# **COMMERCIAL PILOT – AIRPLANE ASEL** Plan of Action

## A. ADMINISTRATIVE

#### Appointment – Step 1

Applicant

Name:	Cert#:			
IACRA Option:  No  Yes	FTN:			
Phone:	Phone:			
□ 61 □ 141 School (4 letters):	School Name:			
Aircraft 1 m/m:	Aircraft 2 m/m:			
Aircraft 1 N#:	Aircraft 2 N#:			
Retest:  No  Yes – AOAs:				
Medical Restrictions:  None  Glasses  Other:				
Medical Date of Issue:				

#### **Recommending Instructor**

Name:	Cert#:	
Phone:	Phone:	
IACRA Ready: 🗆 No 🗆 Yes	IACRA Application #:	

#### **Practical Test**

Location:	
Date/Time:	

#### **Greet Applicant**

- 1. Relaxed atmosphere
  - a. Search for a common background.
  - b. Location of rest rooms, coffee/refreshments etc.

#### 2. Overview of test

- a. Approximate time required.
- b. Advise of note taking/use of POA.
- c. Rules regarding PIC for the flight.
- d.The 3 possible outcomes of the test
  - Temporary Airman Certificate valid for 120 days
  - □ Disapproval Notice valid for 60 days
  - □ Letter of Discontinuance valid for 60 days
- 3. Grading criteria
  - a. Practical Test Standards maneuvers based on Instrument Rating PTS.b. Oral testing may take place during flight.
- 4. Ask for any questions from the applicant.

#### Eligibility

- 1. Application 8710.1 signed by applicant & recommending CFI. Prefer IACRA
- 2. Be at least 18 years old
- 3. Pilot Certificate private with instrument rating (if no IFR rating, commercial will be limited)
- 4. Identification Picture ID Address matches 8710
- 5. Logbook properly endorsed for Practical Test, 61.39 & 61.123

- 6. Medical certificate valid and at least third class.
- 7. English read, write, & converse fluently in English, 61.103
- 8. Written Test Results within 24 months.
- 9. Aeronautical Experience, 61.129(a)
  - a. 250 hrs total
    - 1. 100 hrs in powered aircraft
    - 2. 50 hrs airplane
    - b. 100 hrs as PIC
      - 1. 50 hrs airplane
      - 2. 50 hrs X-C w/ landings > 50 NM at least 10 hrs airplane
    - c. 20 hrs flight instruction
      - 1. 10 hrs instrument instruction at least 5 hrs airplane
      - 2. 10 hrs in complex airplane
      - 3. One day VFR X-country at least 2 hrs and 100 NM in length
      - 4. One night VFR X-country at least 2 hrs and 100 NM in length
      - 5. 3 hrs in preparation for the practical test
    - d. 10 hrs solo
      - 1.5 hrs night VFR
      - 2. 10 takeoffs and landings at an airport with an operating control tower each involving a flight in the traffic pattern
      - 3. One X-country flight not less than 300 NM, landings at three points, one leg at least 250 NM from original point of departure
- 10. Required equipment:
  - a. Aircraft Documents (AROW)
  - b. Aircraft Maintenance Records
    - 1. Logbook record of airworthiness inspections
    - 2. AD compliance
  - c. POH or FAA approved AFM.
  - d. Personal Equipment
    - 1. View limiting device
    - 2. Current aeronautical charts
    - 3. Computer & plotter
    - 4. Flight plan form
    - 5. Flight logs
    - 6. Current AIM, A/FD, AIM, FAR, & PTS

### Examiner's Responsibilities

- 1. Examiner may not assist applicant in the management of the aircraft, radio communications, navigational equipment, and navigational charts.
- 2. Collision Avoidance
- 3. If examiner determines that a task is incomplete, or the outcome is uncertain, the examiner may require the applicant to repeat that task. This can be done in the interest of fairness and does not mean that instruction, practice, or the repeating of an unsatisfactory task is permitted.

#### **B. GROUND**

#### I. PREFLIGHT PREPARATION

NOTE: All questions pertain to operations as a COMMERICAL PILOT. The Examiner should use his/her discretion about the number of questions to ask the applicant in each TASK.

### A. CERTIFICATES AND DOCUMENTS

Reference 14 CFR part 1,61, 91, 119, AC 120-12, & AIM

[] What privileges apply to a Commercial pilot? 61.133

A commercial pilot may act as PIC of an aircraft –

1. Carrying persons or property for compensation or hire

2. For hire

61.133 also states you must be qualified and comply with applicable parts of the regs that apply to the operation being conducted, for example part 91 or 135

[] What should a commercial pilot intending to conduct operations as PIC of an aircraft carrying persons or property for hire consider? CFR part 61, 119.1

Part 61 states that you may be paid for acting as pic of an aircraft engaged in carrying persons or property for hire. It does not mention that if acting totally by yourself you could be considered a commercial operator and be subject to an entirely different set of regs. A commercial certificate by itself does not allow you to act as a commercial operator. It only allows you to work for a commercial operator and be paid for your service

As a commercial pilot certain operations are allowed without being in possession of an Operating Certificate, such as student instruction, nonstop sightseeing flights, ferry or training flights, crop dusting, banner towing, powerline or pipeline patrol, etc. These operations are listed in 119.1

[] What is a commercial operator? CFR part 1

A commercial operator is a person who for compensation or hire engages in the carriage by aircraft of persons or property. Where it is doubtful that an operation is for hire the test applied is weather the carriage is incidental to the persons other business or is in itself an enterprise for profit

[] Define the term Holding Out AC 120-12

Holding out implies offering to the public the carrying of persons or property for hire. This holding out makes a person a common carrier and can be done in many ways and it does not matter how it is done. Signs, advertising, have a reputation to serve all are all means of holding out. It does not matter if the holding out generates little success. The important issue is the nature of the operation

- Is the following scenario common carriage and if yes, why?

