Jim Pitman's Private and Commercial Single-Engine Checkride Observations and Suggestions

Introduction

We don't know what we don't know... Until we do. Life has a way of teaching us what we don't know, but it's much better to acquire needed information and skills before we need them.

"Experience is a hard teacher because she gives the test first, the lesson afterwards."

~ Vernon Sanders Law

Too often, pilots discover what they don't know during their FAA checkrides.

The purpose of this document is to help you know some of the things you should know to be a safe/proficient pilot and to be successful with your checkrides.

The official term is practical test, but most of us still call them checkrides, so that's the term I'm using here.

Some of the information is just a resource I recommend. Much of the value of this document is found in the links it contains. For this reason, I suggest that this document only be shared electronically and **not printed**.

Please let me know if you discover a broken or outdated link.

If you disagree with anything stated below, please share your thoughts directly with me.

You can find this document along with other valuable resources at: http://flywithjim.com/checkride-preparation/

Happy landings!

Jim Pitman

FlywithJim.com

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Observations and Suggestions

ACS Tips and Suggestions

Each ACS is full of valuable information that can help flight instructors and applicants to complete checkrides successfully. It's clear that too many pilots do not understand how to properly use these documents. Here are a few of my thoughts and suggestions.

DPE Seth Lake shares many useful suggestions and insights in his podcasts/videos. I highly recommend that all applicants and instructors take the time to watch these videos.

ADS-B/FIS-B

Applicants should understand the basics about ADS-B and FIS-B, including where ADS-B Out is required. Here's are two good references:

- 1. https://www.faa.gov/air-traffic/technology/equipadsb/capabilities/ins-outs/
- 2. https://www.faa.gov/air_traffic/technology/equipadsb/research/airspace/

Aerodynamics

Applicants should understand the basics of tail-down force, load factor, performance, and stall characteristics as they relate to CG position. This Boldmethod webinar is a good place to start.

Aeronautical Chart User's Guide

Applicants should be familiar with all of the basic VFR symbology in the Aeronautical Chart User's Guide

Airport Security

The Private and Commercial ACS both include risk management tasks related to aviation and airport security. Here's a great course from AOPA that I recommend (free for AOPA members). Pilots should also be familiar with AOPA's Airport Watch program and phone number.

Autopilot Thoughts and Suggestions

Autopilot usage has been a weak area for most of my checkride applicants. Yes, it's important to teach new pilots to not depend on the automation, but it's also important for them to be comfortable using it by the time they get to the checkride.

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When the checkride airplane has a working autopilot, the evaluator is required to test its use. Area of Operation II, task B of both the Private and Commercial ACS requires the applicant to, "Program and manage the aircraft's automation properly." Appendix 3 further states, "To assist in management of the aircraft during the practical test, the applicant is expected to demonstrate automation management skills by utilizing installed, available, or airborne equipment such as autopilot, avionics and systems displays, and/or a flight management system (FMS). The evaluator is expected to test the applicant's knowledge of the systems that are available or installed and operative during both the ground and flight portions of the practical test."

Click HERE for a training aid to help pilots who fly with the Honeywell KAP140 autopilot.

Click HERE for a slide presentation that covers both the KAP140 and GFC700. The GFC700 video referenced below is also a great resource to study.

Backup Charts

Many applicants have not developed a backup plan for charts in case their EFB fails. What if part of the checkride scenario includes the EFB not working (for one of a variety of realistic reasons)? Applicants should heed the FAA's suggestions in AC 91-78. This article also provides good information and suggestions.

Be the PIC

It's important for applicants to fully engage in their role as the Pilot in Command (PIC). This is a legal responsibility as well as a mindset. Somewhere around two-thirds of the way through training, your flight instructor should regularly pretend to be a passenger. This doesn't mean they stop teaching. It means they significantly reduce the amount they are helping you. Sometimes just a delay of input is what's required for student pilots to effectively practice being the pilot in command (be sure to clearly pre-brief each scenario and the associated responsibilities). This is important because on the day of your checkride, the evaluator is going to be a passenger who is simply observing, not helping or reminding. I sometimes test this by not completely/properly locking my door (a realistic scenario for most new passengers). I want to see the applicant conscientiously check everything as part of their important role as the PIC.

CFIT Training

Instructors should do more than just talk about avoiding CFIT with their applicants. I suggest putting the applicant under the hood and then vectoring them toward a mountain or other terrain/obstacles. This is often most effective after practicing unusual

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attitude recoveries or an emergency procedure that results in the loss of altitude. Vector them right toward the terrain. Let them get close enough to make it interesting and then take the hood off to get the full effect of what was about to happen if they kept going that direction. The lesson is that controllers are human too. They make mistakes. Trust, but verify. This is a powerful lesson that will serve them well their entire flying career. It's no joking matter. Make it serious. Make it something they lose sleep over and then watch this video together to drive the point home.

