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T-CRAFT AERO CLUB

The monthly
newsletter of T-Craft
Aero Club



TAME THE WIND- JIM HUDSON

Safety – Membership Director

Strong winds can provide a nice performance boost on take-off; however they can sometimes be tricky to manage, especially during landing.

There is nothing better than a nice clam, cool, clear morning to take a flight, but that doesn't happen very often. When perfect conditions do prevail, we probably aren't able to take advantage of them. One element that is usually present is the wind and at times the wind can ground us and/or cause fear and trepidation.

Strong winds can provide a nice performance boost on take-off; however they can sometimes be tricky to manage, especially during landing. How much wind are you comfortable with? You'll probably say it depends; how strong, how much gust, how much crosswind and your experience.

Students, once they solo, are generally limited close to the following surface wind conditions: maximum wind 15 Kts, gust 5 Kts or less, and crosswind component 6 Kts or less. Like many elements of flying, we build our skill and tolerance limits with experience and practice. Good instruction can also help us become more comfortable with increasingly more difficult situations.

The following are some considerations to keep in mind with regards to wind in different phases of flight.

We are fortunate now to have ASOS at Nampa; however there are some things to keep in mind during strong wind situations. The wind report is from a single point and elevation at the airport. The conditions on the runway are usually a little different. Also the wind socks in Nampa can indicate different direction/velocity than the ASOS and like the ASOS anemometer, can be different than conditions on approach and the runway. In some cases, especially in the backcountry, the winds at various points on the runway can be very different than what the windssock indicates due to obstructions around the windssock.

Pre-Pre-Flight – Opening the hanger doors. In strong winds, be careful opening/closing the side doors of each bay, the wind can take the door away from you. Make sure you lock the pins in place. The main hanger doors can get blown inward enough to strike the nose of the plane if not careful when opening or closing them. Make sure to pin the end of the main doors when open to prevent swinging in and striking a wing tip.

We've had a few expensive incidents when the doors were not secured, or got away striking and damaging one of the birds.

LITTLE THINGS



Be Good to the Birds

As we hit the flying season and aircraft change hands quickly, be sure to do the little things that not only keep our planes in good condition, but also keep fellow club members happy. Oil caps finger tight only, floors free of dirt and gravel, and windows and wings free of bugs are just a few ways to help out the next pilot.

Pre-Flight – A few deviations to the standard check-list may be in order for strong winds. Prior to towing the plane out of the hanger, put the gust lock back in place, and retract the flaps and close the doors. This will reduce the chance of excessive stress or damage to airplane parts flapping in the wind. If possible, tow the plane into the wind before entering and starting up.

Taxing – We all remember to position the controls such that the wind can't lift a wing or elevator. With a quartering tail wind; fly away from the wind. Position the elevator and aileron facing the wind so they are down. While taxiing downwind prior to take off, use the throttle as the primary way to control your speed. Apply brakes if needed to slow down; but don't ride the brakes continuously. Turn into the wind prior to run-up.

Take-Off – Strong winds during take-off are not usually a problem; we just get off the ground quicker. Crosswinds can present a challenge. The following is out of the C152 and C182 POH as general guidance for crosswind take-off: Takeoffs into strong crosswinds normally are performed with the minimum flap setting necessary for the field length, to minimize the

drift angle immediately after takeoff. With the ailerons deflected into the wind, the airplane is accelerated to a speed slightly higher than normal, and then pulled off abruptly to prevent possible settling back to the runway while drifting. When clear of the ground, make a coordinated turn into the wind to correct for drift.

We all know from our training that there is more to it than that. We need to use ailerons as necessary into the crosswind to keep weight on the landing gear and keep the wind from lifting the wing and also rudder as necessary to keep the plane in line and centered on the runway during takeoff.

For more in-depth review discussion, look at "The Airplane Flying Handbook" FAA-H-8083-3A Chapter 5 on Crosswind Take-Off's at the following link: http://www.faa.gov/library/manuals/aircraft/airplane_handbook/

Cruse – Winds aloft and turbulence are the usual concerns. Winds aloft often are not what they were forecast to be. With good XC flight planning and execution, we can remain on course despite what the winds are doing. Keeping track of our planned vs. actual ground speed and time enroute will keep us on track for



fuel planning. If turbulence is encountered, don't forget to slow to the correct maneuvering speed. Most POHs give maneuvering speed at gross weight conditions. We are seldom at gross weight, thus the actual maneuvering speed must be less than the POH gross weight number. We should also keep track of surface winds along the route by listening to ASOS and observing smoke, dust and other indications of surface winds in case we have to make an emergency landing.

