



**Stan/Eval Newsletter  
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### **Back to Basics - Stall and Slow Flight proficiency**

Slow flight and stalls are often an area of concern on Form 5 check rides. It is often the case that the pilot has not practiced stalls or slow flight since the last Form 5. This skill is important for the pilot to be judged a safe pilot. There are several reasons why being proficient in stalls and slow flight are important. We don't usually plan to stall an airplane in normal operations, however we certainly need to know how to properly recover with a minimum loss of altitude, should it happen. Slow flight is also the regime we operate in prior to landing so proficiency is important. Another reason is to instill in the pilot what it feels like to be near a stall so that they can react appropriately before the aircraft stalls. Finally, we want pilots to have command of the aircraft and not be afraid of stalls or slow flight but confidence in all flight regimes.

Although we might think we would never fly so badly as to put an aircraft in a stall, there are situations where it may happen no matter how safe or proficient, we are. An obvious case of this would be in severe turbulence. There are other situations as well.



Instructor pilots should encourage all pilots to perform these basic maneuvers whenever practical. Slow flight and stalls require sufficient altitude to ensure safety. Although the FAA requires a minimum of 1500' AGL, 3000' AGL provides a much better margin. Slow flight should be practiced with flaps up and flaps down. With flaps up the aircraft should be flown down to near the bottom of the green arc and with flaps down the aircraft should be flown to near the bottom of the white arc. Note that the new ACS requirement for slow flight is to avoid flying so slow that the stall warning goes off (which is a change from the old PTS). Once in slow flight very gentle (less than 15-degree banks) should be practiced. Be sure the pilot understands that slow flight, especially with flaps down, requires a lot of power because of the high angle of attack and the flaps. Right rudder will also be needed to keep the ball centered. For power off stalls, have the pilot initiate a turn (gentle) while stalling as this is how most inadvertent stalls occur. No one stalls straight ahead.

Accelerated power-off stalls are also useful to demonstrate that stalls can occur at any airspeed. Put the a/c in a steep turn, power to idle, ball centered, and pull back to stall. You can also do this with power on but beware of the effects of torque.

For power on stalls, recovery should be at the first indication – don't wait for a full stall as the engine torque can cause the aircraft to spin if one is sloppy. Keep the ball centered and recover by simply lowering the nose (reducing the angle of attack) at first indication and applying full power. The first indication will be the stall warning horn or buffeting.

It is also important to demonstrate the use of rudder during stalls. The aileron can be very ineffective during a stall and can encourage a spin. The rudder is very effective at righting an a/c during stall recovery and any time you have low airspeed. It's best to teach using only the rudder and no aileron during a stall. Although our Cessna and Gippsland aircraft are very benign when

using ailerons in a stall, other aircraft will reward you with a snap roll if you use aileron during a stall. The reason for this is the aileron will cause a higher angle of attack on the low wing which results in a roll opposite of what the pilot expects.

A useful exercise is to go into a power off (don't do this power on) stall but instead of recovering, keep the yoke back. Use aggressive rudder to maintain the wing's level while keeping the ailerons neutral. The airplane will go into and out of a stalled condition but remain controllable (at least in a single-engine Cessna! Not a good idea in some other GA airplanes!). Be sure you start at a reasonable altitude as your sink rate will be high. Just push the yoke forward to recover and add power. This exercise will allow the pilot to better understand a stall and to demonstrate that a stalled aircraft can still be controlled with the rudder. If you feel uncomfortable with this maneuver, take an instructor with you!

It's important to also teach stalls with a rearward center of gravity. Most of the time, with the instructor and pilot in the front seat, the nose drops without any prompting when power is reduced, and the yoke pulled back. Stall recovery is easy. However, many a pilot after practicing these forward center of gravity stalls are surprised at stalls with the aircraft loaded towards the rearward center of gravity (a GIB – guy in the back, or heavy baggage). Now the nose in the stall doesn't just drop. Rather you must aggressively push the nose down. If you are in the center of gravity limits, the aircraft will recover quite nicely but you do have to push!

### **Winter Flying**

Cold weather has begun in many states across the nation so be ready! To review some useful tips and techniques for Winter Weather flying, go to the January 2021 edition of the Stan/Eval Newsletter [here](#)

### **AINsight: CBD Still Risky Business for Pilots (Dr. R. Sancetta)**

In multiple prior blogs, I have discussed the risks that pilots take by consuming products that contain CBD (cannabidiol). As you probably already know, CBD products are, for the most part, "legal" (with variations on their acceptance on a state-by-state basis). This substance is manufactured from the cannabis plant (marijuana) with low quantities of the active ingredient THC (tetrahydrocannabinol), made legal per the Farm Bill of 2018.

Not all states have legalized the use of CBD or marijuana itself, but more and more are jumping on the proverbial bandwagon. Other than the very low quantities of THC permitted by the Farm Bill, overall marijuana and THC consumption remains illegal under federal law.

CBD is promoted to have many potential benefits, which I have discussed previously. These can include treatments for anxiety, musculoskeletal pain, jet lag, and improvements in sleep, for example. For these reasons, the use of CBD products continues to increase, including in the pilot population. I make no claims about the effectiveness of CBD for any of its purported uses, but many people do report anecdotally its beneficial effects.

My point today is to reiterate and expand on comments that I've made in prior blogs, based on recent clarifications made by the FAA.

