









Hangar Insurance P2



Crosswind Landings P3



By Jason Blair, ATP, CFII, MEII, FAA Designated Pilot Examiner

One of the joys for many pilots is attending a summer fly-in. It's a great excuse to fly somewhere new on a weekend morning and share a little hangar talk over breakfast with other pilots.

While it can be one of the joys, it can also be one of the biggest fears for some pilots who aren't as active as they might want to be. Full traffic patterns, new airports, flying to an airport that has an operating control tower (especially stressful for pilots who don't normally operate at towered airports), are all unique experiences. Many times there are more passengers in the aircraft than normal and warmer temperatures to consider. Each of these variables can increase anxiety, decrease safety, and potentially scare pilots from going to a fly-in they otherwise would attend.

With just a few tips, some of these fears and dangers might possibly be reduced.

#### /// MITIGATING TRAFFIC CONCERNS

A pilot can do a couple of things to lessen the concerns of a busy traffic pattern. One is to go early. Avoid the rush of traffic as the pancakes start getting served by arriving early (or later than the rush if you are willing to chance running out of pancakes before you get yours). Timing your arrival can minimize peak traffic concerns.

A second option is to take another pilot with you. This pilot can help look for traffic, listen to radio calls, and share the workload. If the event is at a towered airport, a pilot who is more comfortable with ATC communications can be a great asset.

#### /// AIRCRAFT PERFORMANCE CONSIDERATIONS

Once your friends hear you are going to go to a fly-in, consider the number of passengers based on the weight and balance capabilities of your aircraft. This doesn't always mean you can fill all the available seats on the aircraft. Unless you plan ahead.

Most pilots don't normally operate their aircraft fully loaded. Aircraft perform differently when they are at their maximum gross weight. Many pilots have found that they may not perform at all when operated outside approved weight and balance limits. Take the time to calculate allowable weight and balance limits. This may mean you might have to

leave someone at home and fly with an empty seat. If you are flying a rented aircraft, a quick call to the FBO a couple days ahead with a fuel request for when you pick up the plane can go a long way to allowing your flight to be completed safely. Heavily loaded aircraft also perform worse in high density altitude conditions. In some cases, density altitude can drastically change throughout a day. Just because your aircraft was able to take off from a 2500' runway in the morning when it was 45 degrees doesn't mean it will be able to do the same thing at 1:00 p.m. when you want to go home if the temperature has risen to 85 degrees. Before you go, take the time to calculate what your performance data will allow when you leave, and based on what you expect conditions to be when you plan to return.

#### **/// NEW AIRPORTS**

Concerns about going to a new airport are probably the easiest ones to allay. A wealth of information is available in Airport Facilities Directories (AFDs), online at places like AirNav.com, or in any number of pilot apps for tablet devices. Taking the time to review airport diagrams ahead of time can create an expectation of what pilots will see when they arrive. If you want to take the research a little further, a look at a satellite image of the airport using Google Maps online or even a visit the week before on a trial run flight can add to familiarization.

If the airport is towered, don't feel any reluctance to ask for progressive taxi instructions if you have concerns. And definitely be willing to ask for clarification of any taxi instructions if you aren't absolutely certain you understand them.

#### /// DRIVE

Ok, driving isn't always the first option we think of when going to a fly-in, but if it isn't far away, you still get the opportunity to check out the planes that do fly to the event. Driving also may be a good opportunity for you to volunteer at the event. These events don't happen by themselves and most local airports would welcome a fellow pilot who was willing to forego flying their own aircraft into the event to help flip some pancakes,

greet pilots, or marshal aircraft into parking.

Summer fly-ins are a great opportunity to engage in the aviation community, meet other pilots, and make new friends. With a little planning and some thinking ahead, many of the fears that pilots have about flying to them can be reduced or eliminated. Enjoy the upcoming fly-in season!

Jason Blair is an active single and multi-engine instructor and FAA Designated Pilot Examiner with 4.900 hours total time and 2.850 hours instruction given. In his role as Examiner, over 800 pilot certificates have been issued. He serves on several FAA/Industry aviation committees and is the past Executive Director of the National Association of Flight Instructors. He also consults on aviation training and regulatory efforts for the general aviation industry.

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## **ESTIMATING CROSSWIND LANDINGS**

By Thomas P. Turner - Master CFI, CFII, MEI, Mastery Flight Training, Inc.

Seasonal changes are often windy times. A look at the recent FAA preliminary accident report records reflects this, with a big increase in Loss of **Directional Control (LODC) crashes during takeoff** and, especially, during landing (LODC-L).1

LODC-L events usually have four things in common:



- 1. There are no injuries. LODC-L events are lowspeed impacts; it's rare when anyone gets hurt.
- 2. Airplane damage is usually substantial. Bent wing tips, "wiped out" (collapsed) landing gear both in fixed and retractable gear airplanes,

and propeller strikes (which require propeller replacement or repair and a complete engine tear-down inspection and reassembly) are common elements of the LODC-L impact.

