

## **Commercial Pilot Airplane Single-Engine Syllabus:**

Lou Dietz, 2022

References: Commercial ACS, Airplane Flying Handbook (AFH), FAR 61 and 91  
(Note that many tasks are identical to Private Pilot tasks, but with stricter tolerances)

### **Outline of All ACS Tasks:**

*Preflight Preparation (Identical to PPL Syllabus)*  
*Preflight Procedures (Identical to PPL Syllabus)*  
*Airport Operations (Identical to PPL Syllabus)*  
*Takeoff, Landings, and Go-Arounds (Similar to PPL Syllabus)*  
*Power Off 180° Accuracy Approach and Landing*  
*Steep Turns (Similar to PPL Syllabus)*  
*Steep Spiral*  
*Chandelles*  
*Lazy Eights*  
*Eights on Pylons*  
*Navigation (Similar to PPL Syllabus)*  
*Slow Flight and Stalls (Similar to PPL Syllabus)*  
    D. Accelerated Stalls  
*High Altitude Operations*  
*Emergency Procedures (Identical to PPL Syllabus)*  
*Postflight Procedures (Identical to PPL Syllabus)*  
*Checkride Preparation*  
*Appendix A – Part 61 Training Requirements*  
*Appendix B - Commercial Endorsements*

Things to add:

## *Preflight Preparation (Identical to PPL Syllabus, except:)*

### Private and Commercial Pilot Privileges and Limitation:

(From FAA email of Feb 2022)

When compensation is exchanged for transportation, the public expects, and the regulations demand, a higher level of safety. As a general rule, private pilots may neither act as PIC of an aircraft for compensation or hire nor act as PIC of an aircraft carrying persons or property for compensation or hire. Refer to 14 C.F.R. § 61.113(a). Section 61.113(b) through (h) contains seven exceptions to this general prohibition against private pilots acting as PIC for compensation or hire. One commonly misapplied provision is the expense sharing exception contained in § 61.113(c), which permits a pilot to share the operating expenses of a flight with passengers provided the pilot pays at least (may not pay less) his/her pro rata share of the operating expenses of that flight. Those expenses are strictly limited to fuel, oil, airport expenditures, or rental fees. In addition, only reimbursement from the passengers is allowed.

*(NOTE: The § 61.113 exceptions also apply to ATP and commercial certificate holders who are exercising private pilot privileges and also broadly applies under § 61.101 and § 61.315.)*

Pilots must also remember, if they want to share expenses under § 61.113(c), they must not “hold out” to the public or a segment of the public to expense share because that would put them into the realm of common carriage—i.e., (1) the holding out of a willingness to (2) transport persons or property (3) from place to place (4) for compensation or hire. As discussed more below, common carriage changes the operating rules under which the flight must be conducted and, necessarily, triggers the higher certification and qualification requirements for pilots required by those operating rules. (See AC 120-12A).

A major point of emphasis to keep in mind regarding expense sharing flights is the “common purpose test”. This means, that the pilot must have his or her **own reason** for traveling to the destination, not simply for the transportation of the passengers.

- For example: A private pilot is flying to Stillwater, Oklahoma, to visit her mother in the hospital over the weekend. Five of her friends would be coming with her to attend a football game that same weekend. She CAN legally share expenses because she has a reason to fly to Stillwater (visit her mother) not simply to transport her friends. Expanding the same scenario; if she has too many friends going to the football game that she has to make a second trip to pick up the rest, she CANNOT legally share expenses on the second trip because her purpose for flying to Stillwater was complete when she arrived the first time. The second flight was solely for the transportation of passengers.

### **Distinction Between Pilot Privileges and Operational Rules:**

It has come to the attention of the FAA that, in general, pilots do not know or completely understand that the privileges and limitations of their certificates are separate and distinct from the operational rules required to conduct a flight, or to put it simply, pilot certification rules vs. operational rules. A person who holds an ATP Certificate or a commercial pilot certificate may act as PIC of an aircraft operated for compensation or hire and may carry persons or property for compensation or hire. However, simply holding a commercial pilot or ATP certificate does not end the inquiry. A commercial pilot or ATP must meet the qualification requirements not only of part 61 but also the

part under which the operation is conducted and the operator must hold the proper operating authority. Most operations involving the carriage of persons for compensation require the operator to hold a certificate under part 119 authorizing such operations to be conducted under part 135 or 121. *(See 14 C.F.R. §§ 119.1 et seq., 135.1, and 121.1, and definitions codified at § 110.2)* A pilot, for a flight operated under part 135 or 121, must meet additional qualification requirements like training, checking, and experience requirements. Therefore, in addition to ensuring compliance with the applicable pilot privileges and limitations in part 61, prior to conducting any operation a pilot must also determine what operational rules the flight is conducted under, whether the operator has the appropriate operational certification (a part 119 certificate), and whether the pilot has the requisite qualifications. Unless a valid exception from operational certification rules applies pursuant to § 119.1(e), operators *(could be the pilot under certain circumstances)* cannot engage in common carriage, e.g., holding out, unless they are **operating** in accordance with an air carrier certificate or commercial operating certificate. *(See AC 120-12A).*

- An example of pilot confusion over these distinctions is as follows: During a conversation between an experienced part 135 pilot and an Aviation Safety Inspector (ASI), the pilot said “Doesn’t part 61 (61.133) say that a commercial pilot can transport persons or property for hire?” The ASI answered “Yes...but what does the rest of the sentence say?” ...provided the person is qualified in accordance with the applicable parts of this chapter that apply to the operation...” The ASI then asked “Do you fly under part 61 or under an operating rule such as part 91 or part 135?” The pilot suddenly replied “Ohhhh! I see” he said, “part 61 is privileges and limitations, but we also have to comply with the operating rules. Got it!”