   I am a local businessman and require a package to be flown to a distant destination ASAP.
   You reply that you can do the job for a fee. You then line up a local rental aircraft your checked out in and deliver the package ----- Yes because you are holding out by indicating a general willingness to all customers with whom contact is made to transport persons or property from place to place for compensation.
- [] Briefly describe the following FAR parts Part 119 – certification, air carrier and commercial operations Part 121 – operating requirements, air carrier Part 135 – operating requirements, commuter and on demand operations
- What limitation is place on a commercial pilot with no instrument rating? 61.133
   No carriage of passengers for hire at night
   No carriage of passengers for hire on cross country flights in excess of 50 NM

[] What personal documents must you have readily available to act as Pilot-in-Command? Certificate, Medical, Picture ID [] How long is your medical certificate valid? Depending on type 6 months, 1 year, and 2 or 3 years depending on age of pilot at last exam [] When does your pilot certificate expire? Never but Medical and BFR keep it Valid What flight time must you log in your pilot logbook, what are the required entries, and must you carry it with you on [] Only what is required for currency and a certificate or rating all flights? What do you need to be PIC of a flight [] BFR, 3 take offs and landings within previous 90 days in same category, class and type if a type rating is required (full stop at night) to carry passengers. If IFR flight 6 approaches, holding, intercepting and tracking (in preceding 6 months) in actual or simulated conditions. [] What is a complex airplane and what must you have to act as PIC? 61.31 Retractable gear, flaps, controller prop / receive and log ground and flight training, receive one time endorsement from an authorized instructor [] What is a high performance airplane and what must you have to act as PIC ? 61.31 Engine of more than 200 horsepower / receive and log ground and flight training, receive a one time endorsement from an authorized instructor [] Any others ? 61.31 High Altitude, Tail wheel [] When should you compute a weight and balance? Before flight [] Locate the weight and balance data [] What is the aircraft equipment list and where is it found? The aircraft equipment list is an inventory of equipment installed by the manufacturer or operator on a particular aircraft. It is usually found with the weight and balance data [] When would a commercial pilot be required to hold a type rating? 61.31 A person who acts as PIC of any of the following aircraft must hold a type rating Large aircraft over 12,500 gross weight Turboiet powered aircraft Other aircraft specified by the administrator [] Can a pilot with a commercial certificate and multi engine land rating carry passengers in a single engine land airplane? 61.31 No. Unless he holds a category and class rating for that aircraft, a person may not act as PIC of an aircraft that is carrying another person or is operated for compensation or hire. [] Can a commercial pilot carry a passenger in an aircraft operated in formation flight? 91.111 No [] What information must the PIC be familiar with before a flight? 91.167 All available information including – weather reports and forecasts, fuel requirements, alternatives if flight cannot be completed, known ATC delays, runway lengths of intended use, takeoff and landing distance. When may the pilot-in-command of an aircraft deviate from an ATC clearance? 91.123 [] Except in an emergency, no person may, in an area in which air traffic control is exercised, operate an aircraft contrary to an ATC instruction. If an emergency action requires deviation from 14 CFR Part 91, must a pilot submit a written report, and if so, to [] whom? 91,123 Each pilot-in-command who is given priority by ATC in an emergency shall, if requested by ATC, submit a detailed report of that emergency within 48 hours to the manager of that ATC facility. What documents must be onboard the aircraft for flight? 91.9, 91.203 AROW []

4

[] How long does the airworthiness certificate remain valid? CFR part 21 As long as the maintenance, preventive maintenance, and alterations are preformed in accordance with parts 43 and 91

### **B. AIRWORTHINESS REQUIREMENTS**

What are the required tests and inspections of aircraft and equipment for VFR and IFR flight? 91.171,
 91.409, 91.411, 91.413 Annual, 100hr if for hire, pitot-static system preceding 24 months, transponder preceding 24 months, altimeter preceding 24 months, ELT preceding 12 months, VOR preceding 30 days.

[] If an aircraft for hire has been on a schedule of inspection every 100 hours can it continue to operate beyond the 100 hours without a new inspection? 91.409

The 100 hour inspection can be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach the place where the inspection is done must be used in computing the next 100 hours of service.

- What is a minimum equipment list (MEL)? 91.213 Exact listing of equipment and procedures that allow aircraft to be flown under specific conditions and limitations with certain equipment inop.
- [] If an aircraft is not being operated under a MEL, how can you determine which instruments and equipment on the aircraft can be inoperative and the aircraft still be legal for flight? 91.213

A person may takeoff an aircraft in operations conducted under part 91 with inoperative instruments and equipment without an approved MEL provided the inoperative instruments and equipment are not:

Part of the VFR day type certification instruments and equipment.

Indicated as required on the aircrafts equipment list or on the kinds of operations equipment list for the kind of flight being conducted

- [] What is an aircraft equipment list and where can it be found? AC 91-67 The aircraft equipment list is an inventory of installed equipment by the manufacturer or operator on a particular aircraft. It is usually found with the weigh and balance data.
- [] Show what equipment is required for day, VFR flight. 91.205 & POH Airspeed, Altimeter, compass, engine gauges, fuel gauge, anti collision lights, safety belts, shoulder harness, elt, landing gear position lights if retract ---- Night all of the above + position lights, landing light if for hire, Electrical source, spare fuses
- [] What are special flight permits and when are they necessary? 91.313 & 21.197 A Special Flight Permit may be issued for an aircraft not currently meeting applicable airworthiness requirements but capable of safe flight. Some examples are:
  - Flying an aircraft to a base where repairs or maintenance can be preformed Flying to a point of storage
  - Delivering or exporting an aircraft
  - Production flight testing new aircraft
  - Evacuating aircraft from areas of impending danger

Issued by the FAA

- [] Who is responsible for ensuring an aircraft is maintained in airworthy condition? 91.403 The owner operator is responsible for maintaining an aircraft in airworthy condition.
- [] After aircraft inspections and repairs are finished who is responsible for determining that the aircraft is in airworthy condition? 91.7

The pilot in command is responsible for determining weather that aircraft is in condition for safe flight

- [] What are AD's (Airworthiness Directives) Method used by FAA to notify owners of unsafe conditions or manufacturing defects. They are regulatory in nature and compliance is mandatory
- []Define preventive maintenance. CFR part 43Simple or minor preservation operations[]How can a pilot determine if all AD's have been complied with for a particular aircraft? CFR part 43

- [] How can a pilot determine which placards are required to be displayed in a particular aircraft? POH/AFM
- [] Using the aircraft and equipment logs, determine:
  - (a) When is the next annual/ 100 hour inspection is due? 91.409 & A/C log.
  - (b) When must the transponder be tested? 91.413 & A/C log.
  - (c) When does the ELT battery need to be replaced? 91.207
  - (d) AD compliance
- [] What is a minimum equipment list and how is it used

### C. WEATHER INFORMATION

Reference: 14 CFR part 61 & 91; AC 00-6A, AC 00-45E, AC 8083-25, 8261-1, AIM.

