Editor Bert Osborn

PUTTING WINGS ON YOUR DREAMS

VOLUME XV

ISSUE 2

Submitted by Jim Hudson
Membership and Safety Director -

"Tame the Wind"

As we start approaching spring, our friend the wind will start to show its presence. 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 to the following surface wind conditions: maximum wind 15 Kts, gust 5 Kts or less, and crosswind component 5 Kts or less. Like many elements of flying, we build our skill 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 windsock indicates due to obstructions around the windsock.

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.

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 taxing 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-8083-3B Chapter 5 on Crosswind Take-Off's at the following link: https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/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, Va. 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 aircraft gross weight. Our checklists give Va at different weights. The Weight and Balance program will give Va at your take off and landing weight. We should also keep track of surface winds along the route by listing 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 ½ of the wind speed and to further increase ½ 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 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-8083-3B Chapter 8 on Crosswind Approach and Landings at the same link as above.

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

March 2018

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Calendar of Events:

The next membership meeting will be March 27, 2018. The next board meeting is March 13.

03/10/2018 – Accounts due
03/13/2018 - Board Meeting
03/20/2018 - Accounts past due
03/27/2017 - Membership meeting
03/31-04/07/ 2018 is the poker run. The run will end 1:00 p.m. the 7th
05/05/2018 Spring plane wash. This is a Saturday plane wash. 8:00 a.m. through 3:00 p.m.
06/8-9/18 Garden Valley Fly In
10/02/2018 Fall plane wash

If you have any ideas for safety meeting presentations or would like to arrange a presentation, contact Membership/Safety Director Jim Hudson

Fuel Reimbursement
$4.26 per gallon.

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Articles or Pictures
If you have any pictures or articles for the newsletter submit them to Jim Hudson or Bert Osborn.

Ratings:
15 Student Pilots
68 Private Pilots
01 Recreational Pilots
12 Commercial Pilots
09 Air Transport Pilots
31 Instrument Rated Pilots

Member Statistics:
105 Members
36 Class I Members (35%)
69 Class II Members (65%)
07 Inactive (voluntary suspension)
17 Suspended (BFR/Med/Attend/Billing, Including the 7 Inactive)
5 Social Members (non flying, not included in “Members”)
19 on the wait list

(Please report any BFR's, IPC's, Upgrades, or new ratings to Jim Hudson or Bert Osborn)

BFR's
Jeff Aebischer
Tim Ferrill
Loren Dahl

C182 Upgrade
Chad Hess
Jon Miller
Kent Murri

DO NOT BEND

PLEASE DONOT BEND the Rudder Trim Tab on ANY T-Craft Aircraft. Recently an aeronautical engineer want-a-be has been bending the Rudder trim tab on 93F. If this keeps happening eventually the tab will break from fatigue. Leave bending, if needed, to Aeroservices.If an aircraft “seems” to be out of trim, squawk it and let your DOM know.

WINTER FLYING HOURS

If you haven't flown during the months of December, January and February, you will be getting a bill for your dues and your 1 hour of 152 time. The club policy on winter flying hours is set out below.

5.4.3 "Use it or lose it" hour: In addition to monthly dues, members will be charged one of hour of 152 time at the scheduled rate if they don't fly the equivalent to that time during the month in any of the club planes. The “use it or lose it” hour is intended to encourage members to fly at least monthly to stay somewhat proficient.

5.6 Winter flying hours: During the months of December, January and February the monthly “use it or lose it” minimum flying charges may be combined in any of these three months. For example, if a member did not fly in December or January but flew the equivalent of three hours of 152 time in February, the December, January and February “use it or lose it” dollars would be applied to the February billing period. The same is true if the 3 hours were flown in any of the three winter months. If a member did not fly in any of the three winter months they will be charged for three hours of "use it or lose it" time in the February billing period.

PLEASE REMIT PAYMENT IN FULL BY THE 10TH OF THE MONTH.