Commercial and ATP pilots should also remember that although these certificates allow them to receive compensation and operate aircraft carrying people for compensation or hire, they themselves cannot hold out the public unless they have been issued a part 119 certificate. *(See Legal Interpretation from Mark Bury to Rebecca B. MacPherson (August 13, 2014)).*

If you have questions regarding sharing of operating expenses, holding out, or pilot certification rules versus operating rules, please review the FARs, Advisory Circulars, and Legal Interpretations referenced herein and below. Additionally, you may contact your local Flight Standards District Office for assistance or seek the advice of a qualified aviation attorney.

[FAA Legal Interpretations](#)

[FAA Safe Air Charter Operations](#)

## *Preflight Procedures (Identical to PPL Syllabus, except:)*

Minimum Equipment List: FAR 91.213 refers to an “approved Minimum Equipment List”, which is part of our algorithm for deciding if an airplane is airworthy despite inoperative equipment. However, MELs are rare in the GA world (I’ve never flown a plane with one), but are typically in Part 135 or 121 operations, and are approved by the FAA for that particular commercial operation.

For Risk Management, know the FAA-recommended mnemonics (see the Risk Management Handbook), such as PAVE, IMSAFE, 5Ps, etc.

Also know the FAA-defined Hazardous Attitudes, from PHAK chapter 2: Anti-Authority, Impulsivity, Invulnerability, Macho, Resignation

## *Airport Operations (Identical to PPL Syllabus, except:)*

Review the NTSB accident and incident reporting rules. 49 CFR Part 830 - Definition of accident, incident, serious injury – accident reporting requirements

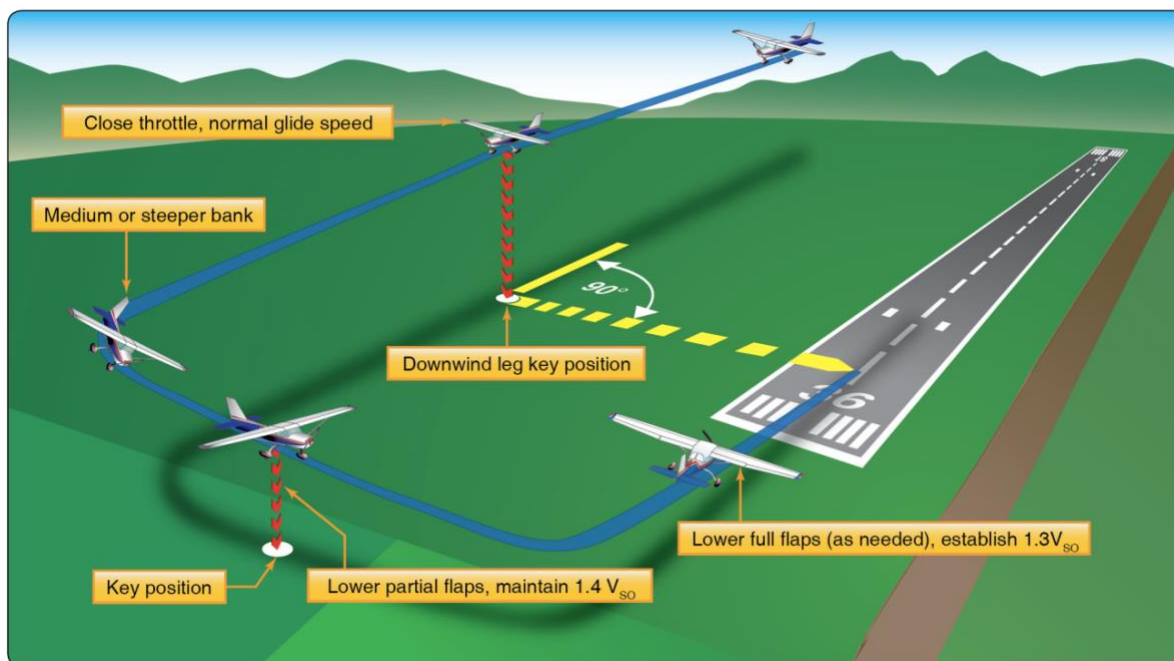
## *Takeoff, Landings, and Go-Arounds (Similar to PPL Syllabus)*

(Same as PPL Syllabus, but use  $\pm 5$  knots airspeed tolerance)

## *Power Off 180° Accuracy Approach and Landing*

**Objective:** The 180° power-off approach is executed by gliding with idle power from a given point on a downwind leg to a preselected landing spot. This is one of the most challenging maneuvers in the Commercial ACS, since you must land on or beyond a point on the runway, and within 200 feet of it!

**References:** AFH Chapter 9



#### Tips:

- Pick an “aiming point” on the runway about 200’ short of your touchdown target
- Don’t come in low, because you can’t use power to rescue it!
- Plan to come in slightly high, and use low power and/or slipping to glide towards your aiming point.
- Judge the roundout and flare to carry you into the 200’ touchdown zone.
- Technically, no go-around is allowed, unless it is for traffic or other factors beyond the pilot’s control.