- [] Where would you obtain a weather report for a destination airport 200 NM away? FSS or DUATs
- What types of weather briefings are available from a FSS briefer? AIM 7-1-3 Standard briefing – request anytime you have not received a previous briefing Abbreviated briefing – request anytime you need to supplement data or update a previous briefing Outlook briefing – request whenever your proposed departure is six hours or more away In-flight briefing – request when needed in flight
- [] What information should a weather briefing include? AIM 7-1-3 Adverse conditions, VFR flight not recommended, synopsis, current conditions, enroute forecast, destination forecast, winds aloft, NOTAMS, ATC delays
- Define the terms IFR, MVFR, and VFR. AC 00-45E
   IFR: Instrument Flight Rules Ceiling less than 1000 ft and / or visibility less than 3 miles
   MVFR: Marginal VFR Ceiling 1000 to 3000 ft and / or visibility 3 to 5 miles
   VFR: Visual Flight Rules No ceiling or ceiling greater than 3000 ft and visibility greater than 5 miles
- [] Name two types of weather charts? Read AC 8083-25, p. 11-14 to 11-20 Surface analysis, Weather Depiction, Radar Summary, & Significant Weather Prognostic Chart.
- Where could you obtain PIREPS and under what conditions would you initiate one? AIM FSS, DUATs When weather along route is different than forecasted
- [] What is a SIGMET? an AIRMET? a Convective SIGMET? AIM Glossary, p. 883, 934, & 896
- [] What is a NOTAM? Types? AIM Glossary, p. 921
- [] Where can NOTAM information be obtained? AIM 5-1-3 FSS, airport/facility directory, locally broadcast on ATIS, notice to airmen publication(NTAP)
- [] Read METAR, TAF, and Winds aloft(FD)
- [] Where do you obtain the location/altitude of the freezing level? AIRMET Zulu, prog. chart, or FD / winds aloft report
- What valuable information can be found in the Winds and Temp. aloft (FD) forecast? AC 00-45E Favorable altitude (based on winds and direction of flight) Areas of possible icing (based on air temps of +2 to -20° C Temp. inversions and turbulence (by noting abrupt changes in wind direction and speed)
- [] What are the four types of structural icing? AC 00-6A Clear, rime, mixed, frost
- [] What should you do if you encounter icing conditions? AC 00-06A Request a change of course and/or altitude

[] What aircraft characteristics will be observed in the following wind shear situations? Increase in headwind – As a tailwind shears to a headwind an increase in airspeed and altitude occurs along with a nose up pitching tendency. The usual reaction is to reduce both power and pitch. This can be dangerous if the aircraft suddenly encounters a downdraft and tailwind. Now the situation demands the exact opposite of the pilots initial reaction

Decrease in headwind – As a headwind shears to a calm or tailwind, pitch decreases, airspeed decreases, and a loss of altitude occurs. The required action is more power and a higher pitch attitude to continue a climb or remain on the glide slope

- [] To whom and how would you report a wind shear encounter? AIM 7-1-24 To the controller. Loss or gain of airspeed and altitude, distance from airport.
- [] When temp. and dew point are close together (within 5°), what type of weather is likely? AC 00-6A Visible moisture in the form of clouds, dew, or fog
- [] State two basic ways fog can form. AC 00-6A Cooling air to the dew point and adding moisture to the air
- [] Name several types of fog. AC 00-6A Radiation, Advection, Upslope, Precipitation –induced, and Ice fog
- If a thunderstorm is inadvertently encountered, what flight instrument and what procedure should be used to maintain control of the aircraft? AC 00-6A Ch. 11 Attitude indicator- establish power for the recommended maneuvering speed and attempt to maintain a constant attitude only. Do not attempt to maintain a constant altitude.
- Describe the purpose and how you would access EFAS, HIWAS, ATIS.
   Efas- flight watch Radio contact with FSS for updates on enroute weather
   HIWAS –Continuous broadcast of in flight weather advisories, availability denoted by H in VOR box.
   ATIS- Automatic Terminal information service

NOTE: For Cross Country planning: Use actual or simulated weather condition for area to be flown.

#### D. CROSS-COUNTRY FLIGHT PLANNING

Reference: 14 CFR parts 61 & 91; 8083-3A, 8083-25, AFD; AIM, IPH 8261-1, Navigation Charts, Approach Plates.

- [] Plan a flight from \_\_\_\_\_\_ to \_\_\_\_\_ via \_\_\_\_\_. Applicant must obtain weather. Flight should be planned for considering fuel, loading, weather, NOTAMs, and regulatory requirements.
- [] Selects and uses current and appropriate aeronautical charts, instrument departure procedures (DP's),
- [] Selects appropriate radio navigation aids?
- [] Discuss the following: HSI, RMI, GPS,DME, RNAV
- Using current weather conditions compute Distance for normal takeoff at departure airport Distance for landing distance over a 50ft obstacle at destination Time, Fuel, and Distance to climb to cruise Alt. True airspeed at cruise Alt. Fuel consumption rate Time enroute Time, Fuel, and Distance to descend
   Describes and interprets symbols located on appropriate charts.
- [] Completes navigation log?

- What are the VFR cruising altitude rules? 91.159
   Mag course 0 thru 179, East = odd + 500'; Mag course 180 thru 359, west = even + 500'; above 3,000'
   AGL., At or below 18000
- [] What procedure would you use if all communication and navigation equipment failed (complete electrical system failure)?
  - a. First determine you have complete loss. Determine the cause (check circuit breakers, alternator, ammeter, etc.).
  - b. Review the preflight weather briefing for the nearest VFR; determine heading and altitude and proceed to VFR conditions, using VFR altitudes.
  - c. If VFR conditions are not within range of the aircraft, get off the airway and determine the heading to an unpopulated area relatively free of obstructions (terrain or man-made; i.e. rural areas, large lakes, ocean, etc.).
  - d. Establish a descent on a specific heading to VFR conditions; proceed VFR to the nearest airport.
- [] How would you notify ATC that you have lost your radio(s)? AIM Squawk 7600 on the transponder
- [] Describe the various light gun signals you might expect and what they mean. (controlled airport)
- [] What color and what purpose do runway edge lights serve? AIM 2-1-4 White –except on instrument runways yellow replaces white for the last 2000 ft or half the runway length, whichever is less, to from a caution zone for landing.
- [] Quiz on runway markings and signage. Hold short line, displaced threshold, overrun, runway entrance signs, taxiway signs
- [] What are runway touchdown zone markings? AIM 2-3-3 They identify the touchdown zone for landing and are coded to provide information in 500-foot increments
- [] List several recommended practices in the prevention of runway incursions Read back all hold short instructions Review airport layouts' Know signage Review NOTAMs
  - Ask for progressive taxi Check for traffic before crossing Use lights Clear the runway ASAP Use proper phraseology Write down taxi instructions
- [] What is LAHSO?
- [] Describe different VASI systems and regulations concerning their use.
- [] Other rules:

Seat belt requirements Oxygen requirements Right of way rules Acrobatic flight Speed limits

### E. NATIONAL AIRSPACE SYSTEM

[] Identify and explain Basic VFR weather minimums for all classes of airspace. 91.155 Flight Visibility & Distance from Clouds

