P.A.V.E.

Pilot/Passenger *(Task A. Pilot Qualifications)*

IMSAFES

❖ Illness
  ➢ Sinus/Middle Ear
    ▪ Cold
    ▪ Sore throat
    ▪ Disqualifying conditions who can I ask? AME
    ▪ RISK FACTOR – Fitness to Fly

❖ Medication (Rx/OTC)
  ➢ Approved by FAA
    ▪ FAA does not have an approved list, AOPA does but will the approved drug interact with another?
  ➢ Check with your AME
  ➢ RISK FACTOR: Impact of environment on medication’s physiological effects

❖ Stress
  ➢ Stressed at work on in personal life
  ➢ Financial stress
  ➢ External Pressures (Time limits, promises etc.)

❖ Alcohol
  ➢ No alcohol in the least 8 hours
  ➢ Below 0.04% limit
  ➢ No hangover, no impairment, no drugs

❖ Fatigued
  ➢ Are you rested?

❖ Eating
  ➢ Did you eat? are you hydrated
  ➢ Healthy food will help you feel better.

❖ Scuba Diving
  ➢ Have you been scuba diving? What can happen and Why?
    ▪ For non-controlled ascent to 8000’ wait 12 hours
    ▪ For controlled ascent or flights above 8000’ wait at least 24 hours

CURRENCY

❖ Flight Review
  ➢ Wings, new rating
  ➢ RISK FACTOR – Proficiency vs Currency; Personal Minimums

❖ Endorsements and training
  ➢ Complex, High performance, tailwheel, pressurized aircraft

❖ Rating required to fly this aircraft?
  ➢ Multiengine, seaplane, glider etc.
➢ RISK FACTOR – Unfamiliar Aircraft/Unfamiliar Displays & Avionics

❖ Required landings:
➢ Did I do 3 takeoff/landings in the last 90 days to carry passengers?
➢ 3 full stop takeoff/landings at night in the last 90 days (1 hour after sunset/1 hour before sunrise)
➢ 3 full stop takeoff/landings with tail dragger in the last 90 days?

DOCUMENTS
❖ Medical certificate/BASICMED (Had a medical cert, get exam following checklist, take medical course)
❖ Valid Government photo ID
❖ Pilot Certificate

PRIVILEGES AND LIMITATIONS
What can I fly? What can’t I fly? Can I receive money? Towing?

Aircraft/Airworthiness (Task B. Airworthiness Requirements)

ARROW
❖ Airworthiness Certificate
❖ Registration
➢ 3 Years to the Month
❖ Radio stations license (international)
❖ Operation Limitations
➢ AFM/POH (based on requirements per Type Certificate Data Sheet at FAA.GOV)
➢ Placards
➢ Instrument markings
❖ Weight and Balance Data current

AVIATES
❖ Annual (12 calendar month) out of date annual? Special flight permit?
❖ VOR check (30 days) (IFR)
❖ Inspection 100 hour (Aircraft operated for hire or airplane provided by flight instructor or school)
➢ Can exceed by 10 hours if enroute to inspection facility but not if this exceeds AD requirements
❖ AD Compliance
❖ Transponder (24 calendar month)
❖ ELT (12 calendar month test and replace battery when half the battery life used or 1 hour of use)
❖ Altimeter and Static (24 calendar month)

ATOMATOFFLAMES
❖ Anti-Collision Lights
❖ Tachometer
❖ Oil Pressure
❖ Manifold Pressure
❖ Altimeter
- Temperature Gauge
- Oil Temperature
- Fuel Gauge
- Flotation (hire)
- Landing Gear Indicator Airspeed Indicator
- Magnetic Direction Indicator
- ELT
- Seatbelt's/Shoulder harnesses

**FLAPS (Night flight)**
- Fuses/Circuit breakers
- Landing Light (if For Hire)
- Anti-Collision Light
- Position Light
- Source of Power