Your account will be PAST DUE if not received by the 20th and there will be a $10.00 late fee. There will be a finance charge if your account is over 30 days past due and flying privileges will be suspended

SCHEDULING COURTESY

A scheduling issue came up recently in which a member took out a plane that another member had scheduled for a given time block, depriving the member who scheduled it the use of the plane. The member who took the plane thought he scheduled it at that time, but he had actually scheduled it for the following day. It was an honest mistake that happens very rarely. However, it does bring up a couple of scheduling precautions. One should always re-check your schedule just prior to taking the plane, to check if there had been any changes or squawks, and to double check you have the correct plane scheduled. If for some reason you decide to take a different plane than you

scheduled, make sure you change it on schedulemaster, and not just log out the plane. Be aware of when the plane is due back. Don't assume that you can take it longer than you have it schedule for if no one had it scheduled after you, someone could schedule behind you while you're flying. If for some reason you're going to be late on your schedule, let the next person know. If you're stuck somewhere because of weather or other issues you should contact those impacted, and also one of the board members. Also, don't forget to cancel a schedule that you're not able to make. Failure to cancel a schedule or remaining portion of a schedule is the most frequent problem we see. We very rarely have scheduling problems, and for the most part, members are very courteous and respectful of other members.

T-CRAFT STATS

Top 3 flyers

David Nejely	10.5
David Thomas	8.5
Tad Jones	7.4

The top three aircraft flown:

13686	28.2
4464R	22.3
67375	20.6

The top billing aircraft:

13686	$2,059
7593S	$1,844
4464R	$1,583

PRESIDENT'S REPORT ON THE STATE OF THE HANGAR

The architect is supposed to meet with the airport committee in March to finalize the drawings. We can then get permits and commence construction. There had been some issue as to whether we were building close to a taxi-way or a taxi-lane. The difference is between a 39 foot setback and a 60 foot setback. The airport manager finally agreed it was a taxi-way and the setback is 39 feet. We can expect to start construction in April.

WINTER HEATING RULES - ONE MORE TIME
PRE-HEAT PRE-HEAT PRE-HEAT PRE-HEAT

Heaters & power cords are out. Next time you arrive at hanger to fly and you have layers of clothing to stay warm, please remember that your aircraft is also cold. There are two (2) power cords per aircraft. One power cord for oil sump heater & another for the small heater on chair. Please leave heater on chair. Usually takes a good 30 minutes to take some chill off engine & surroundings. Except for 64R, which has oil

sump heater plug located in left nose air intake, the other aircraft have a plug located near oil dip stick tube. This should have been pointed out to new members during your walk-a-bout introduction to the aircraft/hanger and certainly during your aircraft checkout. If not please get with another member to help guide you. Taking care of an engine now will give us longer engine life. Please read "Cold Weather Operations", and a related article Why you're more likely to have an engine fire this fall on our web site in the site index.

Thanks. Safe enjoyable flying. DOM

HOURLY RATES (Effective 1/26/2018)

N67375
$60.00

N4464R
$69.00

N13686
$71.00

N1293F
$82.00

N1891X
$116.00

N9989E
$122.00

N7593S
$122.00

SQUAWKS

1891X upgrade is moving along nicely. When she is finished she will not only have a STOL kit but an standardized instrument panel. The new engine will have to be broken in before the bird can be checked to see if the stall horn is properly installed. The seats will be re-upholstered in Buhl. The people in Buhl are reported to do good work and they were the least expensive.

7593S is in Challis for her nose job. She was delivered there on the 13th and the length of her stay will depend on the temperature. The paint shop had to remove existing bondo from her nose. The timeliness of the paint job may depend somewhat on the temperature. Hopefully she will be back in her bay in a week

9989E was squawked to have a stiff prop control.

13686 was squawked to have a stiff mixture control. When 686 goes in for its annual in April it will be upgraded with a verneer mixture control. flight controls can become

stiff during cold weather. On February 20, Someone forgot to tighten the gas cap on 13686. A member found the cap on the taxiway. If the chain is not hooked onto the cap and you can't fix it with self help, call maintenance and the matter will be addressed.

