

Private & Commercial Pilot Practical Test Preparation Guide

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It's completely normal to have some pre-test jitters going into any big test, no matter how well prepared you are. It's that FEAR of the *unknown* that we all dread. At least that's how it's worked for me during my own past checkride experiences. And after 40 years in professional aviation, believe me, I've experienced quite a few. In an effort to help you eliminate a good deal of that *fear* factor and more effectively prepare for your own checkride success, I am sharing this list of questions and scenarios that I personally like to use while conducting Private or Commercial Oral Exams, along with useful tips and practical Do's and Don'ts that will help you polish your skills for the Flight Exam too. Now don't panic! You won't have to answer *all* of these ORAL questions on *your* checkride, but you can definitely expect questions drawn from the lists I've presented below. After combining what you learn from this Preparation Guide with your own study materials, use this guide again as you complete a *mock* checkride with your instructor. Then when you're all ready, give me a call to schedule a Practical Test that you'll actually enjoy taking because you'll be so well prepared. I've given *you* the questions; now just give *me* the answers. It's that easy! Let's get started.

The Oral

CERTIFICATES AND DOCUMENTS

1. What certificates do you need to carry with you when you are PIC (Pilot in Command) and when do they expire?
2. What certificates and/or documents must be actually in the aircraft that you fly?
3. How do you maintain currency to act as PIC on today's flight? Do any of these requirements need to actually be entered in your pilot logbook?

AIRWORTHINESS REQUIREMENTS

1. What are the required maintenance inspections and frequency intervals for the plane we are flying today and how is the activity recorded? Demonstrate how you check these items in your actual aircraft logbooks.
2. What operations require a 100-hour inspection? (Hint: Look at FAR 91.409b. The answer is *not* simply, "Operations for Hire," as many pilots indicate.)
3. How do you confirm that an AD (Airworthiness Directive) is not overdue? (Hint: Be *really* comfortable finding *all* these items in your maintenance logs.)

WEATHER INFORMATION

1. Read and discuss a typical METAR, TAF and WINDS ALOFT printout.
2. Are the heights of the clouds in these reports measured AGL or MSL and what cloud coverages constitute a Ceiling? What are the Basic VFR minimums at your airport?
3. What types of flying conditions might you expect near a Cold or a Warm Front?

CROSS-COUNTRY FLIGHT PLANNING

1. What checkpoints have you selected for today's cross-country flight and what landmarks are the best and easiest to see/locate while in flight?
2. Based on our planned flight time today, how much fuel are we required to have?
3. You get distracted after takeoff on a cross-country flight and 30 minutes later you finally remember that you haven't activated your VFR flight plan. What facility and frequency would you utilize to activate your flight plan from that position?
4. How did you decide on today's planned cruising altitude? What are the rules associated with VFR cruising altitudes?
5. What is the minimum safe altitude for today's flight and how did you determine this value? What do the charted MEF (Maximum Elevation Figures) indicate/guarantee?
6. How do you determine if an airport has *only* grass runways? How long are they?
7. What does an X on the runway mean and what airports can we use in an emergency?
8. How is a really tall (>1000') radio antenna depicted on the chart? What do the two numbers near the symbol mean?
9. If you wish to update your destination airport weather info while airborne, who and what frequency do you use? Any limitations with this service? (Hint: Call "Flight Watch")
10. During the landing roll the tower advises you to hold short of a particular runway or taxiway. What appropriate airport signage will you look for to comply?
11. You are 7 miles from the Class C airport on final for the active runway. You have just been handed off from approach control to the control tower frequency but are unable to establish communications with the tower. What would you do now?
12. If you are unable to re-establish communications with ATC (in question 11 above), what various light gun signals might you expect from the tower?
13. The tower has just advised you to, "Use caution, possible wake turbulence, you're following a Boeing 727 on a three mile final." If the active runway were equipped with a VASI or PAPI system, describe how they should appear during *this* approach?

