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COMMENTARY / THE CLASSIC INSTRUCTOR

Passing the Private Checkride

Could you ace it today?

BY STEVE KROG

THOSE OF US WHO have been flying for more than two or three decades experienced a much different checkride than what students are challenged with today. As I recall, my oral portion of the checkride lasted no more than 20-30 minutes. I had to demonstrate knowledge of the weight and balance for the flight, explain how lift is generated, and describe how a stall occurs. After satisfactorily answering these questions, we moved to the airplane.

After a thorough preflight inspection, my designated pilot examiner (DPE) and I climbed into the trusty Piper PA-28-140. There was neither ground discussion nor a plan made for flying a cross-country flight. Rather, I was asked to perform a normal takeoff, climb to 4,000 feet MSL, trim for cruise flight and then demonstrate a medium right 360-degree turn, followed by steep 360s left and right. A slow flight demonstration followed with the stall warning light flickering. Finally, power-off and power-on stalls with full breaks were done before descending to pattern altitude for a turn around a point. I had to demonstrate a short-field landing while heading back to the airport. Checkride done, paperwork completed, and off to celebrate the momentous event. Thereafter, I rented one of the trusty Cherokees regularly (when I could afford $14 per hour).

As I mentioned earlier, requirements have certainly changed. Today, there is so much more to know about airspace and what is needed to operate safely and legally in the airspace.

Here at Cub Air, we work with many primary-flight students. Consequently, we are always in a state of preparation for getting the student ready for the private pilot checkride, including detailed oral test preparation.

On average, today's oral portion of the checkride takes about 1.5-2.0 hours, assuming the student was properly prepared. The oral includes aircraft documents, logbooks, advisory directives, and

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emergency locator transmitter inspection before getting into the meat of the discussion. Minimum pilot requirements, including knowledge of health situations, are also covered in detail.

Finally, the oral moves into the knowledge area of map reading, airspace, aerodynamics, weather, aircraft systems, and emergency recognition and actions to be taken if a system malfunctions.

If an examiner, or a CFI conducting a flight review, placed a sectional map in front of you and asked that you point out Class C airspace and then explain how to legally and safely fly into and out of this space, could you do so? Or are you of the aviation vintage where there were terminal radar service areas and airport radar service areas depicted, and everything else was clear for VFR flight? I conduct flight reviews and encounter this situation frequently. The usual response is, "I just fly during the day and never fly near any B, C, or D airspace. So why do I need to know this?"

General aviation has continued to be active and busy post COVID-19. Commercial aviation has seen a huge increase. Consequently, these depicted airspaces are often active. Flying over, under, or near them can provide for some interesting surprises.

Some years ago, three of us were en route to Lock Haven, Pennsylvania, for the annual Sentimental Journey Fly-In. After giving the Chicago Class B airspace a wide berth to the west, we turned eastward, remaining under the outer ring of the Class B airspace. It was just after sunrise, and we were flying three abreast with approximately one-half mile separation. Out of the sun, I spotted a Boeing 737 on a northwesterly final approach heading landing at Midway. The 737 flew between me and the aircraft to my right at the same altitude. Communicating via handheld radios, I asked my associates if they had seen the 737. Neither had seen it.

Thus, it is important to know about the designated airspaces even if you don't intend to fly near them. You never know when you might have to alter your flight path due to the weather and must fly near, under, or in this airspace. You should know what to do and how to do it.

Back to the checkride. If asked to perform a steep 360-degree turn maintaining coordination, altitude, airspeed, and rolling out on the heading you started with, could you do so today? The minimum parameters for this maneuver are: maintain altitude plus/minus 100 feet, bank angle plus/minus 5 degrees, airspeed plus/minus 10 knots, and roll out plus/minus 10 degrees of the entry heading. I challenge you to give this a try the next time you make a pleasure flight. How many steep turn repetitions did it take you to fall within the private pilot limitations?

When I was learning to fly, slow flight and minimum control airspeed were synonymous. That isn't true today. A slow flight demonstration is required of a private pilot candidate but not minimum control airspeed. If your aircraft has flaps, you are expected to use them when demonstrating slow flight.