A. N/A N/A

B. 3 Statute Miles Clear

- C. 3 Statute Miles 500 below 1000 above 2000 horizontal
- D. 3 Statute Miles 500 below 1000 above 2000 horizontal
- E. Less than 10000 ft MSL

3 Statute Miles 500 below 1000 above 2000 horizontal

At or above 10000 ft MSL

5 Statute Miles 1000 below 1000 above 1 mile horizontal G. Less than 1200 above the surface regardless of MSL Day 1 Statute Mile Clear Night 3 Statute Miles 500 below 1000 above 2000 horizontal More than 1200 above the surface but less than10000 MSL Day 1 Statute Mile 500 below 1000 above 2000 horizontal Night 3 Statute Miles 500 below 1000 above 2000 horizontal

More than 1200 above the surface and at or above10000 MSL 5 Statute Miles 1000 below 1000 above 1 mile horizontal

- What are the boundaries, pilot certification, & airplane equipment for Class A airspace?
   18,000 to FL600, IFR flight plan, have Two Way Radio contact, a Transponder w/ mode C and an ATC clearance
- [] What altimeter setting so you use in Class A airspace?
- [] What are the boundaries, pilot certification, & airplane equipment for Class B Airspace? Surface to 10,000 feet MSL, nations busiest airports, lateral boundaries variable, Two-way radio, Private pilot (FAR 91 appendix D, sec. 3) or student pilot with endorsement, Transponder w/ mode C, unless otherwise approved by ATC, if IFR, must have VOR, and an ATC clearance.
- What are the boundaries, pilot certification, & airplane equipment for Class C Airspace? Surface to 4,000 feet above airport within 5 NM radius charted in MSL. 1,200 feet above surface to 4,000 feet above surface within 10 NM radius charted in MSL, and, normally a 20 NM outer area. Two-way radio, Transponder with Mode C, unless otherwise authorized, and ATC contact.
- [] What are the boundaries, pilot certification, & airplane equipment for Class D Airspace? Surface to 2,500 feet above airport charted in MSL with individually tailored lateral boundaries, a Two-way radio. Without tower in operation, airspace reverts to Class E with controlled airspace from surface or 700 feet AGL -- consult AFD.
- What are the boundaries, pilot certification, & airplane equipment for Class E Airspace? Begins at 14,500 MSL unless designated at surface, 700 feet, or 1,200 AGL up to but not including 18,000 feet, may be an airport surface area, extensions of Class B, C, and airspace, transition areas, enroute domestic area, federal airways, and off shore airspace areas out to 12 NM from shore.
- [] What are the boundaries, pilot certification, & airplane equipment for Class G Airspace? All other airspace (uncontrolled)

[] Define the following types of airspace. AIM 3-4-1 through 3-4-7 and 3-5-7

**Prohibited Area**- for security or other reasons, aircraft flight is prohibited. **Restricted Area**- contains unusual, often invisible hazards to aircraft, flights must have permission from the controlling agency, if VFR. IFR flights will be cleared through or vectored around it.

*Military Operations Area*- MOAs consist of airspace of defined vertical and lateral limits established for the purpose of separating certain military training activities from IFR traffic. Permission is certain military training activities from IFR traffic. Permission is not required for VFR flights, but extreme caution should be exercised. IFR flights will be cleared through or vectored around it.

**Warning Area**- airspace of defined dimensions extending from 3 nautical miles outward from the coast of the U.S. containing activity that may be hazardous to nonparticipating aircraft. A warning area may be located over domestic or international waters or both. Permission is not required buy a flight plan is advised.

*Alert Area*- depicted on aeronautical charts to inform nonparticipating pilots of areas that may contain a high volume of pilot training or an unusual type of aerial activity. No permission is required, but VFR flights should exercise extreme caution. IFR flights will be cleared through or vectored around it.

Controlled Firing Areas- CFAs contain activities which, if not conducted in a controlled

environment, could be hazardous to nonparticipating aircraft. These activities are suspended immediately when spotter aircraft, radar or ground lookout positions, indicate an aircraft might be approaching the area. CFAs are not charted.

**National Security Area**- airspace of defined vertical and lateral dimensions established at locations where there is a requirement for increased security and safety of ground facilities. Pilots are requested to voluntarily avoid flying through the depicted NSA. When it is necessary to provide a greater level of security and safety, flight in NSAs may be temporarily prohibited by regulation under the provisions of 14 CFR 99.7.

**Temporary Flight Restrictions-** TFRs are established to protect persons and property in the air or on the surface from an existing or imminent hazard associated with an incident on the surface when the presence of low flying aircraft would magnify, alter, spread, or compound that hazard. A NOTAM designating the area within which TFRs apply and specifying the hazard or condition requiring their imposition will be issued.

- [] Have applicant explain airport symbols on aeronautical chart.
- What are the minimum safe altitudes? 91.119(a)(b)(c)
   Anywhere, so as to land safely in the event of power failure. Other than congested area, 500'. Congested area, 1,000' and 2,000' horizontally.

### F. PERFORMANCE AND LIMITATIONS

[] How does CG effect the aerodynamic reactions of an aircraft in flight? 8083-25, p. 2-7, 8-2, 8-3

[] What will be some of the most significant disadvantages of operating the A/C with a CG beyond the aft limit? 8083-25, p. 8-2 & 8-3

- [] What is density altitude? AIM A measure of air density. Pressure Alt corrected for non-standard temperature.
- [] What effect will high-density altitude have on the performance of your airplane? AIM
- [] What are several which affect both lift and drag? 8083-25

Wing area – lift and drag acting on a wing are roughly proportional to the wing area. Wing area can be changed by using certain types of flaps.

Shape of airfoil – As the upper curvature of an airfoil is increased the lift produced increases. Lowering an aileron or flap can accomplish this. Also frost or ice on a wing can disturb airflow and disrupt its lifting capability.

Angle of attack – As angle of attack is increased, both lift and drag are increased.

Velocity of the air – An increase in velocity of air passing over the wing increases lift and drag. Air density – lift and drag vary directly with the density of the air. As air density increases, lift and drag increase. As air density decreases, lift and drag decrease. Air density is affected by several factors such as pressure, temperature, and humidity.

#### [] What is parasite drag? 8083-25

Parasite drag applies to the entire aircraft and is composed of forces caused by things sticking into the airflow which do not contribute to lift such as radio antennas, struts, gear, etc. it is greatest at high airspeeds and is proportional to the square of the airspeed. If airspeed doubled parasite drag would be quadrupled.

[] What is induced drag? 8083-25

Induced drag results from the production of lift. The amount of drag varies inversely with the airspeed. The lower the airspeed the greater the angle of attack required to produce lift equal to the aircrafts weight, this will result in greater induced drag.