NATIONAL AIRSPACE SYSTEM

1. Immediately after takeoff today, what airspace will you be in and what significance does this have on your flight?
2. What are the requirements for flight into Class B and how do we get the required clearance? Describe the lateral and vertical boundaries of a charted class B airspace?
3. Explain the Mode C Veil requirements? Are there any additional airspace/altitudes that require Mode C Transponder usage? (Hint: There are a total of three areas)
4. What are the communications requirements for Class C operations and what frequency do you call on? What services can we receive from a Class C airport? (Hint: RADAR)

5. Explain Class D requirements and the Class D airspace boundaries.
6. What are the minimum Ceiling and Visibility requirements for operations at Class B, C, D, E and G airports for VFR operations?
7. What are the various Special Use Airspaces and how would they affect your flight operation? Do you need a clearance to fly in an *active* MOA or Restricted airspace?
8. You have just departed a Class G airport on a hazy day with an estimated visibility of 3 miles, but during your initial climbout you determine the *actual* flight visibility to be only 2 miles. What must you do to remain legal VFR? (Hint: Stay out of Class E)
9. During today's cross-country flight, you begin to encounter reduced ceilings enroute and decide to divert to a SFC (Surface) Class E airport. AWOS indicates an Overcast layer of clouds at 900' with a surface visibility of 10 miles. With the airport in sight 9 miles away, what must you do to make a legal VFR approach and landing?
10. Describe the limitations and requirements for Special VFR operations and how do you obtain these clearances?

PERFORMANCE AND LIMITATIONS

1. In computing today's weight and balance, locate in the aircraft documents where you find the aircraft's actual empty weight and empty moment figures.
2. If you determine the final CG location is ahead of the forward limit, what could you do to bring the CG back within the allowable CG limits?
3. Describe the effects of extreme forward CG versus an extreme aft CG on aircraft cruise performance, stall speeds and stall/spin recovery characteristics.
4. You are about to takeoff from a grass runway on a hot summer day with an 4-knot wind and a 50-foot power line at the end of the short runway. You are at maximum gross weight so you *wisely* decide to check the required takeoff distance for this takeoff *before* you begin your takeoff roll. What is your Go/No-go decision? Suggestion: Round UP on your temps and altitudes for quick/easy computations and safer (conservative) answers. You might also want to consider and compare a downwind takeoff where there would be no obstacle to worry about. (Hint: Don't forget to adjust for the grass runway surface.)

OPERATION OF SYSTEMS

1. While at cruise and scanning your instruments, you notice the Suction/Vacuum pressure gauge reads "0". What instruments would be affected by this and why? What would you now use as backups to the affected instruments? How would this failure affect the remainder of your flight?
2. During the preflight inspection you did not notice the clear tape covering the static port. During the subsequent takeoff roll and initial climbout, what indications would you expect to see on the affected instruments? What actions would you take now?
3. While in cruise, you notice your oil pressure gauge reads "0". What immediate actions would you take? (Hint: Is it an actual oil pressure loss or just a bad gauge?)
4. What indications would you observe if your alternator failed in flight? If your battery subsequently became completely dead, what flight and engine instruments/systems would be affected? Would the engine still run normally? Why?

5. You are cruising at 6500' MSL when you suddenly notice the fuel gauges are *both* indicating EMPTY even though you departed with full tanks only 30 minutes earlier. What could be causing this problem and how would you handle this situation?

AEROMEDICAL FACTORS

1. Your passenger on today's flight is reporting symptoms of airsickness. What actions would you take? What helpful suggestions would you give to your passenger?
2. You and your passenger begin to experience headaches and drowsiness in cruise. What do you suspect and what do you do about it?
3. You learn your passenger has just completed an afternoon of recreational scuba diving. What precautions should you take before you depart? Why?
4. What personal checklist do you use to determine if you are physiologically fit for a safe flight? (Hint: Describe the IMSAFE checklist)
5. If your very nervous passenger begins to hyperventilate, what would you suggest to help out? Why does this help?
6. **(Commercial Pilots ONLY)** Describe the requirements for oxygen usage by crewmembers and passengers at various altitudes. Describe a typical pressurization system for a turbocharged recip-powered GA aircraft? How does the pressurization system maintain a constant cabin pressure during cruise at varying power settings? If large quantities of white smoke begin to enter the cabin at high cruise altitude, what emergency actions would you take?

NIGHT OPERATIONS

1. How do you determine whether an airport has an air traffic control tower and if the tower remains operational all night? If it closes at night, what time does it close? (Hint: ALL of this info can be found on your sectional chart)
2. After a control tower closes, what frequency do you use to announce your position in the traffic pattern? What frequency do you call for fuel service or a rental car/cab/crew car?
3. You begin to experience a problem with one of your systems and decide to divert while on a night cross-country flight. How do you determine whether your selected diversion airport is equipped with a rotating beacon and runway lights? Are they pilot controlled? If so, how would you control them and on what frequency?
4. What are the colors of the various airport lights? (Runways, taxiways, rotating beacons, obstructions)
5. When are you required to turn on your aircraft position/nav lights? Must they all operate normally? What about your landing light?
6. When preparing for a night cross-country flight, what additional considerations do you take in your preflight actions? (Hint: Night currency requirements, night fuel requirements, flashlights, emergency equipment, survival gear)
7. What are the minimum flight visibility and cloud clearance requirements for night VFR operations within the various Classes of airspace (A, B, C, D, E & G)?
8. Are there any restrictions to you obtaining a Special VFR clearance at night?