Chart Supplement vs A/FD

A lot of pilots are confused about this. Here's the answer.

Checklist Usage

<u>Here are a few of my thoughts</u> related to the proper use of checklists and what the FAA expects to be evaluated on checkrides.

Clearing Turns and Looking Before Every Turn

Page A-9 of both the Private and Commercial ACS includes, "Failure to use proper and effective visual scanning techniques to clear the area before and while performing maneuvers" as one of the typical areas of unsatisfactory performance that is grounds for disqualification. And page A-17 states that "The evaluator will assess the applicant's use of visual scanning and collision avoidance procedures throughout the entire test."

This means the applicant needs to conduct proper clearing turns and scanning procedures without being reminded or prompted. See pages 1-10 through 1-12 of the Airplane Flying Handbook for more information.

It's important to ALWAYS look in the direction of a turn right before you begin that turn (even if you have just completed clearing turns). When performing a 90 or 180-degree turn, you should select a prominent landmark off your wingtip to give you a visual target to point your nose (or other wing) at. If you are flying a high-wing plane like a Cessna 172, it's also important to slightly lift the wing to look for traffic on the side you plan to turn towards, as demonstrated in the middle of this short video.

Commercial Checkride Tips from Jason Blair

There is a lot of useful information in this recording.

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Control Inputs During Taxi

Area of Operation II, task D of both the Private and Commercial ACS requires the applicant to, "Position the flight controls for the existing wind." I like the explanation as to why this is important that AOPA gives in this short video. If there is no wind on checkride day, applicants should tell the DPE what they would do if there was wind.

Cost-sharing

Applicants should be familiar with AC 61-142. Specifically, pay attention to the requirement for a "Common Purpose" (see page 6 of the AC, including Example 1).

Flashing Lights in The Cockpit

If something is flashing in the cockpit, it's probably because the pilot needs to do something. I've noticed that most applicants are way too comfortable leaving a cursor flashing or ignoring a message light for several minutes. I suggest instructors do a better job teaching pilots to stop the flashing. I realize this is not always feasible when using the G1000 timer, but there are plenty of other examples I'm referring to.

Flight Risk Assessment Tool and Personal Minimums

Risk assessment is an important part of risk management. Area of Operation I, task D of both the Private and Commercial ACS require the applicant to, "Prepare, present, and explain a cross-country flight plan assigned by the evaluator including a risk analysis based on real-time weather, to the first fuel stop."

The FAA recommends using a tool that assigns value to different risk factors to make the process more objective. This free iOS app does a good job. It's nice when applicants have a risk assessment done for the checkride/scenario flight. More information is available in this FAA document.

The FAA also strongly recommends that all pilots set, record, and commit to personal minimums. Area of Operation I, task H of both the Private and Commercial ACS requires the applicant to, "Perform self-assessment, including fitness for flight and personal minimums, for actual flight or a scenario given by the evaluator." This means an applicant can legitimately fail their checkride if they have not set personal minimums.

To make it easy for everyone, I suggest that each applicant show up to the checkride with written personal minimums. The FAA recommends this tri-fold and AOPA has created this Personal Minimums Contract for VFR pilots.

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The personal minimums set by the applicant should be adhered to for the checkride flight. When something is outside the applicant's personal minimums, it is their responsibility to discontinue the checkride.

G1000 Thoughts and Suggestions

The center section of the G1000 is often called the "Common Tuning Area." This includes the controls on the right side of the PFD, the avionics panel, and the controls on the left side of the MFD. It's best to teach pilots in the left seat to fly the yoke with their left hand and use their right hand to control everything in the Common Tuning Area. Without this specific instruction early in training, many pilots develop the bad habit of using the knobs and buttons on the left side of the PFD. This requires switching hands on the yoke and/or awkwardly reaching their right hand to the left side of the panel. Doing everything in the Common Tuning Area is a much better habit. Basically, ignore the fact that the knobs and buttons on the left side of the PFD even exist. This habit is also useful when we simulate a PFD failure. In that scenario, the pilot would have to use the altitude and heading knobs on the MFD anyway. Already having that as a habit makes it even easier.

Pilots that fly the G1000 system should have a basic understanding of the various components, how they work, and what to expect with different component failures. The following videos are helpful for study and review.

G1000 Introduction. This one is pretty old and some of the information is outdated, but it's still a great overview and explanation of the different components of the G1000. The emergency procedures and examples of failure modes starting at 55:55 are especially valuable.