[] What are the four basic types of flaps? 8083-25

Plain – most common. When extended it increases the camber of the wing which increases both lift and drag.

Split – similar to plain. The main difference is the split flap produces more drag which enables a steeper approach without an increase in airspeed.

Slotted – a slotted flap will produce more lift than drag. Its design allows high pressure under the wing to be directed through a slot to flow over the upper surface of the flap, delaying the airflow separation at higher angles of attack. This design lowers the stall speed significantly.

Fowler - very efficient design. Moves back on first part of extension increasing lift with little drag, also utilizes a slotted design resulting in lower stall speeds.

- [] When lowering flaps, why do some aircraft encounter a pitch change? 8083-25
  - Use of flaps alters the lift distribution and causes the center of pressure to move aft. Because of this movement a nose down pitching moment may be experienced. Low wing aircraft are more prone to this characteristic than high wing aircraft. With high wing aircraft the airflow is directed downward which pushes down on the horizontal stabilizer. This counteracts the nose down pitching moment.
- What will be the required distance to takeoff and clear a 50 foot obstacle under the following conditions: []
  - Aircraft -- at gross weight. a.
  - Temperature -- \_\_\_\_ deg C. b.
  - C.
  - Runway -- \_\_\_\_\_ / \_\_\_\_\_ Wind -- \_\_\_\_ / \_\_\_\_\_ d.
  - e. Field elevation --
- [] Calculate weight & balance for proposed flight using actual numbers.
- [] If you added the maximum allowable weight in the aft baggage compartment would the A/C still be in CG?
- [] What problems can be caused by ground affect? 8083-25

During landing – an aircraft in ground affect can have 40% less drag than when operating in ground affect. Any excess speed during landing may result in a significant float. During takeoff – Due to the reduced drag in ground affect, the aircraft may seem capable of takeoff well below the recommended speed. As the airplane rises out of ground affect the greater drag may result in a very marginal climb, or the inability of the aircraft to fly at all. In extreme conditions such as high temperature, high gross weight, and high density altitude, the aircraft may become airborne initially with deficient speed and the settle back to the runway.

- What are several factors which would result in a higher stalling speed? 8083-25 [] Excessive weight, forward CG, no flaps, frost, snow or ice, turbulence, an increase in angle of bank, an increase in load factor.
- [] What is load factor? 8083-25 How many g's can your aircraft take? Any force applied to and aircraft to deflect its path from a straight line produces a stress on its structure. The amount of force is called load factor.
- [] Why is load factor important to pilots? 8083-25 The overload that is possible to impose on the aircraft structure and the possibility for the aircraft to stall at seemingly safe flight speeds
- [] . What is the relationship between angle of bank, g force, and stall speed?
- What is an accelerated stall? []
- What does "cross-controlled" mean? []
- [] Define slip and skid.
- [] What is adverse yaw?
- [] How does surface wind affect takeoff and landing performance? 8083-25 A headwind will allow an aircraft to reach liftoff speed at a lower ground speed, reducing takeoff distance. A tail wind will have the opposite effect increasing takeoff distance. When landing a headwind will shorten the landing distance by decreasing ground speed at which the aircraft touches down. A tail wind will increase landing distance due the higher touchdown speed.
- [] What affect does landing at high elevations have on ground speed. Even though the indicated airspeed that works for sea level operations is the same, the true airspeed is higher, which results in a higher ground speed for a given wind condition, throughout the

approach, touchdown, and landing roll. These factors need to be considered when landing at high alt. airports, especially if the field is short.

- [] Does an increase in alt. have and effect on the indicated airspeed at which an airplane stalls? 8083-25 No, the indicated stalling speed remains the same regardless of altitude
- [] What performance is obtained at max I/d in a propeller aircraft? The max range and max glide ratio will be obtained when operating at L/D max.
- [] What would be your actions if you experienced a rough running engine right after takeoff? Notify ATC and request return to airport for landing
- [] V-Speeds ---- Vs, Vso, Vx, Vy, Vle, Vlo, Vfe, Va, Vno, Vne ---- Define and actual speed

### G. OPERATION OF SYSTEMS

- [] Explain the use and effect of the elevator? 8083--5 p. 4-3.
- [] Explain the use of a trim tab? 8083-25, p. 4-8.
- [] Flaps --What is the purpose of the wing flaps? 8083-25, p. 4-6.
- [] Where does the attitude indicator derive its power? POH
- [] What powers the airspeed indicator?
- [] Landing Gear --What type of landing gear is installed on this aircraft? POH
- [] Describe the type of engine used in this aircraft?
- [] What is its horsepower? POH
- [] How many cylinders does it have? POH
- [] How many magnetos does the engine have? POH
- [] If one mag fails what effect will it have on engine rpm? POH
- [] What happens if the ground wire is broken on a mag?
- [] What is the direction of rotation of the propeller on this aircraft and what type is it? POH
- [] Discuss variable pitch propellers. 8083-25

An aircraft equipped with a constant speed propeller is capable of continuously adjusting the propeller blade angle to maintain a constant engine speed. For example if engine rpm increases because of a reduced load on the engine, the system will increase blade angle until the rpm has returned to the preset speed. The prop governor can be controlled from the cockpit.

#### [] What is a propeller governor?

The prop governor controls the flow of engine oil to or from a piston in the propeller hub. When the engine oil under high pressure from the governor pump, pushes the piston forward, the propeller blades are twisted to a high pitch/ low rpm condition. When the oil is released from the hub, centrifugal force and a spring twist the blades to a low pitch / high rpm condition.

- [] Explain the operation of the fuel system on this aircraft? POH
- [] What is the purpose of the fuel pump and when is it used? POH
- [] What type and grade of fuel is used in this aircraft? POH

- [] What is the maximum capacity of the fuel system and what is the usable amount of fuel? POH
- [] Should you rely on the fuel quantity indicator only? DO NOT BELIEVE IT when it indicates full, however, BELIEVE IT when it indicates empty!
- [] What are you checking for when you drain the fuel drains? Color, water, and sediment
- [] Are there any hydraulic systems on this aircraft? If so, explain their operation. POH
- [] What type brake system does this aircraft have? POH
- [] What type of electrical system is installed on this aircraft? POH
- [] Where is the battery located? POH
- [] What drives the alternator? POH
- [] Does the aircraft have a heating or air conditioning system? POH
- [] If installed, should you use the air conditioner on takeoff and landing? POH
- [] What type of oil system does the engine have? POH
- [] What is the oil capacity of the engine and what is the minimum for flight? POH
- [] Are there any anti-ice or de-ice systems installed on the aircraft? POH
- [] What type of avionics are installed on this aircraft?
- [] What powers the attitude gyro in this airplane? POH
- [] Where does the directional gyro receive its power? POH
- [] Explain when to use carburetor heat on this aircraft? ? FAA-H-8083-25 Before power reduction, In icing conditions (visible moisture) ,always use manufactures recommendations