#### Common Errors:

- Poor airspeed control
- Aiming at your touchdown spot instead of the aiming spot 200’ closer!
- Not compensating for winds

### Steep Turns (Similar to PPL Syllabus)

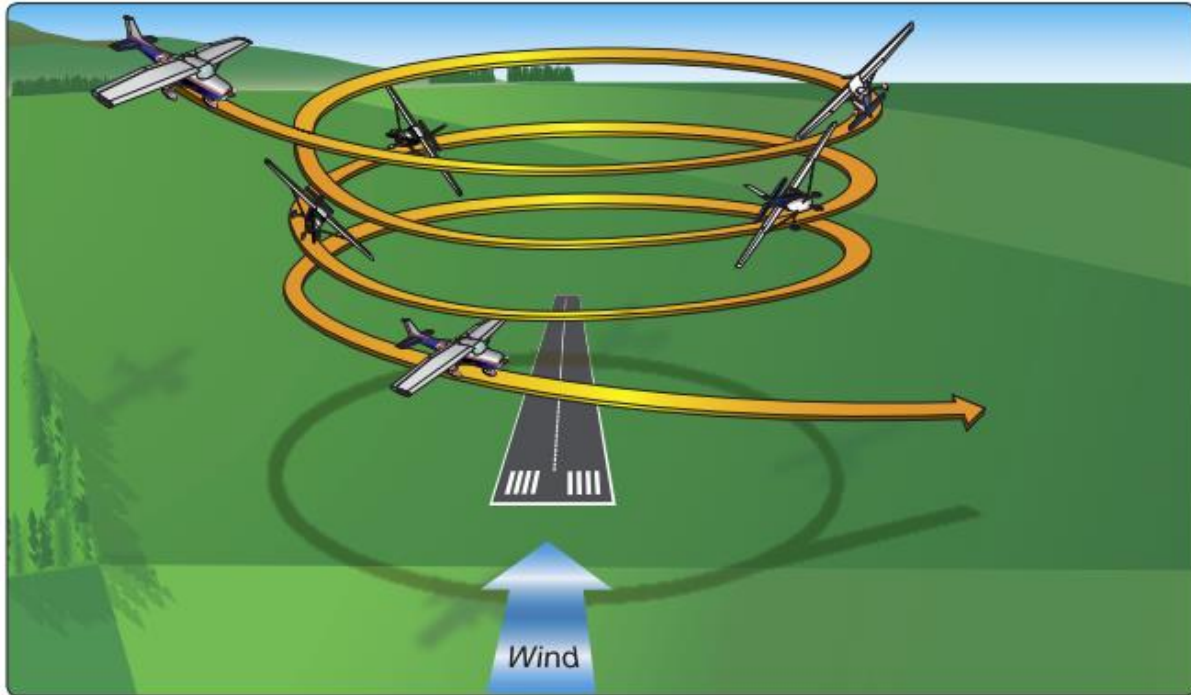
(Same as PPL Syllabus, but use 50° bank)

### Steep Spiral

**Objective:** The objective of the steep spiral is to provide a flight maneuver for rapidly dissipating substantial amounts of altitude while remaining over a selected spot. This maneuver may be useful during an emergency landing. A steep spiral is a gliding turn wherein the pilot maintains a constant radius around a surface-based reference point—similar to the turns around a

point maneuver, but in this case the airplane is rapidly descending. The maneuver consists of the completion of at least three 360° turns [Figure 10-2] and should begin at sufficient altitude such that the maneuver concludes no lower than 1,500 feet above ground level (AGL). Note that while there are similarities between a steep spiral and an emergency descent, the reasons for using the two maneuvers may differ, and the airspeed and configuration are usually different.

**References:** AFH Chapter 10



- a. Clear Area, select reference point, determine wind direction
- b. Select Altitude to allow at least 3 complete turns
- c. Establish best glide speed or somewhat faster,  $\leq 60^\circ$  bank maximum
- d. Maintain constant radius around reference point
- e. Maintain the specified airspeed,  $\pm 10$  knots and roll out toward an object or specified heading,  $\pm 10^\circ$ , and complete the maneuver no lower than 1,500' AGL.