The Flight

PREFLIGHT INSPECTION

1. How would water or an incorrect fuel grade appear in your fuel sample?
2. What actions do you take if you notice a nick in the prop during your preflight inspection? Why is this an important action? (Hint: See next question)
3. What would happen and how would you know if a chunk of your prop tip broke off while in flight? What actions would you immediately take in this emergency? (Hint: When a chunk of your prop breaks off, the resulting extreme vibration can rip the engine off its mounts, rendering the airplane unflyable from extreme aft CG.)
4. Show all of the aircraft documents required for flight and the *current* actual aircraft empty weight and moment from the Weight & Balance data in the plane.
5. In what position relative to the elevator would you expect the elevator trim tab to be if you were to set the pitch trim at the full nose up position? Why?

COCKPIT MANAGEMENT

Note: From the moment we get into the plane together, I pretty much stop asking questions and become your passenger. So, for the remainder of this checkride guide, I will simply share with you what I would expect to see from a well-trained, competent and successful pilot applicant.

1. During your passenger briefing, don't forget the most important part. That is, tell your passengers how to **RELEASE** their seatbelts and **GET OUT** (How to **OPEN** the door). I am too often briefed only on how to buckle in and close the door.
2. Don't taxi too fast or *ride* the brakes to maintain your proper taxi speed with your power above idle. Remember, if you're on the brakes, your power *should* be at idle.
3. Based on actual winds, use appropriate flight control positioning during taxi and do your run-up into the wind, if possible, especially if the winds are greater than 10 kts.

AIRPORT OPERATIONS

1. During taxi out, pay particular attention to making proper ATC communications. Also, be alert for potential runway incursions and show runway signage awareness.
2. Make sure you *actually look* for traffic whenever approaching taxiways, intersections or runways **BEFORE** you enter them, even if you have already received ATC clearance. ATC makes mistakes too! This issue carries **EXTREME** importance!
3. When you are entering a traffic pattern at a non-towered airport, **PLEASE**, do *all* you can to **AVOID** overflying the airport above the traffic pattern. This is where a lot of planes all converge from any and all directions and it's very risky. Instead, be aware of the winds or get the winds and active runway info from a nearby source, like local AWOS or UNICOM. Otherwise, use your *best guess* based on earlier winds and listen on the CTAF frequency for other aircraft already in that pattern. Then you can enter the pattern appropriately, without that *risky* overflight step.

TAKEOFFS, LANDINGS, AND GO-AROUNDS

Some of the biggest problems I see during landings are due to the pilot *not* making a STABILIZED APPROACH and it is the key to success for *all* of the landings mentioned below. Review the proper stabilized approach procedures in FAA-H-8083-3A, the *Airplane Flying Handbook*. Your airplane should be on the desired approach path that will put the airplane over the runway threshold at precisely the height you wish, at the appropriate speed and with the proper flap configuration for the specified landing. Hint: As a flight instructor, I teach my students to visualize a man standing at the runway threshold holding a hulla-hoop over his head. (If you're too young to know what this is, ask your mom.) When you fly your plane right through the invisible hulla-hoop at the correct approach speed and configuration, all you need to do after that is make a nice flare and landing based on the conditions. Don't forget crosswind corrections. Works every time!