#### J. AEROMEDICAL FACTORS

Reference: 8083-25, AC 67-2, FAR, and AIM

- [] What is hypoxia? AIM 8-1-2 Hypoxia is a state of oxygen deficiency in the body sufficient to impair functions of the brain and other organs.
- [] How do you recognize the symptoms of hypoxia? ? 8083-25, p. 15-2 Sense of well-being, euphoria, blue color of fingernails and lips
- [] How do you overcome the effects of hypoxia? ? 8083-25, p. 15-3 Breath O2, descend

[]	What factors can make you more susceptible to hypoxia? AIM 8-1-2 Alcohol, low doses of certain drugs (such as antihistamines, tranquilizers, sedatives, and analgesics) and cigarette smoking make a pilot more susceptible to hypoxia.				
[]	For optimum protection against hypoxia, when should pilots use supplemental oxygen? AIM 8-1-2 During daylight hours At night above 5,000 feet				
[]	What is hyperventilation? ? 8083-25, p. 15-3 Excessive increase in breathing rate brought on by stress, tension, anxiety				
[]	How do you correct for the symptoms of hyperventilation? ? 8083-25, p. 15-3 Bring breathing rate under control by breathing into paper bag, shirt, singing out loud, etc.				
[]	When is ear block normally encountered and how do you remedy it? 8083-25, p. 15-4 Descend, Swallow, Yawn				
[]	Can you experience a sinus block on a rapid descent? If so, what would be the corrective action? Yes – slow descent				
[]	What is the cause of motion sickness?? 8083-25, p. 15-6 & AC 67-2, p. 51.				
[]	What is spatial disorientation? FAA-H-8083-25 p.15-4 Lack of orientation with regard to position, attitude, or movement of the aircraft in space				
[]	Have you ever experienced spatial disorientation?				
[]	What should you do if you encounter spatial disorientation? FAA-H-8083-25 p. 15-5 Return to level flight by relying totally on flight instruments				
[]	What is one of the more common sources of carbon monoxide in the cockpit? 8083-25, p. 15-4 & AC 67-2, p. 33				
[]	What are the effects of smoking on night vision? 8083-25 p 15-11 & AC 67-2, p. 33. Decreases it				
[]	What is the maximum blood-alcohol content allowed to exercise the privileges of a pilot certificate? 91.17 (a) (4). .0304 or more is illegal				
[]	How soon after consuming alcohol may you perform crew member duties? 91.17 (a) (1). 8 hrs				
[]	What is your personal rule for flying an aircraft after consuming alcohol?				
[]	It has been over 8 hours since your last drink and your blood alcohol content is .04 percent. Can you Fly. no				
[]	May you fly your aircraft with a hangover? 91.17 (a) (2) no.				
[]	May you operate the aircraft as a pilot if you know that narcotic drugs or marihuana is on board? 91.19 (a). no				
[]	If you were suspected of drug or alcohol use while flying and you were requested to submit to either a drug or alcohol test and you refused, what could happen to your certificate? 61.14 & 61.16.				
[]	If you just finished a scuba dive, what effect will it have on an immediate flight? AIM, p. 839 It could cause decompression sickness				
[]	How long should you wait after scuba diving before performing crew member duties? AIM, p. 839.				

Up to 8000 feet – 12 hours if no controlled ascent was required, 24 hours if controlled ascent required. 24 hours above 8000 feet

#### SUMMARIZE. IF PASS CONTINUE TO SECTION C. IF FAIL ISSUE NOTICE OF DISSAPROVAL AND GIVE CONSTRUCTIVE REMARKS.

## C. FLIGHT

NAME:\_\_\_\_\_ DATE: \_\_\_\_\_

AIRCRAFT M/M:\_\_\_\_\_\_ 'N':\_\_\_\_\_ TIME OFF:\_\_\_\_\_ ON:\_\_\_\_\_

### **PRE-FLIGHT BRIEFING**

- [] PIC—You are the PIC. 61.47.
- [] Emergencies—Actual & simulated.
- [] Transfer of flight controls—Positive, If I state, "I have the flight controls," you respond, "You have the flight controls," observe that I have them, and then release. Any Questions?
- [] Looking for other traffic.
- [] Clearing area—clear the area before each maneuver.
- [] Profile of flight test.
- [] Oral questions during flight.
- [] Unsatisfactory maneuvers—continue or discontinue.
- [] Aircraft documents—return to aircraft.
- [] QUESTIONS?

### II. PREFLIGHT PROCEDURES

[] A. Preflight Inspection

- [] B. Cockpit Management
- [] C. Engine Starting
- [] D. Taxiing

[]

[]

[]

F. Before Takeoff Check []

#### AIRPORT AND TRAFFIC PATTERN OPERATIONS III.

- A. Radio Communications and/or ATC Light Signals
- **B. Traffic Patterns** []
- C. Airport and Runway Marking and Lighting []

#### IV. TAKEOFF, LANDINGS AND GO-AROUNDS

- A. Normal and Crosswind Takeoff and Climb []
  - B. Normal and Crosswind Approach and Landing
  - C. Soft-Field Takeoff and Climb
  - D. Soft-Field Approach and Landing
- [] E. Short-Field Takeoff and Climb []
- F. Short-Field Approach and Landing []
  - K. Power-Off 180° Accuracy Approach and Landing
- [] L. Go-Around/Rejected Landing []

#### V. PERFORMANCE MANEUVERS

[]	Steep Turn	Alt +/- 100ft	Airspeed+/- 10kts	Heading +/- 10	Bank 50° +/- 5°
[]	Steep Spiral		Airspeed+/- 10kts	Heading +/- 10	
[]	Chandelles			Heading +/- 10	
[]	Lazy Eights	Alt +/- 100ft	Airspeed+/- 10kts	Heading +/- 10	

#### VI. GROUND REFERENCE MANEUVERS

**Eights On Pylons** []

#### VII. NAVIGATION

[]

[] ΪÌ

- A. Pilotage and Dead Reckoning Alt +/- 100ft Heading +/- 10 []
  - B. Navigation Systems and Radar Services Heading +/- 10 Alt +/- 100ft
- C. Diversion Alt +/- 100ft Heading +/- 10 []
- [] **D. Lost Procedures**

