

PRIVATE PILOT ORAL

I PREFLIGHT PREPARATION:

A. Certificates and documents

- What documents are you required to have on your person?
 - Pilot license
 - photo ID
 - medical
- When does your medical expire?
- What are the privileges and limitations of a private pilot?
 - Can you be compensated for a flight? (incidental/ non-profit)
 - Must share costs pro rata What does that mean?
- What is required to maintain your currency? Night?
- What if your address changes?
- What is required to transition to high-performance, complex, conventional gear aircraft?

B. What documents/information are required to be onboard the aircraft?

- airworthiness certificate ___ what if it gets lost or misplaced?
 - Registration ___ When does this expire/need to be replaced?
 - Operating limitations ___ Describe where these are found
Placards, POH, instrument markings
 - Weight and Balance
 - Current maps
 - What inspections are required for this aircraft? How do you verify compliance? Who is responsible for compliance?
 - annual (who is authorized, when does it expire)
 - 100 hour (when is it required or not required)
 - transponder test (when transponder is required)
 - ELT battery
 - when may you test an ELT (first 5 minutes past the hour)
 - when must the battery be changed/recharged? (30 minutes operation or ½ battery life)
- What about preventive maintenance? Who can do it? What are limitations? How is it documented?
- What is a special flight permit? Why would you need one and how would you obtain one?
 - What are airworthiness directives?

D. CROSS COUNTRY PLANNING

- Review flight planning
 - course how much wind correction do you anticipate based on the forecast?
 - distance what will our ground speed be. how long will the flight be?
 - altitude what factors did you consider do select this altitude?
 - direction of flight
 - weather (wind/cloud)
 - airspace
 - fuel requirements How much do we need How much do we have what is the max capacity
 - Navigation method (GPS, VOR, pilotage) What if you have a system failure?
 - Discuss checkpoints
 - Review lost procedures
 - Good weather and adequate fuel
 - Bad weather and/or low fuel
- Emergency frequencies
- Review map
 - verify currency
 - airports towered/non-towered
 - interpret airport data block (runway length, elevation, CTAF, lighting)
 - Identify VOR /other navaids (frequencies, other information given) airways
 - identify obstructions (height AGL and MSL, lighting)
 - lat/longs maximum obstruction altitude

- other features
- identify various airspaces
- MTR's

E NATIONAL AIRSPACE SYSTEM

Identify/ describe the following airspaces and their requirements/restrictions

A B C D E G

TRSA MOA Alert area Restricted area Prohibited area

C WEATHER

How do you normally obtain a wx briefing? Discuss obtaining briefing via Duats/ telephone
 what items should be included in a standard briefing: Adverse conditions, VFR not recommended, synopsis, current conditions, enroute forecast, destination forecast, winds aloft
 Notams,

Describe/read various forecast products

- Winds aloft
- Area forecast
- TAF
- prog charts

Describe/read the various weather reports

- Metar Discuss temp/dew point and likely wx
- Surface analysis Discuss Highs, low, isobars, wind circulation
- weather depiction charts

Discuss cloud formation. Stable vs. unstable. Vis, clouds, precip and turbulence

Discuss AWOS, ASOS and ATIS

- How can you obtain them
- How often are they updated
- What does it mean when "auto" follows the date/time
- What information can you expect

What are PIREPS? What is EFAS What is HIWAS

What are airmets, sigmets and convective sigmets

- weather conditions: icing, low ceilings, turbulence, visibility
- how do you obtain this information in flight

What are NOTAMS, SIGMET, AIRMETS

Give some examples of the information you might expect in a notam

Define IFR, MVFR, VFR

Discuss density altitude. How do temperature/humidity affect DA

HAZARDOUS WEATHER

Thunderstorms

- potential hazards of TSTMs
- How do you avoid? Is it safe to fly underneath? How far should you stay away?

FOG Describe the different types and how they form.