67375 Houston, Texas FSDO notified us that the ADS-B in 375 was not compliant. Gordon Hall installed upgraded software and hopefully that will bring her into compliance.

REPORTING SQUAWKS.

Remember to report squawks on schedule master. The old clip boards for reporting squawks have been retired.
Aircraft annuals have been scheduled and calendared through May.

CARE OF YOUR AIRCRAFT

Please remember that after landing club policy requires us to clean the leading edges and the windscreen of bugs and foreign debris. There should be no need for any such requirements, as a matter of common courtesy we should leave an aircraft in a clean condition after we have flown it. We learned as early as first grade, if we create a mess, we clean it up. That's the grown-up thing to do. PLEASE, after you land, clean the bugs off the leading edges and windscreen. Then use the furniture polish on the leading edges.

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OFF FIELD FUEL REIMBURSEMENT

If you purchase fuel off site you will be reimbursed at the club rate per gallon, currently at $4.26 per gallon. In order to get the reimbursement, send your receipt(s) to the club mail address to the attention of Reggie Sellers, or scan a legible copy and email to Reggie Sellers. DO NOT put your receipt in the club pouch, these are for Nampa fuel receipts only and your personal receipt will probably get lost.

Remember. You use your credit card to purchase your fuel offsite. Submit the bill to Reggie and he will give you proper credit.

PROGRESS ON 7593S

Updates on 1891X

What idles like a six-cylinder Harley, roars on takeoff like a dragster, and has the best bottom end in the business?

Having just spent a big bucket of T-Craft cash ($30,960) for this O-470-R74B engine, perhaps now is a good time to tell you about such an engine & why we do what we do for engine break-in. Information you've wanted to know but were afraid to ask. Oh yes. With the "fancy" new gear being installed on/in this airframe our initial flights will be even more interesting!

The O-470 is a rugged engine that's capable of producing solid and dependable power (if properly cared for especially during initial break-in). It distinguishes itself from other six-cylinder carbureted engines by its characteristic lope at idle and throaty exhaust stack burp.

There are 15 models of the O-470 flying. The common denominator in all models is the bore (five inches in diameter) and stroke (four inches in length). Cylinder & crankcase castings are the main differences between the various models. The basic engine has remained the same with only minor changes to accessories & peripheral equipment. Magnetos, carburetor, starter & charging system have been upgraded & improved over the years. In 1952 the O-470-A was given its birth certificate & over time another 14 models were given certification. Only eight models remain in the current TCM engine specification list. The most popular are the O-470-L, -R (91X), -S (89E), & -U (93S).

There are few issues concerning O-470 crankcases because this engine is not under the same kinds of stress that say a turbocharged engine is. While all crankcases crack, the O-470's case is remarkable in that cracks are somewhat rare. Knock on wood we have not had that experience.

Cylinder castings for this engine have changed in style & structure eight times since the late 60's. Beefed up spark plug bosses, improved exhaust port walls, combustion chamber profile changes & threaded barrel engagement areas have all been altered by subsequent cylinder improvements. The basic O-470 engine consisted of two separate configurations identified by the shape & style of the cylinder head. Early models incorporated a parallel valve (also known as a straight valve) cylinder head, large, round intake port & small, two-bolt, exhaust port & stack assembly. The present day standard issue is the angle valve cylinder having a greater cylinder fin area & the induction & exhaust ports with a four bolt pattern.

Even after a century of powered flight, we piston pilots still have to ride herd on our horsepower just about as watchfully, carefully & manually as did Wilbur & Orville. This

applies especially to a phase of operation that few highway drivers encounter; breaking in an overhauled engine.

According to Continental & Lycoming a new or rebuilt engine should be run hard throughout its break-in period. Why? Because reduced power robs the piston rings of the internal cylinder pressure that normally helps push them against the barrel walls. Without this pressure, crankcase oil leaks past the rings to the hot end of the jug, where it bakes into a "glaze" that degrades compression-sealing, even when full power is restored. This coating is so slick & hard it can only be removed by honing – which requires a top overhaul. This would be a pain since we just spent that big bucket of cash for a factory major overhaul not including the R&R of engine, over haul of prop & prop governor.