- 3. Because of the type of damage involved, the cost of repairs is usually **enough to "total" an airplane,** or at the very least, to require costly repairs and long down-time.
- 4. In the vast majority of LODC-L events, the computed crosswind component is less than 10 knots.

10 knots? My research into LODC-L runway excursions shows that the reported wind is rarely very strong. It's almost never near the published Maximum Demonstrated Crosswind speed for the airplane. Maybe when the wind is quite strong we realize we must be on top of our game and give crosswinds the attention they need. Perhaps we choose to land on another runway, or even go somewhere else entirely. When the winds are lighter, however, we might not be giving the crosswinds the attention we should.

There is a limit to an airplane's control authority that determines the maximum speed at which maintaining runway alignment is physically possible. This is not the maximum crosswind figure published in the Pilot's Operating Handbook; the POH merely lists the maximum crosswind component that was demonstrated during the airplane's certification process. The "ultimate crosswind component" would depend on a lot of factors, including engine power, runway coefficient of friction, the quality of the airplane's tires, and whether the crosswind was coming from the left or the right - so many variables that publishing a precise figure would be nearly impossible, and be essentially useless to a pilot.

But history shows the maximum crosswind component, that is, the threshold of loss of control, is not determined by the airplane. It is determined by the abilities and attention of the pilot. One of the factors in LODC-L mishaps, in my opinion, is that pilots don't think very much about crosswinds when preparing to land. We listen to the AWOS or ASOS to determine the runway to use, choose the same runway as other traffic in the pattern, or accept the runway assigned by a control tower. Once the runway-in-use decision is made (or made for us), we tend to mentally discard the wind information. Most pilot training conditions us to consider the crosswind component for takeoff. When it comes to crosswinds for landing, however, we often take whatever we get.

This lack of focus may drive so many airplanes off the sides of the runway, often to never fly again. We just aren't thinking about crosswinds. Part of the reason may be that not everyone is a whiz at doing math in their head while flying an airplane. But it doesn't take the power of an E6B to estimate the crosswind component for a runway you're considering using.

You can get close enough, while erring on the conservative side for purposes of in-flight estimation, by thinking about 1/3, 2/3, and 100%.

There are some simple methods that can be used to estimate crosswinds. Here is the process I use and teach:

When you listen to ATIS, AWOS, or ASOS, determine the angle between the runway heading and the reported wind.

- If the difference is 20° or less, assume the crosswind component is 1/3 of the reported wind speed. This is very conservative when the angle is smaller within this range, and closer to correct at the 20° angular difference point.
- If the difference between runway heading and wind direction is more than 20° but less than 45°, assume the crosswind component is 2/3 of the reported wind speed. Again, this is conservative at the lower end of this range but closer to accurate at the 45° point.
- If the difference between runway heading and the reported wind is 45° to 90°, assume the crosswind component equals 100% of the reported wind speed.

Once you have estimated the crosswind component, ask yourself honestly if you're wellrested and current enough on crosswinds to land with the estimated crosswind component. If "yes," prepare for a crosswind landing using appropriate control inputs. If honest reflection indicates you're not ready to handle that crosswind on that day, don't even try. Pick (or ask the tower for) another runway with a crosswind you can honestly accept, if one exists. If not, divert to another airport with crosswinds that do not exceed your personal

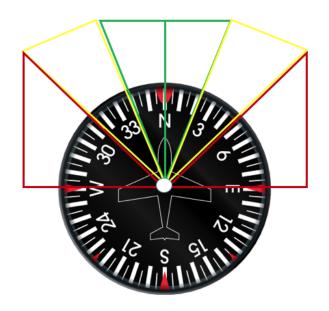
limitations at that particular time.

You may use some other method to estimate crosswinds for landing. I expect, however, that many pilots use no landing crosswind estimation system at all. If you don't estimate crosswinds for every landing you are a LOCD-L event waiting to happen. You can fix that easily, and avoid adding to the long list of LODC-L mishaps, by remembering 1/3, 2/3 and 100%.

<sup>1</sup> Presentation by Dr. Earl Weener, Member, NTSB, at the NBAA Single-Pilot Safety Stand-Down, Las Vegas, NV November 16, 2015, http://www.ntsb.gov/news/speeches/ eweener/pages/default.aspx

Holder of an ATP certificate with instructor, CFII and MEI ratings and a Masters Degree in Aviation Safety, 2010 National FAA Safety Team Representative of the Year, 2015 Inductee into the NAFI Hall of Fame and 2008 FAA Central Region CFI of the Year, three-time Master CFI Thomas P. Turner has been Lead Instructor for Bonanza pilot training program at the Beechcraft factory; production test pilot for engine modifications; aviation insurance underwriter; corporate pilot and safety expert; Captain in the United States Air Force; and contract course developer for Embry-Riddle Aeronautical University. He now directs the education and safety arm of a 9000-member pilots' organization. With over 4000 hours logged, including more than 2500 as an instructor, Tom writes, lectures and instructs extensively from his home at THE AIR CAPITAL--Wichita, Kansas. Subscribe to Tom's free FLYING LESSONS Weekly e-newsletter at http://mastery-flight-training.com/