#### VIII. **SLOW FLIGHT AND STALLS**

- A. Maneuvering During Slow Flight Alt +/- 50ft Airspeed +5kts.- 0kts Heading +/- 10 Bank +/-5° [] B. Power-Off Stalls [] Bank not to exceed 20° +/- 5° Heading +/- 10 C. Power-On Stalls Bank not to exceed 20° +/- 10° Heading +/- 5 []
- [] D. Spin Awareness

#### IX. **EMERGENCY OPERATIONS**

- A. Emergency Approach and Landing Airspeed best glide + / 10 kts []
  - B. Systems and Equipment Malfunctions: No Flaps / Gear Failure
  - C. Emergency Equipment and Survival Gear: Additional equipment in aircraft operated for hire over water and beyond gliding distance from shore. 91.205 - Approved flotation device readily available and at least 1 pyrotechnic signaling device

#### Х. HIGH ALTITUDE OPERATIONS

A. Supplemental Oxygen : 2 types of breathing systems - determined by the regulator - pressure []

Alt + / - 100 ft Airspeed + / - 10 kts

At or within 100ft beyond a specified point

At or within 200ft beyond a specified point

demand and continuous flow.

: Can any O2 be used for aviation breathing oxygen? – No, welding and medical oxygen contain to much moisture. Aviators oxygen is 99.5% pure and contains no more than 2 ML of water per Liter of oxygen.

: O2 requirements – part 91- 91.211 – 12500 ft over 30 minutes, 14000 crew, 15000 crew and made available to passengers

- part 135 – 135.89 – un-pressurized -10000 thru 12000 over 30 minutes. Above 12000 all the time.

- part 135 pressurized – 25000 to 35000 pilots wear or have quick donning masks. Above 35000 one pilot must wear mask

[] B. Pressurization : What is a pressurized aircraft? What are advantages of pressurization – higher flight which can lead to better fuel economy, higher speeds, capability to avoid weather. Prevents rapid changes of cabin alt. for comfort. Permits fast exchange of air from inside of cabin to outside to eliminate odors and stale air

### XI. POSTFLIGHT PROCEDURES

[] A. After Landing, Parking, and Securing

**Flight Action Plan Flow** Depart F05 on X-C to the South Navigation (distractions, nav failures) **Diversion Lost Procedures Hood Work Performance maneuvers Steep Turn** Chandelle Lazy eight Stalls Power on Power off Slow flight **Steep spiral** 8s on pylons **Emergency app and landing** Take-off, Landings and Go around

What class of medical certificate is required for your license?

2. What is the duration of that class of medical certificate ?

3. Can a drug or alcohol conviction (not related to aviation activities) affect your pilot privileges ?

4. Refusal to submit to a blood alcohol test is grounds for what ?

5. Are you required to have a periodic flight review? What kind? How often ?

6. What are the recency of flight experience requirements to carry passengers ?

7. How long after a change of address do you have to

notify the FAA ?

8. When may a private pilot accept money for flying an aircraft?

9. May a student pilot log pilot in command time?10. What actions are you required to take prior to takeoff?

11. You drank a beer late last night, and a friend wants to go flying early this morning. Is this a problem? Why or why not?

12. What is the blood alcohol limit for pilots?

13. You and two friends flew to Key West for the day. Upon meeting for the return flight, you find that one of your passengers is quite drunk. Your other passenger says No problem, he always sleeps it off on the way back. Is he right?

14. Can you drop objects from your aircraft?

15. What fuel reserves are required (VFR)?

16. What is Mode C? When must you have it?

17. What documents are required to be in the aircraft?18. What documents are required to be on your

person?

19. What documents must be kept, but not necessarily in the aircraft or on your person?

20. When is supplemental oxygen required for the flight crew? Passengers?

21. What equipment is required to be installed in the aircraft for flight, VFR day? VFR night?

22. What is an ELI? What aircraft must have one?23. If an ELT is installed, the battery must be replaced/recharged if...?

24. Where must the ELT battery expiration date be posted?

25. Are private pilots permitted to conduct formation flights?

26. Describe the rule governing the right of way for:

a. Aircraft in distress

b. Converging aircraft

- c. Overtaking
- d. Landing

27. What speed limits apply to propeller driven aircraft?

28. When and where is aerobatic flight permitted or prohibited?

29. Describe aircraft position lights (which color is where on the aircraft?)

30. When must the position lights be on? The anticollision lights?

31. Your radios have failed while on downwind at a tower-controlled airport. The tower begins using light signals to communicate with you. What is the meaning of a steady red? Flashing red? Steady green? Flashing green?

32. You have successfully landed without radios. The tower continues to use light signals. What is the meaning of a steady red? Flashing red? Flashing green? Steady green? Alternating red and green? Flashing white?

33. Describe the rules regarding the minimum altitude at which you may fly.

34. When is a flight plan required (VFR)?

35. Define the following types of airspace; locate each on a sectional chart; describe the VFR weather minimums for operating in each; describe the equipment requirements for operating in each; describe the communications clearances required to operate in each:

- Class A
- Class B
- □ Class C
- Class D
- □ Class E
- □ Class F
- □ Class G
- □ Warning Area
- □ Restricted Area
- □ Prohibited Area
- □ Special Flight Rules Area

□ VFR Corridor

36. What is special VFR? When would you use it? How do you get it? What hazards are associated with it (day, night)?

37. What are the VFR cruising altitudes?

38. What inspections are required on your aircraft? How often? Where are they recorded?

39. Does a transponder require calibration? When?

40. What other devices which operate with the

transponder must be calibrated?

41. Describe the ground and airborne segments of the

following navigation systems, and how to use each:

42. Point out each of the above on a sectional chart.

43. What stations have Morse code identifiers on them? How do you find out what the identifier is for a

particular station? What do you as a pilot have to do to your radios to hear the Morse code identifier?

44. The FAA has found the XYZ VOR to be out of adjustment and providing dangerously inaccurate guidance. Their maintenance men are working on the station now. How can you, the pilot, tell that the signals are not reliable?

45. What is an FSS? Where can you find one on the sectional chart? What good are they to you once in flight? On what frequencies can you talk to the FSS?

46. What is Flight Watch? On what frequency? 47. What is an RCO?

48. When might you transmit to the FSS on one

frequency and receive on another?

49. What is a Transcribed Weather Broadcast? Where can you listen to one?

50. What is a VHF steer? When would you want one? Who gives it to you?

51. What is radar? What does it do for you?

52. Describe VFR Flight Following: what it is, who does

it, what its limitations are, how to get it.