**AIRCRAFT SYSTEMS**
- Fuel, Oil and Hydraulics
- Electrical
- Pitot-Static, Vacuum/Pressure and associated flight instruments
- All systems that your aircraft has required by PTS
- Possible failures and what to do for each system?
EMERGENCIES
❖ Engine failure after takeoff
❖ Loss of oil pressure during flight

CAN I FLY WITH INOPERATIVE EQUIPMENT?
❖ Do you have an MEL, if not what do I do? (91.213D)
  ➢ Is it part of 91.205 (required VFR equipment)?
  ➢ Is it required by your type certificate data sheet?
  ➢ Is it ‘indicated as required by aircraft’s equipment list’ or ‘kinds of operations required equipment list’?
❖ Does an AD require that equipment?
❖ Does a regulation require the use of it? (eg night time position lights; transponder)
❖ RISK FACTOR: Flying with Inoperative Equipment (Personal Minimums)
❖ Procedure to fly with inoperative equipment:
  ➢ Remove & placard
  ➢ Deactivate & placard
  ➢ Note if maintenance is required in squawk log and/or logbook
ENVIRONMENT

Depending on Where We are Flying

❖ Density Altitude
  ➢ How it effects the airplanes performance?
  ➢ Effects of temperature and pressure on altimeter readings?
  ➢ Calculate Density Altitude for all airports (CMA, APC, TVL)

❖ CFIT (Controlled Flight into Terrain)
  ➢ There may be clouds you can’t see
  ➢ Mountain obscuration
  ➢ Watch out for false horizons, illusions?
  ➢ Are we flying over high terrain? Check altitudes and keep altimeter updated.
  ➢ Flying over terrain? Watch out below.

❖ Parameters for all planned airports
  ➢ Is it safe to land and take off?
  ➢ RISK FACTOR: Calculate takeoff & landing distances; add margin of error
  ➢ RISK FACTOR: Published vs actual performance of aircraft

❖ Do I need oxygen?
  ➢ WHY = Hypoxia, reduced vision, symptoms?
  ➢ Night flight above 5000 feet? Daytime over 10000 feet
  ➢ Above 12500 feet for more than 30 min; Above 14000 feet all the time for pilot and crew; Above 15000 feet provided for passengers as well

❖ If using heat, think about Carbon Monoxide poisoning and recognize the symptoms
  ➢ Light headed
  ➢ Loss of muscle power
  ➢ Headache
  ➢ Drowsiness
  ➢ Tingling in fingers and toes
  ➢ Blue fingernails and lips

❖ Are we flying at night?
  ➢ Know your runway and airport lighting (CMA, APC, TVL)
  ➢ Night vision
    ▪ 30min to 1hour to get eyes used to the dark
    ▪ Avoid looking into bright light
    ▪ Use peripheral vision and don’t look at a fixed object for longer times
    ▪ Rods (Black and white only) & Cones (Blind spot at night)
    ▪ Night illusions

❖ Consider emergencies when planning your route
  ➢ Emergency survival gear, first aid kit, water, food, clothing that will keep you alive etc

❖ Weight and Balance
  ➢ Are we close to the weight limit?
  ➢ Do we need to move bags around? What is the best way to load CG
➢ How much fuel can we carry?
➢ RISK FACTORS: Over Gross, Aft CG, Forward CG
❖ Crosswind factor
➢ Are we going to be within or close to the limits? Best runway to use
➢ How do we do a crosswind landing and take-off?
Airport Concerns

❖ How do we avoid runway incursions?
  ➢ Use taxi chart
  ➢ Write down taxi route
  ➢ Know taxiway markings
  ➢ Stop well short of hold lines
  ➢ Ask for progressive if needed; Ask ground for help

❖ What are hot spots?
  ➢ Know hotspots at CMA, APC, TVL

❖ Is there LAHSO in operation?
❖ Know runway signs and markings
❖ Know my light gun signals
❖ Wake Turbulence
  ➢ How do we avoid?
  ➢ Don't fly below the flight path
  ➢ Wait for heavy aircrafts wake to dissipate

AIRSPACE

❖ What airspace are we flying through?
  ➢ A,B,C,D,E,G, and special use airspace?

