggy day. Sorry....still no prizes.

H K S E J D E H V E L G C L D  
 M T K R I V W G G J C L M E T  
 T N E C U D D E W P O I N T X  
 J O B M I C R O B U R S T R Y  
 X R C N P O L A D N I W H T W  
 T F W U A E G E Z T O D I G W  
 T X R W M B R O Y Z L D G L O  
 H W B O N U T A F L I A H S E  
 H Z T N S K L H T M S L U N J  
 V C C S U T E U U U F R B J H  
 V C E Q I C V H S N R A J V E  
 P R A T E M X O M I D E R G D  
 P Y U Y L T V M C R U E R A B  
 Z D I Q O O V W A Y Q T R Q O  
 E I H R Y C G C B B A Z S G Z

- |                 |             |
|-----------------|-------------|
| BLIZZARD        | HUMIDITY    |
| CIRRUS          | ICE         |
| CLOUD           | LOW         |
| CORIOLIS        | METAR       |
| CUMULUS         | MICROBURST  |
| DENSITYALTITUDE | MIST        |
| DEWPOINT        | PRESSURE    |
| FOG             | SNOW        |
| FRONT           | TAF         |
| FROST           | TEMPERATURE |
| HAIL            | THUNDER     |
| HIGH            | WIND        |

### Weather tip #1

### Before you launch.....get that briefing!

from the FAA



Yep...this is our Felts Field Camera at about 8:00 a.m. on Saturday, March 30th. It snowed, hailed, rained, with some sunshine with fog and wind on this nice spring day!

A good weather briefing begins with developing a total awareness of the overall "big picture" prior to obtaining a detailed or standard briefing. Many pilots start by monitoring weather patterns through commercial television or TV's The Weather Channel (TWC) several days before the flight.

The day or evening before the flight, pilots may wish to obtain an outlook briefing from Flight Service, or electronically from a Direct User Access Terminal (DUAT) vendor, or downloading weather and forecast charts from the Internet. (When using DUATs, don't hesitate to contact Flight Service to clarify any information you do not fully understand.)

As close to departure time as possible call Flight Service or log on to DUAT for a standard briefing. (Of course, you can also access high quality weather products on the Internet or other sources, but first make sure that the menu of products are suitable for aviation use, and the products are current.) If you obtained a standard briefing several hours prior to the flight or when the weather is questionable, it is a good practice to call a Flight Service Station for an abbreviated briefing just prior to takeoff.

That number is: 1-800-992-7433 (800-WX-BRIEF)

For the complete FAA Team article on weather briefings, go to: [www.faasafety.gov/gslac/ALC/libview\\_normal.aspx?id=6850](http://www.faasafety.gov/gslac/ALC/libview_normal.aspx?id=6850)



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*"A good pilot is always learning."*

## Upcoming FAA Team Seminars



### HOW TO CRASH AN AIRPLANE - and survive

Tuesday, April 15, 2008

7:00 p.m.

Budweiser Centennial Distribution

701 Buckles Ave., Hayden ID

### RUNWAY SAFETY: Best practices and GEG/SFF Airport Operations

Wednesday, April 16, 2008

7:00 p.m.

Moody Aviation

6719 E. Rutter, Spokane WA

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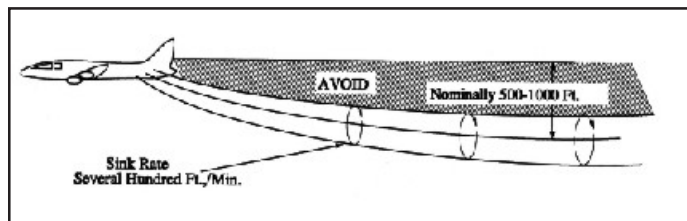
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877-676-1229  
FAX 208-676-8638

## Wake turbulence

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Avoidance is the best strategy for dealing with wake turbulence. The AIM lists several recommendations:

- When landing stay at or above the flight path of larger aircraft landing ahead, and land well beyond their touch down point;
- Remember that wind will push wing vortices – when landing on parallel runways be acutely aware of wind direction and speed!
- Be sure to fly ABOVE the flight path of aircraft landing or departing on a crossing runway;
- Be sure your touch down point is well before the intersection of a crossing runway;
- Avoid flight below and behind a large aircraft's path. If a larger aircraft is observed above on the same track (meeting or overtaking) adjust your position laterally, preferably upwind;

While not mentioned in the AIM, avoid aggressive rudder inputs and excessive speed that may overstress your aircraft. And finally, if you must hunt coyotes from your aircraft, don't fly so low you'll lose it in your own wake turbulence! For more information, see the Airmen's Information Manual, Chapter 7, available online at [http://www.aopa.org/members/files/aim/chapter\\_7.html#7-3-5](http://www.aopa.org/members/files/aim/chapter_7.html#7-3-5).

*About the author: John Townsley is the Legislative Director for the Washington Pilots Association. He is a member of the Spokane Chapter and flies a Cessna 172.*