### ESTIMATING THE CROSSWIND COMPONENT



Erring toward conservative for purposes of in-flight estimation

Color	Angle	X-W Estimate
Green	0° to 20°	1/3
Yellow	21° to 45°	2/3
Red	46° to 90°	100%

#### Example:

- You're landing on Runway 23
- AWOS reports the wind is from 260° at 15 knots
- There is a 30° difference between runway heading and the reported wind direction
- This puts the difference in the yellow range: the estimated crosswind is 2/3 of the reported wind
- 2/3 of 15 knots is 10 knots
- Assume the crosswind component is 10 knots
- Ask yourself: "Am I current and prepared to land." with a 10 knot crosswind?
- If "yes," focus on crosswind control and land
- If "no," divert to another runway or another airport



Readback is your chance to tell us what you think about everything we have to say and do - including our PIREPs, articles, emails and previous issues of the On Approach newsletter.

#### **RESPONSES TO JASON BLAIR'S "5 Reasons to** Complete an Avionics Upgrade"

PIREP reaffirms those things we already know, enhances our knowledge on a subject, provides a different point of view and importantly keeps its subscribers up to date with a look at the future.

I cannot recommend this subscription enough! I love the fact that AVEMCO is about being proactive!

I & a partner had a company we sold a few years back. Our Mission Statement was; "Our mission is to provide uncompromising value in products, services & information which enrich our customers while providing profitable growth to our company."

I find your company to fit this mission statement, which we lived & strived for every day to meet or exceed.

Proud to be a customer. Britt T. Johnson

Excellent PIREP. Very good information and advice. Thank you.

-- Tommy R. Hargreaves BSCS, CISSP, CEH, CIA, ASEL, SHK

#### **RESPONSES TO THOMAS P. TURNER'S** "Accident Prevention Facts, Part I & II"

The two articles recently published by Tom Turner were beyond excellent. I am a policy holder, retired airline pilot, and longtime GA aircraft owner. I have owned Beech aircraft for a long time, and I have known of and read Tom through his good work at the ABS.

What I find refreshing is that Tom calls it like it is. The manner in which he addresses real safety threats is unique. I'm glad you have engaged his services. I guess you'd say I'm a fan.

-- Bill McClure

I love your PIREP's in the newsletter. Thanks so much for sharing with us!

-- Bill Schultheis

Very good review. We all need to go back to basics more than once in a while.

-- James A. Cotter. Sr

Excellent, should be required reading for all pilots including students.

-- Bob Hume

#### AND A GENERAL COMMENT ABOUT OUR **NEWSLETTERS FROM A READER:**

Thank you for the informative newsletters. After 20 years of flying, and attending scores of seminars, your newsletter always provides

- a topic or tip that is beneficial.
- -- Tony DeGrazia Avemco Insured for 14+ years

#### **RESPONSE TO THOMAS P. TURNER'S** "Tailwheel Pilot"

As the owner and pilot of a tailwheel aircraft for many years, I found that the use of bigger tires on the main gear [8.50 x 6.0] slowed the ground reaction time in landings. In the almost 2,000 hours of tailwheel time I have accumulated. I have run my plane across or off the side of the runway a couple of times due mainly to cross winds. The last time it happened, I got caught by an unforecast thunderstorm gust front at touch down, and took a ride out into the sage brush. It also caught the droop tip on the downwind wing. (The main runway pointing into the prevailing wind from the storm was closed due to construction). Usually, my Maule just wants to weather vane into the wind, so, I tend to fly it onto the runway with some power applied to maintain directional control. It has never swapped ends. But, I have also landed it on one wheel to counteract cross winds. I was taught early on, that you need to control the plane, and not let the plane control you.

-- Dan Sage

#### A RESPONSE REGARDING OUR SAFE FLYING **EMAIL SERIES TO CUSTOMERS:**

Please keep them coming. I am a new pilot and I very much appreciate being able to learn from other's experiences. For a low time pilot, these articles definitely increase my knowledge base and that is a big plus.

-- Steve Chardon

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The most fun we have all year is meeting our customers in person and strengthening our ties within the aviation community.

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Michael J Smith Field (KMRH)

Beaufort. NC

**AUGUST 20** 

**AOPA Fly In** 

**Bremerton National Airport (PWT)** 

Bremerton, WA

**OCTOBER 1** 

**AOPA Fly In** 

Earnest A Love Field (PRC)

Prescott. AZ

**JULY 25-AUGUST 1** 

**EAA AirVenture** Oshkosh, WI

**SEPTEMBER 17** 

**AOPA Fly In** 

WK Kellogg Airport (BTL)

Battle Creek, MI

Check our website and Facebook pages for more information as it becomes available.

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