GFC 700 Autopilot. This is one of my favorite Garmin videos, packed with useful information.

This useful shortcut is one of my favorite hidden features in the G1000. The second tip in this 3-minute video demonstrates the shortcut.

I've also noticed that most pilots do not understand ROL mode. The table at the bottom of page number 350 (PDF page 364) in this document explains what ROL mode does in the G1000 and comparable systems. This 8-minute video also provides some helpful suggestions.

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Max Trescott shares some excellent tips and suggestions in this podcast recording.

IACRA Tips and Suggestions

Here's a link to some valuable information to help ensure the IACRA application is completed correctly.

Intercepting and Tracking

Area of Operation VI Task B of both the private and commercial ACS states, "Intercept and track a given course, radial, or bearing, as appropriate." This is listed as a skill, which means the evaluator is required to test this item, so it should not be a surprise. Applicants should be prepared to use whatever equipment is installed and working in the checkride airplane to intercept and track a given course/radial/bearing both inbound and outbound.

Logging Ground Time

The regulations are clear that ground instruction must be properly logged by the instructor. To begin a checkride, we need to at least have a signed ground log that shows the minimum areas of operation were covered. This applies whether the applicant did a home study course or not.

Night Operations

Max Trescott shares a lot of valuable information in this recording.

No Touch-and-Goes On Checkrides

A touch-and-go is a useful training maneuver/procedure that allows pilots to efficiently practice multiple takeoffs and landings in a short period of time.

The FAA has recently directed DPEs to avoid touch-and-goes during checkrides. This stems from the fact that there is no official FAA guidance related to this maneuver/procedure.

I recommend that instructors continue doing touch-and-goes during training with the understanding that it is a training exercise, not an FAA-directed manuever or procedure. Since checkrides are always simulating real-life scenarios (not training), touch-and-goes are not appropriate as part of the test.

Consistent with this new FAA guidance, I am no longer allowing touch-and-goes during the checkrides I conduct. We will either do stop-and-goes or full-stop-taxi-backs.

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Packing in ForeFlight

Applicants that use ForeFlight should know the basics of what it means to "Pack." This short video explains it.

Pilot Logbooks

I created this document to help clear up several common misconceptions and provide valuable suggestions to help you with your pilot logbooks.

Pilot's Guide to a Preflight Briefing

AC 91-92 is packed with great information and links to useful resources that all pilots should be familiar with.

Please Don't Reply to Instructions to Standby

When ATC instructs you to standby, please don't reply. Controllers usually do this when there's something time-sensitive they need to do. If the pilot immediately reads back the instruction to standby, there's a good chance they are blocking the time-sensitive instructions that ATC is trying to give someone else. If the instructions include something else like, "Cessna 123 squawk 4336 and standby," simply put in the code and wait. No reply is needed.

Rapid Throttle Movements

I often observe pilots rapidly changing engine power from idle to full power for takeoffs, go-arounds, and stall recoveries. It is also common for flight instructors to quickly pull power to idle when simulating engine failures. This Lycoming Operator's Manual explains why rapid throttle movements should be avoided. Please help take care of the engines we all depend on by always allowing 2 to 3 seconds to perform full power changes. You may need to actually count it out loud, "One thousand one, one thousand two, one thousand three," while slowly moving the throttle. Even in time-sensitive scenarios like a stall recovery or low altitude go-around, properly controlling the pitch (reducing angle of attack) is much more important than quickly shoving the throttle forward. More information about detuning counterweights can be found HERE.

Simulated Flap Malfunction

The ACS does not specifically require a no-flap landing to be performed, but "Landing gear or flap malfunction" is listed as one of the possible items to be tested in area of operation IX (Emergency Operations). If the airplane is certified to land with zero flaps, applicants should practice doing so and be prepared to demonstrate this on the

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checkride. Sometimes this is the scenario that leads to the required forward slip to landing. Instead of slipping with flaps (steeper than normal approach), the applicant is expected to fly a normal glide path and use the forward slip to increase drag in lieu of the flaps and then perform the zero flap landing.

Slips vs Skids

Pilots need to understand the difference between slips and skids. I've seen pilots turning right base who think they need to push right rudder to slip around the turn because they happen to be holding the yoke slightly to the left at that moment and all they are thinking about is opposite control inputs. Too much right rudder in a right turn is not a slip, it's a skid, and it's dangerous. It's not a matter of where the controls are, it matters how the airplane is actually flying. Here are two good videos to help:

- 1. https://youtu.be/RKfG3IWCZ80
- 2. https://youtu.be/JMMqJ5AhK-o?t=581

Stabilized Approach and 3:1 Rule

Applicants should be familiar with the information in this FAA Safety Briefing. One of the scenarios for the oral portion of the checkride might be a night visual approach to a runway that has the PAPI NOTAMed out of service. When I ask how they would mitigate that threat, most applicants don't really know. One effective way is with the 3:1 rule, which says that for each 1 NM from the threshold, the airplane will be about 300 feet above the runway when on a 3 degree glidepath. This does not guarantee obstacle clearance, but it's a great tool to start with. It can also be said that when an airplane is on a 3 degree glidepath, 3 miles from the runway, it is about 1,000 feet above the runway.