❖ What PROCEDURE is required to enter, weather requirements and equipment requirements for all airspaces
  ➢ Remember to get clearance before entering B, establish communications before entering C, D
  ➢ Stay out if flying close. Find terrain markings to help stay out or use GPS if you have one!
  ➢ Do we have the required equipment on board?

❖ Any Restricted Airspace, Warning areas, Prohibited areas, on the route?
❖ MOA or other dangerous areas?
  ➢ Times and frequencies

❖ All Airspace weather and equipment requirements, special VFR and risks
❖ RISK FACTORS:
  ➢ Flying VFR at Night
  ➢ Special Use Airspace & TFRs

SPINs

❖ What causes a Stall and Spin?
❖ Recovery from spin: PARE
  ➢ Power to idle
  ➢ Ailerons neutral
  ➢ Rudder full opposite of rotation
  ➢ Elevator forward to break stall
  ➢ Spin stops rudders neutral
  ➢ Easy Pull to straight and level! and watch limitations
WEATHER
❖ Airmets (WA) 6 Hours
   ➢ Tango (moderate turbulence, high surface winds above 30 kts, low level wind shear)
   ➢ Sierra (IFR, mountain obscuration)
   ➢ Zulu (Icing, freezing levels)
❖ Convective Sigmets (WST) 2 Hours
   ➢ Thunderstorm related weather
      • Severe Icing
      • Severe Turbulence
      • Winds at the surface more than 50 kts
      • Tornados
      • Hail
❖ Sigmets (WS) 4 Hours
   ➢ Non thunderstorm related
      • Severe turbulence or winds at the surface more than 50 kts
      • Severe icing
      • Sand storms/Dust storms
      • Volcanic ash
❖ Charts
   ➢ Surface Analysis Chart
      • High/Low Pressure, What weather is possible?
      • Cold/Warm fronts, What weather is possible?
      • Stationary/Occluded Fronts
      • Squall Line
      • Ridge
      • Trough
   ➢ Weather Depiction Chart
      • Display of IFR/MVFR/VFR Wx
      • Also shown are fronts, troughs and squall lines from previous Surface Analysis Charts
   ➢ Radar Summary Charts
      • Precipitation
      • Direction and speed
      • Does not show clouds.
   ➢ Satellite Pictures= Clouds
   ➢ Low level Significant weather prognostic charts
   ➢ Winds and Temperatures aloft
   ➢ Severe Weather outlook charts
      • Convection, turbulence, icing
❖ Watch out for special VFR conditions
   ➢ Wire-strike
   ➢ Tower strike
   ➢ Scud running
➢ CFIT

❖ TFR’s
➢ Any TFR’s on the route?
➢ Ceiling and times

❖ Enroute Wx Sources (HIWAS, ASOS, ATIS, PIREPS, Foreflight, FSS)

❖ RISK FACTORS:
➢ Factors in Go/No Go decision
➢ ID alternate airports and circumstances of diversion
➢ ID Wx conditions that may increase or reduce risk of planned flight
➢ Using personal minimums
EXTERNAL PRESSURES

❖ RISK FACTORS:
  ➢ External Pressures (e.g. being goal oriented vs. adhering to personal limitations)
  ➢ Hazardous attitudes
  ➢ Lack of appropriate training for new area
  ➢ Tendency to complete flight despite adverse change in conditions
  ➢ Limits of ATC services
  ➢ Improper fuel planning
  ➢ Route of flight over significant environmental influences
  ➢ Seasonal weather patterns

Additional Risk Factors

Cockpit Management
❖ Failure to positively exchange controls
❖ Passenger behavior
❖ Use of Portable Electronic Devices

Engine Starting
❖ Fires related to over-priming
❖ Propeller safety & awareness

Taxing
❖ Distractions during taxi
❖ Confirmation or expectation bias as related to taxi instructions

Before Takeoff Check
❖ Wake turbulence avoidance
❖ Division of attention and scanning