After engine installation is complete a couple very short ground runs are accomplished to check for leaks, drips or errors. For our first actual flight we want to be in the air in a minimum amount of time after engine start. We are prepared to abort takeoff if anything sounds, smells, or feels unusual, even if we can't quite put our finger on it! Believe you me we are spring-loaded to abort, continuing only if everything seems very close to just right. Come to think about it every takeoff should have this consideration.

We climb out with max power & as high an airspeed we are comfortable with keeping as much cooling air flowing over the engine as possible. First flight takes place directly overhead KMAN at an altitude that will allow 75-80% power, usually 5000'. "Big Sky" gives us a "squawk code" & provides conflict avoidance for us & other aircraft as we circle for 35-40 minutes. Approach to landing is done by maintaining as high a power setting as possible & gentle descent. Use most of available R/W due to higher power. After landing we uncowl & closely inspect engine for any signs of problems, leaks, cracks, etc.

During break-in we keep ground operations to a minimum. Use full power for takeoff & climb closely monitoring engine temps so we don't get overheating. We maintain an altitude that allows us to vary power from 75%-65% at 15 minute intervals. Any power less than 65% simply does not produce adequate internal pressure to force the new rings against the bores tightly enough to seat everything properly. Rich mixtures are important as the valves & valve seats benefit from the lead bath they get from lots of 100LL. During these 1-1.5 hour flights we stay close to existing airfields & other emergency landing spots. After every flight the engine is allowed to cool to where one can comfortably lay a hand on cylinders & we do a thorough inspection of engine compartment. After the first 15 hours the mineral oil is changed & oil filter opened for inspection.

How does one know when an engine is broken in? A good indicator is when oil consumption, pressures and temperatures are stabilized. We keep a detailed record of mineral oil used. N-1891X will be released to general membership when we feel comfortable doing so. Test flying the newly installed STOL Kit will be completed **only after** this engine has been broken in properly.

Continental & Lycoming both state that an engine should be run frequently & consistently to remove moisture & acids that build up in the oil which are purged by heat. This involves gaskets, seals, & hoses. I believe our club does (as long as the

weather cooperates). They also state that after proper engine break-in to holding continuous cruise power to 65% or less for maximum engine life.

If I seem a bit over controlling it is because after managing engine overhauls for 8 different T-Craft aircraft totaling 15 engines (this is #3 for 91X) I have (knock on wood) continued to provide strong, reliable engines & aircraft for your safe fun flying adventures.

I appreciate you taking the time to read this. Probably have given you questions to ask. With your understanding & cooperation I hope to continue providing strong, reliable engines.

Safe flying as always,
Jim Eyre
DOM (Director of Maintenance)

Pitch For Airspeed, Power For Glideslope? Or The Other Way Around?