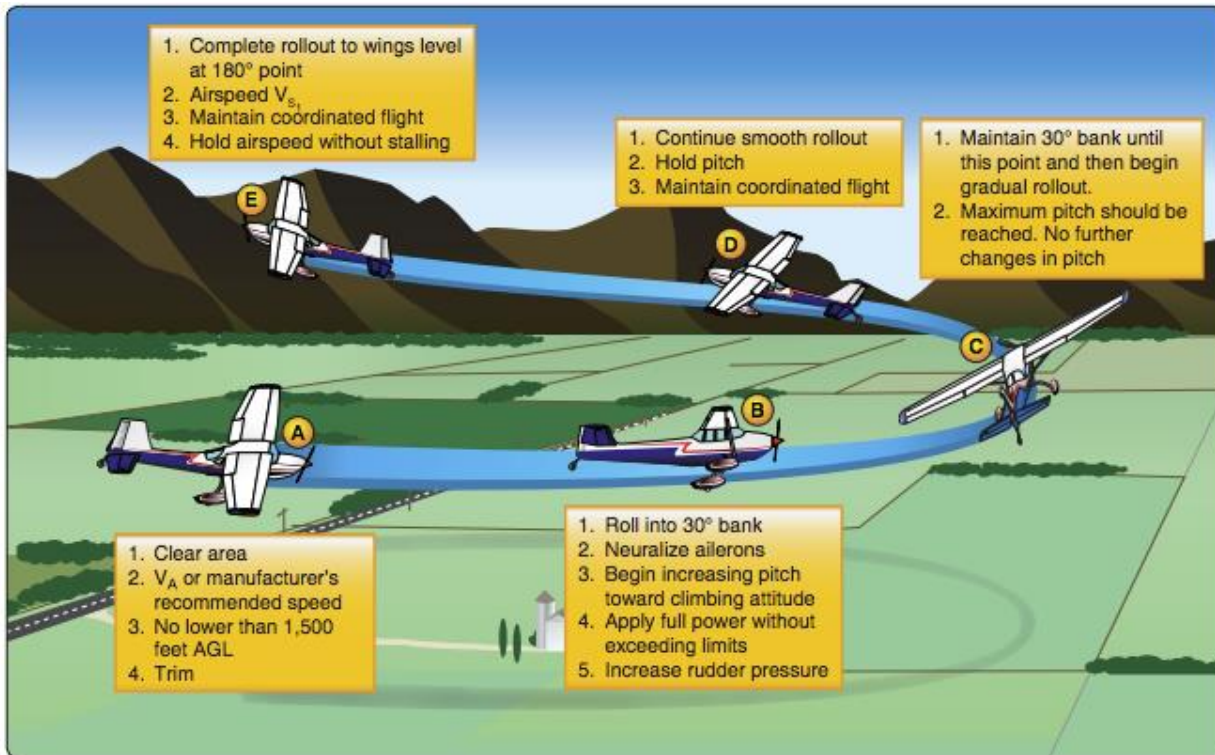
## Chandelles

**Objective:** A chandelle is a maximum performance, 180° climbing turn that begins from approximately straight-and-level flight and concludes with the airplane in a wings-level, nose-high attitude just above stall speed. [Figure 10-3] The goal is to gain the most altitude possible for a given bank angle and power setting; however, the standard used to judge the maneuver is not the amount of altitude gained, but rather the pilot's proficiency as it pertains to maximizing climb performance for the power and bank selected, as well as the skill demonstrated.



**References:** AFH Chapter 10

**Completion Standards:** Client must fly maneuver consistently to ACS standards.



- a. Clear Area, Start > 1500 AGL, pick 0, 90, and 180 reference points
- b. Establish cruise at  $V_A$  (or POH recommendation), gear and flaps UP.
- c. Constant-Speed prop – leave at cruise power during maneuver
- d. Enter 30° bank turn, with continuous slow pitch up
- e. Set power: (Fixed-pitch – slowly add full power during pitch up. Constant-Speed prop – leave at cruise power during maneuver)
- f. At 90° point, reach max pitch attitude and hold it
- g. At 180°, roll out and maintain  $V_{S1}$
- h. Complete rollout at the 180° point,  $\pm 10^\circ$  just above a stall airspeed, and maintaining that airspeed momentarily avoiding a stall. Recover to cruise flight, maintaining altitude.

## Lazy Eights

**Objective:** The lazy eight is a maneuver that is designed to develop the proper coordination of the flight controls across a wide range of airspeeds and attitudes. It is the only standard flight training maneuver in which flight control pressures are constantly changing. In an attempt to simplify the discussion about this maneuver, the lazy eight can be loosely compared to the ground reference maneuver, S-turns across the road. Recall that S-turns across the road are made of opposing 180° turns. For example, first a 180° turn to the right, followed immediately by a 180° turn to the left. The lazy eight adds both a climb and descent to each 180° segment. The first 90° is a climb; the second 90° is a descent.