Once you have taken the time to clear your practice area, begin slowing the aircraft and establishing slow flight

configuration. The limitations include maintaining your altitude plus/minus 100 feet, plus 10/minus 0 knots airspeed, plus/minus 10 degrees bank angle if demonstrating a turn, and plus/minus 10 degrees of the specified heading. The maneuver should be demonstrated without activating the stall warning horn. This amounts to an airspeed approximately 8-10 knots above the stall warning airspeed. You will be graded on transitioning from cruise flight to slow flight and returning to cruise flight while remaining within the specified limitations.

Previously, slow flight was satisfactorily demonstrated by slowing the aircraft to the slowest possible airspeed that would allow maintaining altitude. The stall warning horn or light would be flickering on and off. Any additional deflection of the controls would induce a stall. That was the way I learned slow flight, and I taught it the same way for years. In today's world of FAA standards, practice this maneuver using the current parameters required of a private pilot checkride.

How were you taught to perform power-off stalls? I was taught to clear the area, apply carb heat, reduce power, and steadily apply continuous back-pressure until experiencing a full break with the nose pitching downward. Back-pressure was relaxed, establishing smooth airflow over the wings, and then steady back-pressure was applied to begin reestablishing level flight while simultaneously applying full power and transitioning to either V_X or V_Y. The idea was to make a positive, safe recovery with a minimal loss of altitude. We were never taught imminent stalls like they do today.

Today, power-off stalls are taught using a simulated descent and approach to land, and then forcing the stall by leveling off and applying continuous back-pressure. A student should establish a safe approach speed and descent as if on final approach to land. Then, at a predetermined altitude, apply back-pressure, forcing the aircraft into a stall. This simulates action that a pilot might take if realizing the approach is coming up short of the runway and applying back-pressure to stretch the glide. Once the break occurs, recovery is done in the same manner as described above.

To understand and know your aircraft and how it acts in different flight configurations is vital to improve your pilot skills and perhaps save your life. When performing stalls, it is important to allow most aircraft to pitch downward and then recover from the stall.

Unfortunately, many flight students have never been taught to perform stalls with a break until the day of the checkride. Then it comes as a surprise, usually ending in a failed checkride. A DPE we frequently use commented one afternoon that he had conducted three initial private pilot rides shortly before coming to our flight school. He commented that he was looking for a good checkride with us as the three previous rides had all failed due to inability to safely perform a full stall.

If you are truly interested in maintaining or improving your flight skills, visit FAA.gov and look at the requirements for the private pilot checkride (ACS). Then perhaps use these requirements to enhance your flying skills.

In recent years, a new maneuver has been added to the private pilot checkride. This is separate from demonstrating a simulated emergency landing. It is an emergency descent to determine if you know how to properly and safely lose altitude rapidly.

How would you perform this maneuver if asked to do so on a flight review?

The Private Pilot Airman Certification Standards (ACS) recommends moving the power to idle, rolling into a 30-45-degree bank, pitching the nose downward to establish an airspeed plus 0/minus 10 knots in the safe operating range, and leveling off at plus/minus 100 feet of the altitude the DPE requests.

Frequently, when asked to perform this maneuver, it is set up as a simulated possible engine fire. If flames are apparent, you will want to roll into your bank, turning away from the flames.

Actions seen by DPEs when asking a student to perform this maneuver have been interesting. One student added full power and pushed the nose over hard to establish a severe downward attitude. Instantly, the airspeed approached the red line. In another situation, a student just reduced power to idle and slowly descended as if in an approach to land. Neither of these actions are acceptable.

As I mentioned earlier, requirements have certainly changed. Today, there is so much more to know about airspace and what is needed to operate safely and legally in the airspace. Understanding aircraft systems is crucial to safe flight. What happens if your flaps don't function and you use flaps to land? It's not a hard question but can't be correctly answered by some student candidates.

Another maneuver that is not usually taught but often appears on a checkride is responding to a partial loss of power. This was never part of the checkride years ago, but it is incorporated into today's checkrides. How would you handle that situation if you were 5-10 miles away from the nearest airport, at 3,000 feet AGL, and could only generate 1800-1900 rpm?

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Keep flying safe by enhancing your pilot skills while enjoying the pleasure of flight. EAA

Steve Krog, EAA 173799, has been flying for more than five decades and giving tailwheel instruction for nearly as long. In 2006 he launched Cub Air Flight, a flight training school using tailwheel aircraft for all primary training.

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