- By Aleks Udris of Boldmethod

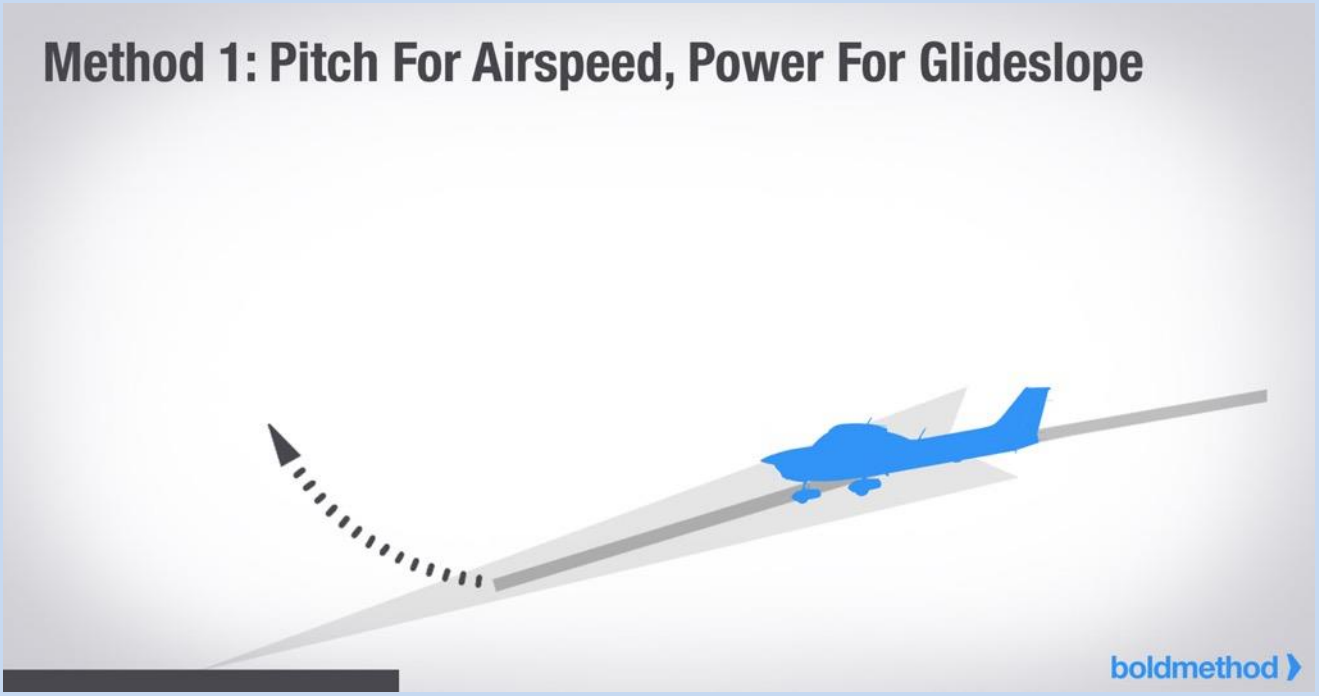
You're high on the glideslope. How do you correct? Do you pitch down, or do you reduce power? If you want to start an argument, ask a group of pilots what they think. Pilots have debated for years whether it's better to pitch for airspeed and power for glideslope, or the other way around.

One of the most respected flying books ever written, Wolfgang Langewiesche's Stick and Rudder, lays out one of the most popular - and proven - ways to manage your aircraft: "pitch to speed, power to altitude." The book was written in 1944, and it holds true today.

But with technically advanced aircraft, things are changing. And they're changing because more aircraft than ever have flight directors and autopilots. So what's the difference when it comes to flying a glideslope? Let's look at both ways of flying it.

Method 1: Pitch For Airspeed, Power For Glideslope

Most instructors (including us) have taught that when you're on a glideslope, you pitch for airspeed and power for altitude. It makes sense. If you trim your aircraft for a specific speed, you can hold that speed at any power setting without touching the flight controls, because trim holds airspeed.



Elevator trim keeps the aerodynamic forces acting on your elevator constant. And since a constant indicated airspeed creates a constant aerodynamic force on the tail, elevator trim will vary your pitch to hold that airspeed.
If you reduce power, trim will pitch the nose down and use gravity to make up for some of that lost thrust. And your airspeed will remain nearly constant if you let the nose move on its own. In fact - aircraft climb and descend because of excess power, not pitch attitude. If you have more power in than you need to to fly level at your trimmed airspeed, you'll climb. If you have less in, you'll descend.
So - if you find yourself low on glideslope, add some power and let the nose pitch up slightly.