**References:** AFH Chapter 10

**Completion Standards:** Client must fly maneuver consistently to ACS standards.

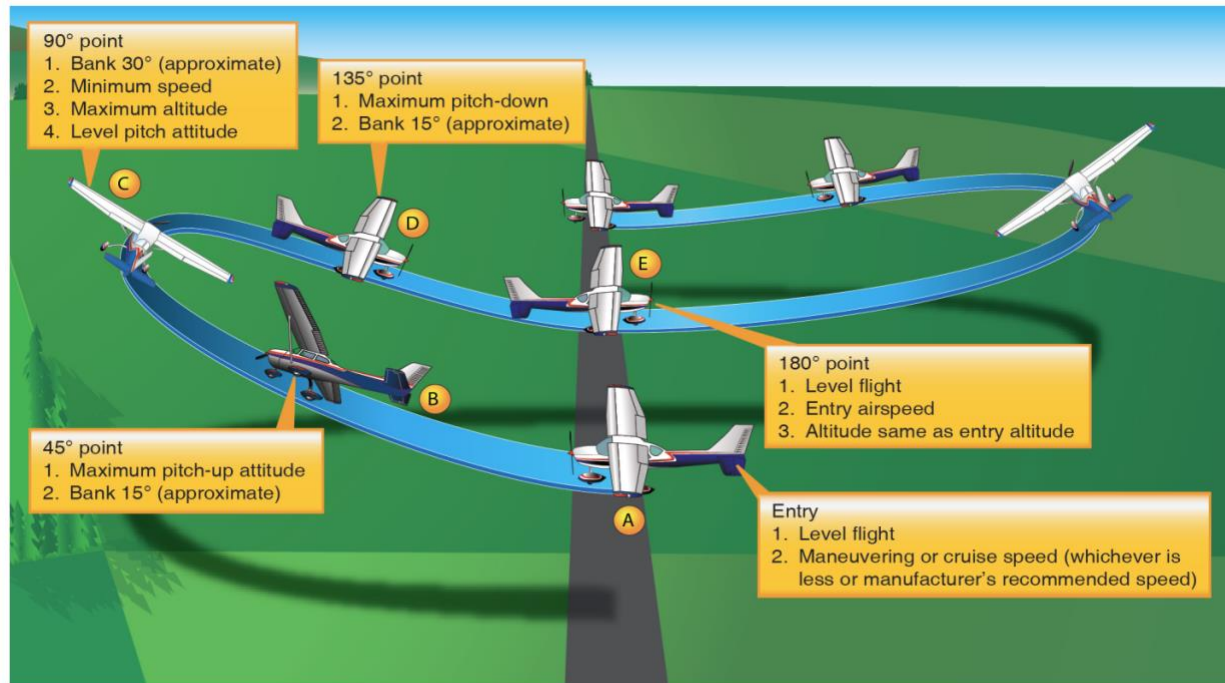


Figure 10-4. Lazy eight.



### Tips:

- a. Clear area, choose reference points at 45, 90, and 135°
- b. Establish maneuvering speed, then leave power setting constant
- c. Begin gradual pitch-up and gradual bank increase (Max pitch does not need to be close to stall speed! Typically gain a few hundred feet during the climbing portion.)
- d. At 45°, reach max pitch-up, with bank 15°
- e. At 90°, reach level pitch and 30° bank
- f. At 135°, max pitch-down, bank 15°
- g. At 180°, level flight,  $V_a$ , at entry altitude
- h. Repeat opposite direction
- i. Tolerances:
  - i. Constant change of pitch, roll, and airspeed
  - ii. Altitude at 180°,  $\pm 100$  feet
  - iii. Airspeed at 180°, entry speed  $\pm 10$
  - iv. Heading at 180°,  $\pm 10$

Common errors when performing lazy eights are:

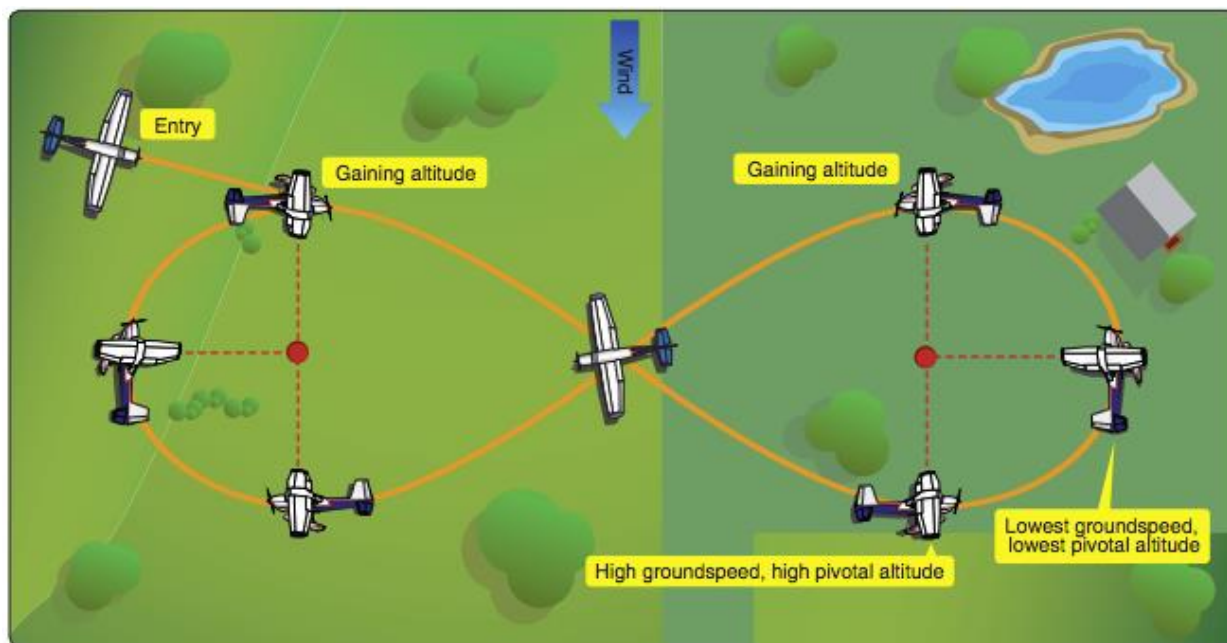
1. Not clearing the area
2. Maneuver is not symmetrical across each 180°
3. Inadequate or improper selection or use of 45°, 90°, 135° references
4. Ineffective planning
5. Gain or loss of altitude at each 180° point
6. Poor control at the top of each climb segment resulting in the pitch rapidly falling through the horizon
7. Airspeed or bank angle standards not met
8. Control roughness
9. Poor flight control coordination
10. Not scanning for other traffic during the maneuver
11. Performing by reference to the flight instruments rather than visual references

## *Eights on Pylons*

**Objective:** To develop knowledge of pivotal altitude and the skill to maneuver the airplane accurately, while dividing attention between the flight path and the selected pylons. Client must fly maneuver consistently to ACS standards.