1. **SOFT-FIELD TAKEOFF** During the Soft-Field takeoff, be sure to get the nose up as soon as possible as you accelerate and maintain good directional control on the takeoff roll. There's a lot of P-Factor now and you *must* compensate and be able to see the runway ahead of you. (Hint: Sit up higher than normal.) Then after liftoff, don't allow the airplane to either settle to the runway again or climb out of ground effect until you have accelerated to V_y before climbing. (V_x , if obstacles exist)
2. **SOFT-FIELD LANDING** For your Soft-Field landing, make sure you *add* a bit more power for the flare and then *hold* it right to touchdown. Don't look at the Tach! Just *bump* the throttle up a bit (consistent with remaining available runway length) and leave it there until touchdown. Now, *hold it off* as long as possible and touchdown at or *very near* stall speed (with the stall warning ON). This assures a very soft touchdown at minimum speed, which is *exactly* what you want. Then keep that stick back *all the way* as you reduce power to idle as soon as those main tires begin to roll, using *little*, or NO BRAKES as necessary. Beautiful!
3. **SHORT-FIELD TAKEOFF** For your Short-Field takeoff, be sure to use ALL of the available runway *before* you begin the takeoff roll. Get FULL Power going before you *jump* OFF the brakes for a quick acceleration with the control yoke just a bit aft of neutral. Rotate so that you can reach the desired V_x climb attitude just as the airspeed reaches V_x . Hold that speed closely until you clear the obstacle height. Then, accelerate carefully to V_y (without sinking) before continuing your climbout. Finally, raise your flaps, if used for takeoff.
4. **SHORT-FIELD LANDING** On your Short-Field landing, it's just about the same as the Soft-Field landing *except*, now you REDUCE POWER to IDLE as you *begin* your flare (going through the hulla-hoop). This reduces your float distance. Again, keep that stick *fully* back after touchdown, *use* those brakes (but DON'T skid the tires! Ouch!) and *consider* raising your flaps for better braking action, only if needed for additional braking effectiveness. (Hint: Be sure to fly through the hulla-hoop at your desired approach speed and with FULL flaps, and you can't go wrong!)
5. **CROSSWIND TAKEOFFS & LANDINGS** For ALL Crosswind operations, the most common problem is to reduce, or *worse*, neutralize your aileron inputs at touchdown. This is EVIL! Keep your ailerons into the wind for the takeoff too, reducing aileron control deflection only as necessary to *maintain a wings level attitude* on the takeoff roll. If your wings *aren't* level on the roll, fix it with aileron.

6. **FORWARD SLIP TO A LANDING** The Forward Slip to a landing is a great tool to get down fast...provided you do it correctly! That is: Power at IDLE, full flaps (if available), ailerons into the wind, and FULL opposite rudder input. *Hold* in that *full* rudder and maintain a safe speed with a healthy dose of nose-low attitude. Be aware that you *can* even S-turn on final *while Slipping* if you're still too high. Finally, don't forget to recover from the Forward Slip when you achieve your desired descent profile. And as always, if in doubt, GO AROUND! Speaking of which...
7. **GO-AROUNDS** The Go-Around works best when you do the procedure in the *correct* order. Smoothly add FULL power, adjust pitch to control speed, then (if appropriate) Carb heat OFF, and finally, raise the flaps in *increments*. If you went around because of traffic on the runway, you should move over toward the UPWIND LEG side of the runway to avoid the ugly sound of two airplanes colliding.
8. **POWER-OFF 180° ACCURACY APPROACH & LANDING (Commercial Pilots ONLY)** Accuracy Landings really demonstrate your mastery in energy management by making the plane end up precisely where you want it following a power off approach. Adjust your approach profile by maintaining just enough energy to keep you *slightly* high throughout the approach, *never* allowing yourself to get low. The secret to success here is to *really* manage your approach so you can once again fly right through the hulla-hoop on proper speed by using all your tools (EXCEPT power). Doing this will guarantee your float will not be excessive. Remember, you've got to touchdown within 200' of your target point. When you've learned to *manage your approach* by consistently making the plane cross the threshold at the correct height and the correct speed, you'll nail it *every* time. Whalla!

PERFORMANCE MANEUVERS

1. **STEEP TURNS** Keep your steep turns coordinated and, using a *very fast scan* between outside visual reference and your altimeter, make *small*, but timely, pitch changes to minimize your altitude excursions and *maintain* your desired bank angle. (Hint: The *slower* your altitude needle moves, the *closer* you are to the *exact* correct pitch. Don't overcorrect pitch!) Bump up your power to maintain desired speed and don't forget to keep that nose on the horizon as you roll out or you'll quickly gain 100' of altitude. Reduce power after you roll out. Just make a 360° turn at 45° of bank for the Private. For Commercial Pilots, it's two 360s, back to back, at 50° bank. (Suggested technique: Trim for level flight and *don't* adjust the pitch trim *during* the steep turns. Also, use BOTH hands on the yoke for better pitch input sensitivity).
2. **STEEP SPIRALS (Commercial Pilots ONLY)** You will do either the steep turn OR the Steep Spiral and for this maneuver, I sometimes simulate the following realistic scenario: You are in cruise, flying VFR over a Broken layer of clouds when you experience an engine failure. You notice there is a suitable emergency landing field right below you, so you set up for a steep spiral to keep you over and in sight of the field as you proceed with your approach. Keep a constant airspeed throughout the spiral and maintain a *very close radius* reaching at least 50°, but not more than 60° bank on the downwind side. Watch for rudder coordination and traffic, too. In this scenario, you probably would not be in a big hurry to get down so I would recommend a *low* drag configuration. That is, Gear and Flaps UP and Prop control at Full LOW RPM (all the way back/out) until a safe landing is assured turning Base leg. This also allows you to begin the maneuver at a lower altitude since you will

have to make three complete turns before completing the spiral at your Downwind KEY Position. From there, it's simply a Power OFF Accuracy Landing. (Hint: I will allow you to set up for this maneuver completely, by selecting a desirable field (of your choice), proper entry altitude, speed and Downwind heading *before* we simulate the engine failure and reduce power.