A few months ago, the FAA put out guidance explaining that while it cannot restrict a pilot from taking a legal substance, there may be consequences to their FAA medical and airman certification status as a result. As I have said before, ad nauseam, a THC-positive test, whether it is from marijuana or CBD, is handled essentially identically. The Code of Federal Regulations defines marijuana (and its psychoactive component, THC) as a Schedule 1 drug of abuse. These are prohibited from use in any DOT-regulated safety-sensitive activity. An on-duty positive test will lead to revocation of both pilot and medical certificates (an off-duty positive test, such as at a pre-hire screening test, may only lead to revocation of the medical certificate, which, of course, is a disaster in and of itself).



CBD products are unregulated, therefore the amount of THC they contain cannot be accurately predicted. Taking CBD products puts a pilot’s career at risk, regardless of how much it can be argued that they are legal.

I have helped a number of pilots regain their medical certifications after a THC-positive test, which was either from the use of a CBD product or simply from an “incidental exposure” to marijuana (for example, accidentally taking a spouse’s marijuana “gummy” that was mistaken for something else). Bottom line: pilots are responsible for whatever goes into their mouths, so please be careful.

The recent special issuance authorization letter for one of my pilots who had all of his pilot licenses (flight engineer, ATP, and all type ratings) and medical certificates revoked due to a THC-positive test from consuming a CBD product contained the following bold-faced warning; “A Federal Aviation Administration Medical Certificate is a Federal Department of Transportation Certificate and subject to federal law/regulation. The use of marijuana and/or use of THC in any form is aeromedically disqualifying and a violation of federal law regardless of state regulations.” That

pilot lost well over a year of his career, but fortunately, through the special issuance process, he will again be able to return to the cockpit.

You will note the careful wording here. The FAA, without attempting to explain all of the nuances of the Farm Bill, the low quantities of THC theoretically legal for CBD products, and all of the confusing opinions and arguments that could be made about these substances, does, however, make it quite clear that such use is “aeromedically disqualifying” and “a violation of federal law regardless of state regulations.”

The message is clear; a pilot found to have THC in their system will face significant and adverse career-altering consequences.

It doesn't matter, therefore, if state law permits a person to consume THC either from marijuana or CBD (again, not all states have proceeded according to the liberties offered in the Farm Bill). If that substance is found in a pilot there will be a loss of certificate(s) and all kinds of documentation, evaluations, and possibly substance abuse treatments to follow. The pilot is looking at an extensive period of grounding and may even have to regain pilot certificates in addition to the medical certificate. Any pilot in such a position will additionally be monitored for all potential substances of abuse for a number of years, through a restrictive and complicated special issuance process.

Let's also remember that there is also a regulation that states that a pilot with two DOT-positive tests is permanently barred from performing any safety-sensitive functions.

Just as the FAA stated in its guidance that I discussed recently in a prior blog, while neither the FAA nor I can tell a pilot not to take CBD, please remember that doing so may jeopardize their career (hence the “aeromedically disqualifying” statement noted above).

Similarly, alcohol, of course, is a widely available and entirely legal substance. The FAA cannot tell a pilot not to consume alcohol. However, alcohol consumption in excess can lead to a DUI, an on-duty DOT-positive test, and many well-known potentially adverse health impacts. Excessive consumption of alcohol, therefore, can also be a career-breaker (let alone the risk of harming someone in an alcohol-related motor vehicle accident).

Pilots need to be aware of the potential impacts of unregulated substances they consume. Even legal and regulated products, such as alcohol, have ethical and legal consequences if consumed to excess.

Flying as a pilot is an amazing career. Pilots often spend a boatload of money earning their certificates and ratings, followed by many years of baby steps toward their career advancement. One way to protect the careers that pilots earned through many years of arduous work is to be very careful about substance intake, and to understand and evaluate the risk-benefit ratio of whatever they ingest.

### **Pre-fighting the flaps**

There was an interesting discussion recently in the Texas Wing about putting the flaps down on our Cessnas as part of the preflight. In the newer Cessnas, the checklist says simply to check the flaps for “security and condition”. There is no requirement to lower the flaps. However, the CAP checklist does require that flaps be lowered.

Looking at it from a risk management perspective, most would agree that a flap failure on a single engine Cessna is both a rare occurrence and minimal impact should it occur. Even with inoperable flaps, operating without flaps is a benign operation unless you are operating out of a very short field. Operating with flaps down (unable to retract them) would mean getting back on the ground, but it would not put anyone at risk under most circumstances. Asymmetrical flaps would be an emergency situation, but fortunately extremely rare in GA.



The downside of lowering flaps, especially in cold weather, is that it drains the battery just when you need every amp you can get to get started. A suggested alternative is to just lower it a single notch. This allows you to inspect rollers and general condition with minimal battery drain. Later, during the runup with the alternator operating, you can cycle the flaps fully to ensure full functionality. This would also verify that the flaps are not operating asymmetrically.

### **Don't taxi over ropes!**

A really bad habit is to taxi across tie-downs. This unfortunate pilot did just that and the prop picked up the rope causing more than \$20K in damages. The prop had to be replaced and the engine torn down. Not only was it expensive, but the plane was out of service for months. Don't do it!



### **Articles for the National Stan Eval Newsletter:**

These articles have been written to present ideas, techniques, and concepts of interest to CAP aircrews rather than provide any direction. The articles in this newsletter should in no way be considered CAP policy. We are always looking for brief articles of interest to CAP aircrews to include in this newsletter. CAP has many very experienced pilots and aircrew who have useful techniques, experiences, and tips to share.

Please send your contribution to [stephen.hertz@vawq.cap.gov](mailto:stephen.hertz@vawq.cap.gov). You can view past issues [here](#).