**References:** Commercial ACS, AFH Ch 6

**Schedule:** Ground 0.5, Flight 1.0



Groundspeed		Approximate Pivotal Altitude
Knots	MPH	
87	100	670
91	105	735
96	110	810
100	115	885
104	120	960
109	125	1050
113	130	1130

## Lesson Elements:

2. Eights-on-Pylons – Overview
  - a. This is the most advanced and difficult of the ground reference maneuvers, and part of the Commercial Pilot ACS.
  - b. It requires the pilot to demonstrate ability to plan and select an appropriate location, the skill to fly the maneuver precisely, and the situational awareness to divide attention between the ground references, instruments, traffic, and emergency field location.
3. Definition of pivotal altitude (PA)
  - a. The AGL altitude at which, for a given ground speed, the reference line of sight will appear to pivot on the chosen point. (It is only a function of ground speed, not bank angle.)
  - b. Approximate calculation:  $GS^2/11.3$  (for GS in Knots)
  - c. For physics nerds, see derivation of pivotal altitude at:  
<http://wannamaker.org/aviation/cfi/turns/>

Groundspeed		Pivotal
Knots	MPH	Altitude (AGL)
87	100	670
91	105	735
96	110	810
100	115	885
104	120	960
109	125	1050
113	130	1130

4. Site selection:
  - a. There must be a suitable emergency landing field within gliding range.
  - b. Choose pylons approximately ½ mile apart.
  - c. Line between pylons should be approximately perpendicular to the wind.
  - d. The pylons should be at the same elevation.
  - e. Use clearing turns to check for traffic.
5. Preparation for maneuver:
  - a. Demonstrate motion of pivot point at excessively high and low altitudes, while circling around a single pylon.
  - b. Determine PA to use for downwind entry to figure eight pattern, and practice maintaining PA while circling a single pylon.
6. Flying the maneuver (see graphics from AFH Ch. 6)
  - a. Configure and set power for ~100 knots
  - b. Enter from upwind side, at expected PA for estimated groundspeed. This is the highest altitude part of the maneuver.
  - c. Roll into turn as reference line aligns with pylon, approx. 30-40° bank.
  - d. Expect to descend as turn continues and groundspeed decreases.
  - e. During turn: When pylon gets behind wing, climb. When pylon gets ahead of wing, descend. Use primarily PITCH to maintain the pivot point, and bank as necessary to keep reference line pointing at the pylon.

- f. Roll out for diagonal crossing between pylons, crab into wind as necessary to get correct spacing from 2<sup>nd</sup> pylon. Ideally, fly S&L about 3-5 seconds between pylons.
  - g. Note and maintain PA for downwind entry to 2<sup>nd</sup> pylon.
  - h. Complete maneuver after one figure eight, exiting toward downwind side and climbing to safe altitude.
- 7. Be ready for real or simulated forced landing!
  - a. Expect, during practice or Commercial checkride, to have a simulated engine failure and forced landing drill!
  - b. Be prepared to demonstrate flow patterns from memory for Engine Air Restart and Forced Landing emergency procedures.
- 8. Common Errors
  - a. Poor selection of site
  - b. Forgetting clearing turns before maneuver
  - c. Fixation, failure to divide attention between instruments, traffic, etc.
  - d. Failure to adjust altitude as necessary to maintain pivot point.
  - e. Lack of rudder coordination, using rudder to yaw plane to maintain pivot point.
  - f. Lack of wind drift correction between pylons

**Completion Standards:** Student must demonstrate knowledge of pivotal altitude and how it varies with groundspeed, select a suitable location, maintain coordinated flight while applying altitude corrections to maintain pivot point on pylon, and correct for wind drift between pylons.

## Navigation (Similar to PPL Syllabus)

(Same as PPL Syllabus, but tolerance  $\pm 100$  feet and  $\pm 10^\circ$ )

Know the “5 Cs” lost procedure (see PHAK ch 16, but I’m not sure where exactly the 5Cs came from! Circle, Climb, Conserve, Confess, Comply

## Slow Flight and Stalls (Similar to PPL Syllabus)

Maneuvering during Slow Flight (Similar to PPL, but  $\pm 50$  feet, heading  $\pm 10^\circ$ , airspeed  $\pm 5$  knots, bank  $\pm 5^\circ$ )

Power-Off Stalls (Similar to PPL, but bank  $\pm 5^\circ$ )

Power-On Stalls (Similar to PPL, but bank  $\pm 5^\circ$ )

Spin awareness and recovery procedure: Review spin aerodynamics, and know the POH-spin recovery technique for the aircraft you are taking to the check ride. PARE is not always the proper order! Sometimes, for example, the POH uses PRAE!