3. **CHANDELLE (Commercial Pilots ONLY)** You'll do either the Chandelle OR the Lazy Eight. I see two big common errors on the Chandelles. First, don't rush this maneuver. A well-performed Chandelle takes quite a while to complete and thus will gain more altitude. The *rush* happens if you don't begin (and continue) your rollout promptly at the 90° point. The second common error is not attaining, and THEN MAINTAINING, the correct maximum pitch attitude at the 90° point. You'll know you have the correct pitch if you can maintain it *exactly*, all the way from the 90° to the 180° point and then be *just* above stall speed as you finally reach wings level. Keep your bank changing continuously for that last 90° of turn and keep a good eye on your constantly changing rudder coordination needs.
4. **LAZY EIGHT (Commercial Pilots ONLY)** If you get to do the Lazy Eight, again DON'T RUSH! Done properly, it is just as its name implies...LAZY. You are using the nose of the plane to paint a nice concentric figure eight that is lying on its side against 180° of horizon. The rate that your "paint brush" moves across the sky should be steady, and *never* suddenly change speed OR direction. Again, watch that ever-changing rudder input requirement. The thing that makes this maneuver tricky is the fact that ALL of your control pressures are constantly changing. Of *much* greater importance to me, is how coordinated, smoothly and beautifully you paint your sideways eight than what your altitude and/or bank angles are. Let these values be guides, NOT your maneuver OBJECTIVES. Paint me a nice looking Lazy Eight and the rest (altitude, bank and speed control) will take care of itself.

GROUND REFERENCE MANEUVERS

1. **URNS AROUND A POINT** You will probably only have to do ONE of the ground reference maneuvers for your checkride. My favorite is the Turns-Around-A-Point because the first thing Private pilots do when they get their new certificate is go do circles around their best friend's house. Go figure! So, maintain a good *safe* altitude and airspeed as you fly a nice *close* radius turn (about a quarter mile) around your selected point. (NOT a house!) In selecting a suitable area, remember to check for nearby obstructions and consider a possible engine failure during the maneuver.
2. **S-TURNS** If you do S-Turns, be sure to actually reach a heading that is *perpendicular* to your road as you cross directly over it and then change directions immediately, WITHOUT any straight and level flying. Properly done, you are turning the *entire time*, but varying your bank angle to maintain the same radius around the road on *both* sides. Viewed from overhead, the track you fly over the ground *should* look like there is no wind at all. Watch your coordination and altitude.
3. **RECTANGULAR COURSE** The rectangular course is what should be flown around the airport in the pattern, so fly your patterns nice and rectangular *every time*. It's a piece of cake!
4. **EIGHTS ON PYLONS (Commercial Pilots ONLY)** Eights on Pylons is the *only* required Commercial Ground Reference maneuver. For these, do yourself a favor. After making sure you select a line (road or railroad track) that is

perpendicular to the wind direction, select an entry heading that puts the wind 45° behind your left wing. Cross over your road at your estimated pivotal altitude with your selected point off your left side. Now, here's the *big* secret. Select *only* your FIRST pylon as you set up. Approach the road and pylon #1 on the proper entry heading and roll into the left turn after crossing the road so that you can lay your wing tip right on pylon #1. Don't make the big mistake now of over-controlling your pitch to chase the pivotal altitude. If you don't go easy on your pitch changes as you climb to reach a higher pivotal altitude, your speed will decrease to the point that now you'll be too high because you've slowed down. It's a give and take, so be gentle. As you approach the road again at a 45° angle, completing your first turn around pylon #1, fly a few seconds of straight and level after crossing the road, until you can drop your right wing to the road once again. This establishes the point where you will *finally* select whatever object (driveway, tree, pole, sign, whatever) you lay your wing onto as pylon #2. Fly the maneuver one more time, all the way around, just to prove you can keep the same two pylons again, just like a pro! It's tempting, but don't make rudder inputs to help you keep your wing tip on your pylons. Naughty!