53. Describe the following airport lighting systems:

 $\Box \text{ ALS}$ 

□ REIL

Runway lights

Taxiway lights

□ Pilot controlled lighting

□ Rotating beacon

54. What does it mean if the rotating beacon is on during the day? night?

55. What does an X on a runway mean?

56. There are two large numbers near the end of the runway. What do they mean?

57. Describe the procedure for using each of the three VFR routes through the Los Angeles Class B airspace.

58. What is an Alert area?

59. What is a Military Training Route? Find one on the sectional.

60. What is the emergency frequency? When/how do you use it?

61. What frequency is set aside for pilots to use for air to air communications?

62. You are about to enter the Class C airspace. What information should you give on the initial call?

63. You are in the Class C airspace. The controller issues you a heading and altitude which will take you through a small cloud? What should you do?

64. Describe the airport traffic pattern; which direction turns are standard; how to determine whether this airport/runway uses standard or non-standard pattern.

65. Describe the procedure for getting clearance into the Class D airspace.

66. How do you know the traffic pattern altitude at an unfamiliar airport? Runway lengths/widths? Location of hazards? Availability of services? ATIS, tower and ground frequencies? FSS telephone numbers? 67. Describe airspeeds, altitudes, gear, flap and power settings to be used on the 45, downwind, base and final.

68. Describe the procedure for a short field landing. A

soft field landing. A short field takeoff, and a soft field takeoff.

69. Compare the communications requirements at tower vs. non-tower airports.

70. What is an intersection takeoff?

71. What is a NOTAM?

72. What is a position report? Is it required? Why do them? How do you do one?

73. How do you change a flight plan in flight?

74. What is an airway? Find one on the sectional chart.

75. What is "see and avoid" mean?

76. What is an ADIZ? Why do you care?

77. What actions can you take to get help in an emergency?

78. The following are codes for use in your transponder.

When would you use each? 1200, 7500, 7600, 7700 79. What is the NWS?

80. How do you get a preflight weather briefing?

81. What is an area forecast? Winds aloft forecast?

82. What is a TAF? What is a METAR?

83. Winds aloft forecasts give wind in true or magnetic bearing?

84. Wind speeds are in knots or miles per hour?

85. What is ATIS? How do you get it?

86. The recording says ~. ..temperature 54, dewpoint

52... What does this mean to you?

87. Why do they broadcast the altimeter setting?

88. Describe the following, including implications for the private pilot:

. □ wind shear

□ airframe icing

□ carburetor icing

□ induction icing

□ clear air turbulence

 $\Box$  convective activity

□ towering cumulus

□ microbursts

□ hail

□ temperature inversion

□ marine layer

□ wake turbulence

advection fog

89. The best course of action to take if you accidentally fly into a cloud is?

90. Describe the hazards of wingtip vortices, the

conditions under which you might expect to

encounter them, and how to avoid them.

91. The average life span of a VFR pilot in the clouds

is?

92. What is a graveyard spiral?

93. What is flicker vertigo?

94. What are the early symptoms of hypoxia?

95. What are the following speeds? What does each mean?

• Vso

• Vs0

• VR

• Vx

• Vy

• VA

• Vno

• Vne

- VFE
- Vlo
- VLE

• VBEST GLIDE

96. What are g-forces? How are they created? How much can your aircraft take?

97. What is the relationship between angle of bank, g force, and stall speed?

98. What is an accelerated stall?

99. What does "cross-controlled" mean?

100. Define slip and skid.

101. What is adverse yaw?

102. Discuss torque, slipstream effect, and p-factor.

103. Discuss stalls and spins (definition, prevention, recognition and recovery)

104. What is Zulu time? Greenwich Mean Time?

105. Discuss airfoils, lift, and drag.

106. Compare parasite drag and induced drag

107. Discuss density altitude

108. Discuss leaning procedures for your aircraft.

109. Discuss detonation and pre-ignition: definitions,

causes, effects, relationship, and prevention.

110. Discuss stall characteristics of clean vs. flaps down.

111. Discuss gyroscopic precession

112. Do a weight and balance for today's flight. Discuss results.

113. What would you expect of an aircraft loaded beyond its CG limits?

114. Is this aircraft equipped with an alternator or a generator? What difference does this make? Is it belt or gear driven? What is its capacity?

115. Is there an avionics master switch in the aircraft? Where?

116. Where are the alternator field and bus circuit breakers/fuses?

117. Does this aircraft have an over voltage protection circuit? Describe its operation including any potential "false activations."

118. Describe the use of the EGT and CHT gauges, if so equipped.

119. Describe the vacuum system. Which gyros are vacuum driven, and which are electric?

120. How does the pitot-static system work?

121. What is the rate of climb at 8000 feet pressure altitude, 90 degrees F?

122. What is the difference between a SIGMET and an AIRMET? CONVECTIVE SIGMET?

123. Ceilings are in feet; is this MSL or AGL?

124. Discuss the ceilings, visibility, cloud types and

turbulence, which are to be expected in stable vs. unstable air.

125. Under what weather conditions is carburetor icing most likely?

126. How is an aircraft ignition system different than a car?

127. What is the magneto ground wire? Why is it important?

128. Compare/contrast dead reckoning, pilotage and radio navigation.

129. Is the fuel pump required to be on or off for takeoff and landing?

130. Is the engine of your aircraft fuel injected or mean?

What are the appropriate speeds for your aircraft? carbureted? What difference does this make? 131. Describe the fuel system: tanks, valves, drains, cross feeds, vents, return lines, gasolator, required fuel grades, system capacity.

132. Which direction does the CG move as fuel is burned?

133. What are NOTAMS?

134. NOTAMS are included in the standard private pilot 135. Discuss the visual illusions and the typical effects on the approach path flow caused by:

- Rain
- haze
- narrower than usual runway
- wider than usual runway
- up sloping runway
- Down sloping runway

136. During a go-around, what would be the effect if a pilot were to fail to retract the flaps to the go-around setting, leaving them at the full-down position?
137. During a go-around, what would be the effect of flying the aircraft at an airspeed higher than that recommended in the go-around procedure?
138. What would be the effect if the pilot were to allow the aircraft to stall while in a full slip (as during a slip-to-landing maneuver)?

## D. ADMINISTRATIVE (post test)

#### **Critique**

- 1. Applicant informed of determination.
- 2. Review areas of weakness.
- 3. Provide guidance for improvement.
- 4. Ask if any questions.
- 5. Schedule for retake if disapproval.

#### <u>Files</u>

#### 8700.1 Handbook, Chapter 11

To Applicant:

- 1. Copy of Temporary certificate/notice of disapproval.
- 2. Return written test results when disapproved.

To FSDO

- 1. Original Temporary certificate/notice of disapproval.
- 2. 8710.1 (fill out back, verify applicant's ID).
- 3. Written test results, unless disapproval.
- 4. Superseded Certificate/previous disapproval.

I, \_\_\_\_

#### have been administered this evaluation and have been

advised of the outcome.

Applicant

Date