Approach - Prior to entering the pattern, we should have a good idea of what the winds are doing, especially if there is an ASOS close by. However there may be times that you're not sure until you get into the pattern. Wind socks can be hard to locate at non-familiar airports. If you can't find one, you still can determine the wind direction by taking your time and circle the airport and feel what the wind is doing in different elements of the pattern. You then can determine which way to land.

Landing - This is where things get interesting with gusting and/or cross winds. Some general rules of thumb apply. We should increase our normal approach and landing airspeed, and use less flaps. This gives more control authority

which may be needed to keep the plane flying straight and level in dicey wind conditions. The general rule of thumb on speed is to increase final approach speed to 1/2 of the wind speed and to further increase 1/2 of the gust factor in gusting winds. For example, if the winds are 16 kt G8, increase by 8 Kt or (8 MPH) for the headwind component and another 3 Kts for the gust factor, for a total of 11 Kt above normal calm wind approach speeds. The stronger the wind, the less flaps you should use. It's always a good idea to practice various approach speeds and flap settings from full to no flaps in calm winds.

Cross-Wind Landings - For our birds the demonstrated crosswind component listed in the POH are as follows: C152 - 12 Kts, C172 - 15 Kts, C182 - 15 Kts.

There are two usual methods of a crosswind approach and landing; the crab method and the wing-low (sideslip) method. Although the crab method may be more comfortable for passengers and easier for the pilot to maintain during final approach, it requires a high degree of judgment and timing in removing the crab immediately prior to touchdown. The wing-low

Squawks

375

Seat part had been replaced

93S

Strut fairings are becoming cracked and need replaced. On order.

91X

ANNUAL April 23-27..

64R

ADF is unresponsive

Be watchful when closing aircraft doors. If the door handle is in locked position and than door closed this could cause damage to door mechanism. And what a surprise you'll have when you realize you have left the aircraft keys in a now locked cabin!

Membership

We are currently at 73 members



**Not Star Wars... A few weeks ago
Rob Anderson was hit with a laser
downwind on 29**

(photo courtesy of FBI Media Relations)

BACK COUNTRY FLYING SEMINAR COMING IN MAY!



Maecenas Quis Dolor

Training/Events:

May 8th 7 PM Club Hanger, T-Craft Board Meeting.

May 16th 4 PM Club Hanger, T-Craft Plane Wash/BBQ.

May 23rd 7 PM EAA/CAP Meeting Room, Back County Flying Seminar.

May 29th 7 PM EAA/CAP, T-Craft Membership Meeting.

June 12th 7 PM Club Hanger, T-Craft Board Meeting.

method is recommended in most cases, although a combination of both methods may be used.

Here is what the C152/C182 POH says about crosswind landings:

When landing in a strong crosswind, use the minimum flap setting required for the field length. Although, the crab, or combination method of drift correction may be used, the wing-low method gives the best control. After touchdown, hold a straight course with the steerable nose wheel and occasional braking as necessary.

How much crosswind is too much? You can test this on your final approach when using the wing down (sideslip) approach. If you cannot keep the plane in line with the runway with full rudder while in a sideslip, then there is too much crosswind. You need to go around and wait for the wind to die down, or find another airport with less cross wind. For more in-depth discussion, look at The Airplane Flying Handbook FAA-H-8083-3A Chapter 8 on Crosswind Approach and Landings at the same link as above.

The 1st person to email me when you've read this, gets a free 1 hr wind training flight lesson from me.

Go-Around – In extreme situations, wind shear, extreme gusts, or too much crosswind, the best option is to Go-Around and wait for things to calm down or find an alternate airport with better conditions.

Post-Flight – Put the Gust Lock in as soon as you shut down – before exiting the plane. It will not interfere with steering the plane back into the hanger, or tie-down location. Use caution and advise your passengers of the same before opening the doors with the wind. Our doors are fragile and a gust of wind can cause damage to the door retention mechanisms, which are very expensive to fix. Close the doors (don't forget the key in case it locks) after you get out. Don't let them flop in the wind.

If not hangered, always tie down and secure properly in a parking space. Tie down ropes and tie down screws for off airport parking should be in each plane.

Strong winds can be challenging to deal with, but should not be feared. Look for a forecast with some strong winds, then grab an instructor and go out and take on the challenge. You will increase your skill and comfort level in taming the wind.

Fly Smart, Fly Safe, Have Fun,
and – Don't do anything Stupid!

Jim Hudson
Safety – Membership Director

How much
crosswind is too
much?