NAVIGATION

1. **PILOTAGE & DEAD RECKONING** Your flight check will probably begin with Cross-Country Pilotage and Dead Reckoning procedures. To avoid problems here, be sure to determine where you want to be *relative* to the really BIG/VISIBLE LANDMARKS. Large bodies of water, larger cities and two-lane highways (items you can *easily* see even from a long distance) make the best checkpoints. Only use those little tiny railroad tracks, small airports, small roads or radio towers (that you will only see if you're luck enough to be right on top of them) to *positively* identify the large city you *think* you're over. The less prominent landmarks, when used as your primary checkpoints, are *way* too easy to miss. If you do miss them, you'll get behind and become easily lost. And by the way, if you *do* become a bit lost, all is *not* lost. Don't give up! This would be a *great* time to demonstrate your LOST PROCEDURES to get yourself *un-lost*. You can still pass your ride! Hang in there and DON'T PANIC!
2. **DIVERSION** You will also have to demonstrate a Diversion to an alternate airport. Select an appropriate airport, based on the scenario (could be bad weather, a sick passenger, a sick plane, pick up another passenger, etc.) and proceed from your *present* (hopefully known) position, to your new destination. Fly as direct a course as possible by first turning to an *estimated* "on course" heading and then promptly begin to select and identify checkpoints that you *should* be seeing that *prove* you're actually tracking your desired course. Estimate distance and time to your new destination. Remember to fly at an appropriate VFR cruise altitude for the new course. Once I see that you know where you are all the time and arriving at your diversion airport is assured, we will proceed with the flight maneuvers portion of the checkride.

SLOW FLIGHT AND STALLS

As with all your maneuvers throughout your ride, maintain an active scan and awareness for traffic collision avoidance. This is a VFR pilot's PRIMARY RESPONSIBILITY! Don't just *go through the motions* of doing your clearing turns. LOOK OUTSIDE, before, during and

after completing ALL turns and maneuvers. This goes along with visually clearing ALL runways before you land on, taxi onto, OR takeoff from them, whether tower-controlled or not. Your head should literally be on a *swivel* throughout your *entire* flying career.

1. **SLOW FLIGHT** Slow Flight needs to be done at a speed *just above* the stall. Stall warning system should be active, but DON'T actually stall. Here's a time when many pilots are so engrossed in flying the plane that they completely forget to look out for traffic before they make turns in slow flight. BIG common error! Keep your banks shallow, only about 10-15°. Suggested technique: As your speed is decreasing toward your target value, maintain *altitude* using timely *pitch* inputs. When your speed approaches target, begin adding power to prevent a descent. Once on target speed, transition to maintaining your *speed with pitch* and your *altitude with power*. A big mistake here is to wait too long to correct for altitude excursions. As soon as you see a trend, even a slight one, make appropriate adjustments immediately. If the altimeter needle is moving very slowly while you're *on speed*, don't make a *huge* power change for only a 20' error, but *do* make a correction. Finally, there's lots of Torque and P-Factor in Slow Flight so keep a good eye on your rudder coordination.
2. **POWER-OFF STALLS** For Power-Off Stalls, set up as though you were in the traffic pattern. Since statistically, most stall accidents occur while in the traffic pattern while turning Base to Final, I like to simulate that on checkrides. Get your plane fully configured with full flaps at the appropriate approach speed. Then reduce power to idle, or *near* idle, and raise the nose to and maintain a *stall attitude* while turning toward the simulated final approach at 15-20° of bank until the stall actually occurs (Stall buffet or break). *Then* recover smoothly using FULL power application, adjust pitch to stop the stall, add right rudder as necessary and level the wings. Maintain a safe climb attitude and accelerate to the appropriate climb speed (V_x or V_y) as you raise the flaps in increments. (For Commercial Pilots, GEAR UP upon *positive rate* of climb.) Remember, it's very important to *minimize your altitude loss* during recovery from *all* stall maneuvers.
3. **POWER-ON STALLS & SPIN AWARENESS** For Power-On Stalls, set up your plane like you just departed an airport and on your initial climbing turn to the crosswind leg, you enter the stall. Shallow bank 15-20° with full power, maintaining the stall attitude until the stall occurs. Don't keep raising the nose until the stall happens. This results in a "Whip Stall" with an abrupt and excessive pitch drop upon stall. With power on, the Torque and P-Factor forces will be high and must be coordinated with appropriate rudder inputs. If you aren't maintaining proper coordinated flight as you enter the power-on stall, the aircraft may break to the left (or right if you've overcompensated). If this happens, this would be a great time to show your spin awareness/recovery skills. While spins are *not* normally demonstrated during a checkride, your ability to recover from one that you get yourself into, *is*.
4. **ACCELERATED STALLS (Commercial Pilots ONLY)** Reduce your airspeed to 20 knots above the power-off flaps-up stall speed, V_s . This should typically be close to the V_x climb speed. Once stabilized at that speed, roll into a 45° bank. From the 45° bank, firmly and positively pull the yoke straight back into your lap until a definite stall buffet is felt. This should occur almost immediately upon increasing the G-loading. As soon as the stall buffet occurs, release the back pressure as you simultaneously roll back to straight-and-level while adding power. It's a very quick and easy stall to accomplish—if you do it correctly.