The FAA has outlined seven criteria for a stabilized approach on page 9-6 of the Airplane Flying Handbook. The seven items listed by the FAA can be condensed into the C-FLAPS acronym:

- C Checklists, complete.
- F Flight path (horizontal and vertical), proper.
- L Landing configuration, set.
- A Airspeed, within normal approach criteria.
- P Power setting, adjusted and constant.
- S Sink rate, as planned/expected.

Jim Pitman's Private and Commercial Single-Engine Checkride Observations and Suggestions Revised: 5-13-2025 Page 11 If one or more of the above items is not achieved by a certain point, the airplane is not stabilized and a go-around should be initiated. The Airplane Flying Handbook states, "For a typical GA piston aircraft in a traffic pattern, an immediate go-around should be initiated if the approach becomes unstabilized below 300 ft AGL." 300 feet AGL may or may not be the appropriate altitude based on the specific airplane, runway, and current conditions, but it is still important for pilots to select a minimum altitude at which they will decide to go-around if not stabilized. This selected altitude can be different for each landing, but the pilot should always know how far they will take an unstabilized approach before choosing to go-around. Think of it as a "decision altitude."

Forward slips should only be used when previously briefed and/or when simulating an abnormal/emergency scenario that makes a go-around less desirable. A forward slip should not be used to fix a poorly planned/executed approach. With rare exceptions, the best thing to do when unstabilized is promptly execute a go-around.

The Integrated Method and Use of Visual References

Applicants often spend too much time looking at the airplane's flight instruments during VFR maneuvers. Page 3-5 of the <u>Airplane Flying Handbook</u> states, "Approximately 90" percent of the pilot's attention should be devoted to outside visual references and scanning for airborne traffic."

Flight instructors should completely cover the flight instruments when first teaching each flight maneuver. This helps emphasize the fact that VFR maneuvers should mainly be accomplished with outside visual references and it helps applicants benefit from the Law of Primacy.

Whenever possible, I recommend using visual street patterns and/or agricultural lines that can be seen in multiple directions and that are as far away (close to the horizon) as possible. Doing so gives the applicant the ability to perform maneuvers involving 90, 180, and 360 degree turns using several reliable visual references.

Here's a great AOPA article that discusses the importance of using outside visual references.

Training Aids

AOPA Aircraft Flashcards AOPA Airspace Flashcard AOPA Runway Safety training aids

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Turning Stalls

All stall demonstrations should be based on a specific scenario/phase of flight (base turn with partial power and flaps, landing straight ahead with full flaps and power at idle, cross-wind climbing turn with zero flaps and full power, etc.). Applicants should be comfortable demonstrating stalls and recoveries at all different power settings, configurations, and bank angles. It's evident that many instructors are not focusing enough attention on turning stalls. The ACS states that the evaluator can specify a bank angle up to 20 degrees. In most training airplanes, this is a non-event as long as the applicant maintains coordination. In power-on turning stalls, things can get exciting in a hurry if the ball is not centered. Applicants should learn to keep their eyes outside, feel the needed rudder, and glance at the ball periodically to verify. For many airplanes, there is a point near the power-on stall where an abrupt increase in pitch is needed to get the full stall to occur. Gently pitching up to a nice high pitch angle and being somewhat aggressive with the back pressure right before the stall often makes the maneuver easier to perform.

When There's a Problem

This is general advice to help you in both real life and anytime you're being evaluated by a pilot examiner. Whenever you a presented with a problem (big or small), follow these three simple steps in order:

- 1. Fly the plane
- 2. Procedure/Checklist
- 3. Communicate (as needed)

This means that when the examiner gives you an inflight scenario with a problem and asks, "What are you going to do?," the best first answer is always, "First, I'm going to focus on flying the plane."

WINGS Credit

Most checkride applicants and flight instructors are still not familiar with the FAA Pilot Proficiency Award Program (AKA WINGS). Participating in this program should be a lifelong endeavor, especially for U.S. based pilots. Successfully passing the private or commercial checkride earns the pilot several knowledge and flight credits. If the evaluator does not offer to give credit after the checkride, any flight instructor can validate the activity based on the temporary airman certificate. An independent

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