### D. Accelerated Stalls

**Objective:** Develop knowledge, risk management and skills associated with power-on and power-off stalls.

**References:** ACS Sec VII-B and -C, AFH Ch 4, PHAK Ch 4, POH

**Schedule:** 0.5-hour ground, 1.0-hour flight, with practice on multiple flights

**Lesson Elements:**

1. Aerodynamics of stalls:
  - a. Stall occurs at critical angle of attack
  - b. Stall can occur at ANY airspeed, attitude, or power setting!
  - c. Discuss effect of gear, flaps, weight, CG, load factor, bank angle.
2. Situations where risk of stalls increase
  - a. Landing approach, especially skidding base to final turn
  - b. Climb-out, trying to clear an obstacle, especially at high density altitude
  - c. Emergency landing, power-off glide, trying to stretch the glide
  - d. Exceeding mass gross, CG out of limits
  - e. Ice or frost accumulation on wings
3. Stall recognition
  - a. Sight – high pitch attitude (not always)
  - b. Sound – reduced airflow, less wind noise
  - c. Feel - Mushy controls, less effective
4. Accelerated stall procedure

- a. Select practice area, check traffic, altitude 3000' AGL minimum RECOVERY altitude.
  - b. Establish 45 degree bank turn (at relatively low speed/power)
  - c. Use rudder to maintain coordinated flight (ball in center)
  - d. Gradual pitch up until first indication of a stall (stall horn, buffet, etc). Don't need to do a full-stall!
  - e. Recovery:
    - i. Pitch down
    - ii. Full power
    - iii. Level wings (primarily rudder, ailerons also as airspeed increases)
    - iv. pitch up to establish climb at  $V_x$
5. Common Errors:
- a. Starting maneuver at too-high airspeed, causing lots of time, climb, and /or g-force to get to the accelerated stall.
  - b. Not maintaining rudder coordination, causing wing to drop during stall, entering spin!
  - c. Delay in stall recovery, causing excessive altitude loss or spin entry
  - d. Secondary stall due to aggressive pitch up during recovery

**Completion Standards:** Client must be able to demonstrate power-off and power-on stalls, to ACS standards. Recovery no lower than 1500' AGL, maintain heading  $\pm 10^\circ$  before stall, or specified bank angle  $\pm 5^\circ$ , recognize stall and recover promptly with proper procedure.

## High Altitude Operations

### **Objective:**

**References:** Pressurization and Oxygen (PHAK Chapter 7)

**Objective:** Demonstrate satisfactory knowledge, risk management, and skills for flight at higher altitudes where supplemental oxygen is required.

### **Lesson Elements:**

- 1. Physiological factors
  - a. Impairment
  - b. Symptoms of hypoxia
    - i. Difference between CO and hypoxic hypoxia symptoms
  - c. Time of useful consciousness
- 2. Operation of various sorts of oxygen systems
  - a. Determining quantity of oxygen required in various scenarios
- 3. Pressurized aircraft systems: Study PHAK Chapter 7

**Completion Standards:** Demonstrate satisfactory knowledge, risk management, and skills for flight at higher altitudes where supplemental oxygen is required.



## Emergency Procedures (Identical to PPL Syllabus)

## Postflight Procedures (Identical to PPL Syllabus)

### Checkride Preparation

**Objective:** Prepare for Practical Test oral and flight portions

**References:** ACS – all sections, AFH (descriptions of maneuvers), POH/AFM, FAR parts 91 and 61, AIM, Chart Supplements

#### **Lesson Elements:**

1. Thorough review of ACS
2. Choice of DPE and location of checkride
  - a. May require DPE to be scheduled months in advance!
3. Practice for Oral portion of practical test
  - a. Books available for preparation
  - b. Practice oral exams with other students and instructors
4. Practical test maneuvers to practice and polish
  - a. Takeoffs, Landings, Go-arounds, including short- and soft-field techniques, and forward slips to landing
  - b. Steep turns and ground reference maneuvers
  - c. Cross-country – diversion and lost procedures
  - d. Maneuvering during slow flight, power-off and power-on stalls
  - e. Spin Awareness (optional spin training in-flight)
  - f. Basic instrument flight maneuvers (S&L, climbs, descents, turns) and recovery from unusual flight attitudes
  - g. Emergency Operations
    - i. Emergency Descent (simulated engine fire)
    - ii. Emergency approach and landing
5. Simulated practical test (optional) with senior CFI

**Completion Standards:** The student should be able to answer oral questions on all topics listed in the ACS, and be able to fly all the flight maneuvers consistently meeting ACS standards.

## Appendix A – Part 61 Training Requirements

Commercial Pilot Aeronautical Experience (prior to checkride):

From FAR 61.129(a):

- ☐ 100 hours in powered aircraft (50 in Airplane category)
- ☐ 100 hours of PIC time, which includes at least:
  - 50 hours in airplanes
  - 50 hours cross country (at least 10 in airplanes)
- ☐ 20 hours of training on areas of operation listed in FAR 61.127(b)(1), including at least:
  - 10 hours instrument training (at least 5 in ASE) (This time is NOT automatically satisfied by training for the instrument rating, unless it was specifically logged to satisfy both 61.65(e) and also 61.129(a). See Hartzell-2010 and Oord 2018 legal interpretations.)
  - 10 hours in complex airplane, turbine-powered airplane, or TAA

One 2-hour cross country flight in ASEL daytime, > 100 nm from point of departure. (This CANNOT be satisfied with the PIC 300 nm cross-country called for below.) See Kuhn-2014 legal interpretation.

- One 2-hour cross country flight in ASEL nighttime, > 100 nm from point of departure
- 3 hours training in ASEL with CFI in preparation for the practical test within preceding 2 calendar months from the month of the test
- ☐ 10 hours solo OR 10 hours PIC with instructor on board, on the areas of operation listed in FAR 61.127(b)(1) that include:
  - One cross-country flight of not less than 300 nautical miles total distance, with landings at a minimum of three points, one of which is a straight-line distance of at least 250 nautical miles from the original departure point.
  - 5 hours in night VFR conditions with 10 takeoffs and 10 landings (with each landing involving a flight in the traffic pattern) at an airport with an operating control tower.
  - (Note: BOTH of the above bullet items must be accomplished either SOLO or WITH INSTRUCTOR. You can't mix SOLO and DUAL for these.)