BASIC INSTRUMENT MANEUVERS

1. BASIC INSTRUMENT MANEUVERS & RADIO COMMUNICATIONS

Since the only time a Private Pilot would actually be flying on instruments would be during an emergency, I like to create a simulation of the very scenario that leads to these deadly events. Namely, continued flight into IMC by non-instrument rated pilots. Scenario: You are returning to your home airport with only 30 miles to go and ceilings/visibilities are getting low. You're hoping to get back before darkness and deteriorating weather force you to divert, but you are now only about 500' above the ground, just skimming the bases of the overcast. You *finally* have had enough of this foolishness and during your attempt make a 180° turn, you enter solid IMC. What will you do *now* to get us both *safely* on the ground? This is without doubt, one of the most important scenarios to be prepared for both during and after your checkride. (Hint: Do your 4 Cs – CLIMB, COMMUNICATE, CONFESS, COMPLY) The ability to combine your Basic Instrument Flying skills with your Four Cs procedures will provide you a tool that could someday save your life!

2. **RADIO NAVIGATION** If you wish to navigate directly TO or FROM a VOR station, remember to TUNE, IDENTIFY, and then TWIST the OBS to center the CDI needle *twice*. The first time is to determine your appropriate course TO or FROM the station. Then, *after* turning the aircraft to that heading, the CDI needle will probably have moved out of center again. Now, *re-center* the CDI a *second* time with a small twist of the OBS as necessary. Then keep the CDI centered with proper heading control and wind corrections as necessary to track your desired course. Don't overdo heading corrections to keep a centered CDI needle. Usually 20° toward the needle is enough to bring it back to center due to crosswinds along your course. Be patient.
3. **RECOVERY FROM UNUSUAL FLIGHT ATTITUDES** You will also need to demonstrate how you would recover from unusual attitudes. I will ask you to take your hands and feet off the controls, put your head down and close your eyes. During your recovery, FIRST check the pressure instruments for a CLIMB or a DESCENT and make an appropriate power adjustment. Next, if you're in a descent, roll the wings level as you *smoothly* raise the pitch attitude to level flight. However, if you're in a climb, after adding power, allow the nose to drop to a level pitch attitude *before* rolling the wings to a wings level attitude. Finally, readjust your power. That's it!

EMERGENCY OPERATIONS

1. **EMERGENCY APPROACH & LANDING** At some point in your flight, you will be faced with a simulated emergency that will require a Power Off Approach to a landing or a Go-Around. I simulate a variety of scenarios that would either cause a complete/partial engine failure or other conditions that might require you to simulate shutting down the engine yourself. Examples include fuel starvation, fuel mismanagement, carburetor icing, loss of oil pressure, engine compartment fire, prop tip separation, rough running engine, etc. The secret to success here is to *immediately* select a suitable landing site that is not too far away, then maneuver towards or over it while taking the appropriate actions based on the situation. Finally, get properly set up for the approach from a KEY position at about 800 to 1000' above the field. From there, it's just a simple Power Off Approach. Stay a bit *high* on energy (altitude/speed) until you are *positive* you have the runway made. From this position,

you can get rid of that bit of extra energy as necessary by using flaps, a forward slip, and/or S-turns to adjust/manage your approach energy on final and land safely, or go around, as directed. Also, be sure to line up *with* the furrows if you've selected a plowed field even if this results in a crosswind landing. CAUTION: If you land across the furrows the plane *will* flip over during the landing roll. Otherwise, into the wind is great! Given a choice, when selecting an emergency field, (except during the winter months) a brownish green field usually indicates low cut grass or short crop heights allowing for a safer operation. Dark Green or dark black/brown usually indicates either tall vegetation (corn) or soft, recently plowed ground. Finally, try to avoid selecting a field that requires a final approach over tall obstructions to a short field. This provides little margin for error on your part. Remember, whatever you select, you *must* make safely!

