

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- ❖ Annual (12 calendar month) out of date annual?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
 - **P**ower to idle
 - **A**ilerons neutral
 - **R**udder full opposite of rotation
 - **E**levator 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

Taxiing

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

Before Takeoff Check

- ❖ Wake turbulence avoidance
- ❖ Division of attention and scanning