## Appendix B - Commercial Endorsements

### **All Part 61 Endorsements for Commercial Pilot Certificate**

**NOTE:** Following 2 endorsements are options that may be required based on the aircraft to be used.

#### **PIC – Complex airplane: 61.31(e)**

I certify that I have given ground and flight training in a complex airplane to \_\_\_\_\_ holder of pilot certificate # \_\_\_\_\_, and find him proficient in the operation and systems of a complex airplane.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

#### **PIC – High performance airplane: 61.31(f)**

I certify that I have given ground and flight training in a high performance airplane to \_\_\_\_\_ holder of pilot certificate # \_\_\_\_\_, and find him/her proficient in the operation and systems of a high performance airplane

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

#### **Commercial Pilot Aeronautical knowledge: 61.35(a)(1) 61.125(a)(b)**

I certify that I have given \_\_\_\_\_ the ground instruction required by 61.125(a)(b) (1 through 16), and that he/she is prepared for the required knowledge test.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

**NOTE: If the student has completed a home study aeronautical study course rather than instructor trained, use this endorsement.**

#### **Commercial Pilot Home Study Aeronautical knowledge: 61.35(a)(1) 61.125(a)(b)**

I certify that I have reviewed \_\_\_\_\_ home study course of the applicable areas required by 61.105(b) and find him/her prepared for the commercial pilot aeronautical knowledge test.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

**NOTE: In the advent that there are questions answered incorrectly on the knowledge test the following Endorsement is required.**

#### **Commercial Pilot aeronautical knowledge test deficiency review: 61.39(6)(iii)**

I certify that I have reviewed the knowledge test results with \_\_\_\_\_ per 61.39(6)(iii), and resolved any deficient areas.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

#### **Prerequisites for Practical Test: 61.127(a)(b), 61.39(a)(6)(i)**

I certify that I have given \_\_\_\_\_ the flight instruction required by 61.127(a)(b)(1) (i) through (xi) and have given at least 3 hours of preparation for the practical test in the preceding two calendar months, and find him/her prepared for the Commercial Pilot practical test.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

**NOTE: In the advent of a possible failure of the practical test, the following Endorsement is required.**

#### **Additional Commercial Pilot post practical test training for deficiencies: 61.49(a)(1)(2)**

I certify that \_\_\_\_\_ has received the additional flight and ground training as required by 61.49(a)(1). I have determined that he/she is prepared for the Commercial Pilot practical test.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
CFI# \_\_\_\_\_ Expiration \_\_\_\_\_

Commercial Pilot Aeronautical Knowledge Logbook requirements PART 61.125(b)(1 – 16)

DATE	SUBJECT(S)	INSTRUCTOR ENDORSEMENT	TIME THIS LESSON	
	Applicable Federal Aviation Regulations of this chapter that relate to commercial pilot privileges, limitations, and flight operations 61.125(b)(1)		-	--
	Accident reporting requirements of the National Transportation Safety Board 61.125(b)(2)			
	Basic aerodynamics and the principles of flight 61.125(b)(3)		-	--
	Meteorology to include recognition of critical weather situations, windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts 61.125(b)(4)			
	Safe and efficient operation of aircraft 61.125(b)(5)			
	Weight and balance computations 61.125(b)(6)		-	--
	Use of performance charts 61.125(b)(7)			
	Significance and effects of exceeding aircraft performance limitations 61.125(b)(8)			
	Use of aeronautical charts and a magnetic compass for pilotage and dead reckoning 61.125(b)(9)			
	Use of air navigation facilities 61.125(b)(10)		-	--
	Aeronautical decision making and judgment 61.125(b)(11)		-	--
	Principles and functions of aircraft systems 61.125(b)(12)		-	--
	Maneuvers, procedures, and emergency operations appropriate to the aircraft 61.125(b)(13)			
	Night and high-altitude operations 61.125(b)(14)		-	--
	Procedures for operating within the National Airspace System 61.125(b)(15)			
	Procedures for flight and ground training for lighter- than-air ratings 61.125(b)(16)			

Commercial Pilot Flight Proficiency Logbook requirements PART 61.127 (a)(b)(1)(i through xi)

DATE	SUBJECT(S)	INSTRUCTOR ENDORSEMENT	TIME THIS LESSON	
	Preflight preparation 61.127 (a)(b)(1)(i)			
	Preflight procedures 61.127 (a)(b)(1)(ii)			
	Airport and seaplane base operations 61.127 (a)(b)(1)(iii)			
	Takeoffs, landings, and go-arounds 61.127 (a)(b)(1)(iv)			
	Performance maneuvers 61.127 (a)(b)(1)(v)			
	Ground reference maneuvers 61.127 (a)(b)(1)(vi)			
	Navigation 61.127 (a)(b)(1)(vii)		-	--
	Slow flight and stalls 61.127 (a)(b)(1)(viii)			
	Emergency operations 61.127 (a)(b)(1)(ix)		-	--
	High-altitude operations 61.127 (a)(b)(1)(x)			
	Postflight procedures 61.127 (a)(b)(1)(xi)		-	--