2. **EMERGENCY DESCENT** Knowing when an emergency descent is desired is half the battle. Whether it be a cabin- or other system-fire, a sudden critical medical emergency, a loss of pressurization while at high altitude, or just a dire need to get to a lower altitude—NOW—the emergency descent basically has two profiles to choose from: a high-speed (close to V_{ne}) flaps-UP/gear-UP descent, or a low-speed, flaps and gear down within the flap/gear operating speed range. Which one you chose depends on the situation. If a landing will be immediately required upon reaching the lower altitude, it would make sense to be in the landing configuration. But if simply getting to a much lower altitude is the goal (but not to land), then perhaps a high-speed descent would be a better choice. In either case, *immediately* upon determining that an emergency descent is required, reduce the power to idle, prop lever to full forward (high RPM) if installed, roll towards a 45° bank, initially, to allow the pitch to be lowered without creating unwanted negative-Gs during the pitch over (however, a continuous 45° banked turn does NOT need to be maintained throughout the entire descent), *consider* doing a forward slip to increase the descent rate, and then adjust the pitch for the appropriate speed for the descent. *Then*, if a high-speed descent was chosen, leave the flaps and gear UP while pitching for a speed close to V_{ne} . But if a low-speed (high drag) descent was chosen, pitch for the gear and flap operating range, lower these as soon as speed permits, and then maintain a pitch attitude that allows a stabilized speed near (but below) the max V_{fe}/V_{le} range. To protect against excessive wear on the engine and flaps, these descents are only continued for around 500' during checkrides, or as necessary to observe that a stabilized descent has been accomplished. Then simply recover back to straight and level flight. Nothing to it!
3. **SYSTEMS & EQUIPMENT MALFUNCTION** While returning to the airport for your landings, you *may* be faced with a simulated burned out flap motor, a flap that is jammed on only one side (strong uncommanded roll when flaps are selected), or for Commercial Pilots, a Landing Gear extension problem. You'll want to be prepared to land with either partial flaps or NO flaps, or use the emergency gear extension procedures, as appropriate.

AFTER LANDING, PARKING AND SECURING

1. Now that your checkride is nearly complete, this would be a really bad time to let your guard down and miss an important ATC instruction, create a potential runway incursion, stop looking for conflicting traffic, stop using your checklists, or stop thinking, in general. Keep being a SAFE PILOT! You're almost there!

2. **POSTFLIGHT PROCEDURES** Remember to make the appropriate log entries if you need to report any mechanical problems you noticed during the flight. I will *always* allow you the necessary time to complete your entire parking/securing checklist at the ramp area *before* I interrupt you to shake your hand and congratulate you on your success. Congratulations!

FINAL POINTS TO CONSIDER

Since you will be the PIC (Pilot in Command) during your checkride, it's really best if you can keep yourself in that *mindset* and treat me as your passenger throughout. This will improve your performance and create a more realistic representation of your *true* knowledge and skill as PIC. Don't do or say something just because you think it's what I want to see or hear. Think and act like a PIC!

As much as we'd all *like* to be, you *don't* need to be perfect to pass. The test does NOT seek perfection! You *will* make mistakes on your checkride. We all do. You can count on it. As your examiner, I am just as interested in seeing how you *react* to your mistakes as I am in seeing that you don't make too many of them. So, when you make those inevitable errors, do your best to recognize them and then take prompt, appropriate corrective action to fix them. The point is, do your best, but when things don't go as planned, DON'T GIVE UP! Put the mistake behind you and press on, just as if I weren't even there.

Remember that examiners cannot provide *any* instruction or assistance during the checkride. If you still require additional instruction during the checkride, you will need to get that additional instruction from your instructor. Also, if you do a maneuver that you really mess up badly, examiners are *not allowed* to provide you a second chance to do it correctly. However, misunderstanding the examiner's request or inability to complete a maneuver due to a traffic conflict, for example, would be grounds for re-doing a maneuver.

If you have questions or concerns with any of the problems, scenarios or flight maneuvers that I have presented here, please feel free to contact me by phone or Email. I'd be happy to expand on my explanations or answer any questions for you and/or your instructor.

Before you head out to the airport on your big day, confirm that you have ALL of your required checkride gear by referring to the Practical Test Checklist, located in your PTS (Practical Test Standards) booklet. And while you have your PTS out, it contains a ton of great points you may want to review, especially in the introduction section of that important *Key to Success* document.

After you have spent some time using this *Preparation Guide* to help you prepare for your Practical Test, I am confident you will find the checkride to be just another challenging and enjoyable flying experience. It would be my pleasure to be your examiner on this very important occasion, to present you with your new pilot certificate and be the first to congratulate you on your accomplishment. I look forward to the opportunity to fly with you soon!

Bob Schmelzer