Icing

- types of icing structural and induction explain
- types of structural: clear, rime, mixed, frost
- What factors are necessary for ice to form

How do you avoid/ or get out of icing conditions

ENCOUNTERING WEATHER

What would you do if you see clouds in front of you at your altitude? Just a little small one?

What actions would you take if you inadvertently flew into a cloud

F. PERFORMANCE AND LIMITATIONS

DEFINE THE FOLLOWING

- four forces of flight
- factors that affect lift and drag: area, shape angle of attitude, velocity, air density
- angle of attack
- critical angle of attack
- load factor and situations that can cause you to exceed the load limits
- affect of load factor on stall speed, maneuvering speed, stalls, spins
- explain ground effect
- discuss density altitude. what are the factors, how does it affect aircraft performance
- Define, give speed, and indicate markings for V speeds
 - Vne Vno Vso Vs1 Vfe Va (others if applicable)
- Performance Charts - describe/ demonstrate use
 - Take off distance chart
 - Landing distance chart
 - Cross wind chart (what is this aircrafts limit)
- weight and balance charts
 - Define : E.W., gross wt, useful load, arm , moment, Datum
 - review calculations for this flight
 - discuss consequences of overloading, forward or aft C.G.

REGULATIONS

- PIC alcohol
- preflight requirements: wx, w&b, performance, RY information,
- formation flight
- Minimum safe altitudes
- oxygen requirements acrobatics define list
- speed limits seat belts
- transponder codes VFR emergency hijack radio failure
- light gun signals
 - when would you use them
 - describe procedure
 - interpret meaning of various signals

NTSB

- When is immediate notification required? Control malfunction, crew member, turbine, inflight fire, midair, \$25,000 property damage, overdue A/C
- Define aircraft incident
- Define aircraft accident

AERONAUTICAL INFORMATION

- QUIZ ON RUNWAY MARKINGS/SIGNS
- Discuss runway incursions; define, consider ways to prevent
- Describe VASI lights PAPI lights
- Discuss wake turbulence; How is it created, where is it most likely, how do you avoid

it

- describe the causes and effects of certain illusions: narrow runway, wide runway, sloping runway

G. AIRCRAFT SYSTEMS

- what equipment is required for Day VFR flight
 - Airspeed, altimeter, compass, fuel gauges, oil press/temp, RPM, seat belts, ELT, Anti collision
- Night VFR
 - Position lights, anti collision, landing light (for hire) fuses, power supply
- What do you do if you have inoperative equipment?
 - GPS flaps radios other items

- discuss the function, operation and limitations of instruments
 - altimeter
 - airspeed (blocked pitot/ static port)
 - vertical speed
 - artificial horizon low vacuum/ failed vacuum pump
 - DG precession
 - turn coordinator
 - compass : northerly turning error
- describe the ignition system on this aircraft
- describe the electrical system
- describe the fuel system
 - quantity
 - carburetor vs. fuel injected
 - fuel pumps, selectors,
 - mixture control
- explain detonation; causes and corrective actions

J. AEROMEDICAL FACTORS Describe symptoms, causes, effects, and corrective actions

- Hypoxia Hyperventilation
- Ear/ sinus problems spatial disorientation
- motion sickness carbon monoxide
- stress/ fatigue dehydration
- Effect of drugs, alcohol, OTC medicine
- Effects of excess nitrogen after scuba diving

NIGHT OPERATIONS

- Discuss vision issues during night operations
 - time to adapt
 - change in scanning technique
- Illusions; kinesthesia, loss of horizon,
- Describe normal runway lights
 - pilot controlled lighting: how do you activate? Where is that info,
 - other types of runway lights : TDZL, REIL , centerline
- Describe taxiway lights (edge lights blue, centerline – green)
- What does a civilian airport rotating beacon look like

COCKPIT RESOURCE MANAGEMENT AND AERONAUTICAL DECISION MAKING

- What type of resources do you have available to you
 - checklist equipment information (charts, POH)
 - external resources , ATC, mechanic, instructor via phone or radio
- What are some hazardous attitudes
 - How do they develop
 - How do you prevent or correct