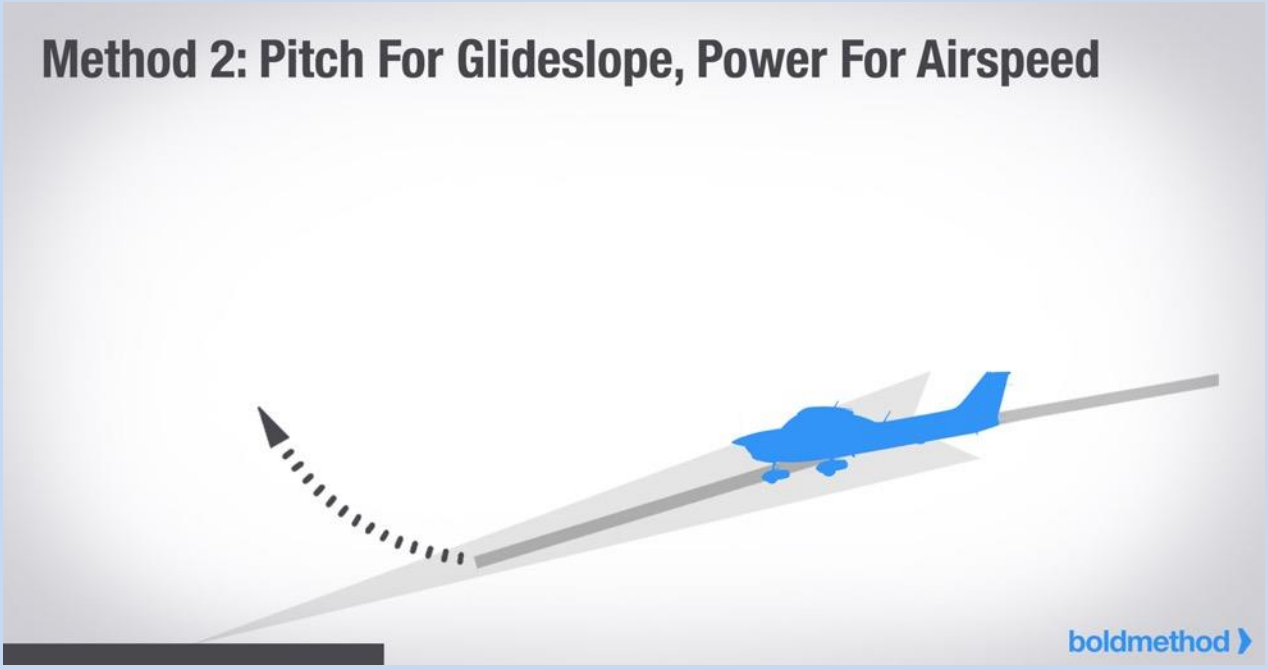
And if you're high on glideslope, reduce power and you'll descend back on target.

The method works perfectly when you're flying without automation. But if you have a flight director, things change. Here's why.

Method 2: Pitch For Glideslope, Power For Airspeed

If you're flying an ILS with a flight director, the flight director directs your pitch to stay on glideslope. But why?

Most flight director and autopilot systems can't control the throttle - they can only control the elevators, ailerons, and possibly the rudder. So, they have to control the aircraft using pitch and bank - without regard to power. If you're flying and ILS with an autopilot engaged, you'll control the power to manage your speed, and the flight director/autopilot will control your pitch and bank to stay on the glideslope and localizer.



As you fly the ILS, you'll follow the flight director's pitch commands to maintain the glideslope, and you'll set power to maintain your airspeed.
If you're low on the glideslope, the flight director will command you to pitch up. You'll need to increase power to keep from slowing down.
And, if you're high on glideslope, the flight director will command you to pitch down. You'll need to reduce power to keep from speeding up.

What's Your Method?

So what's the best method to fly a glideslope? In many ways, it's a combination of both.

Even though I almost always use a flight director now, I do practice non-automated, "raw data" approaches often. And when I fly without a flight director, I pitch for speed and power for glideslope. When I fly with automation, I pitch to match the command bars and power for speed.

But, in practice, pitch and power are always tied together. If I'm high on glideslope and I'm not slow, I pitch down and I reduce power. If I'm low and not fast, I pitch up and I add power. They work in concert. And while it's easier to get the hang of instrument flying when you tie one control to one action, realize that you never move anything - pitch or power - in isolation.

So what do you think? Would you pitch for airspeed and power for glideslope when you're flying without automation? What works best for you? Tell everyone about it in the comments.