VFR – Scenario Training

Introduction

This scenario training is initially designed to be conducted as a discussion using supporting materials. No flight or simulator time is envisioned.

Materials

- SE A/FD
- Charlotte Sectional
- Jacksonville Sectional

Lesson

Pilot has flown to Jacksonville, FL for the weekend and is now ready to return on Sunday afternoon. The pilot is expected back at work Monday morning. Aircraft is appropriate to the pilot's normal experience, typically a C172 class aircraft.

Pre-Flight

- What information needs to be gathered in the planning stages?
  - NWKRAFT –NOTAMs, Weather, Known Delays, Runways of Intended Use, Alternatives, Fuel, T/O and Lndg Distances.
  - Pilot paperwork and reviews and IMSAFE.
    - Flight Review
    - Medical – duration.
    - Photo ID.
    - Currency – day and night.
    - Drugs and Alcohol. 8 hours, under the influence, .04 %, drugs affecting faculties.
  - Aircraft paperwork and inspections (AROW and AVIATES).
  - Charts.
  - Aircraft Performance – t/o, landing, cruise.
    - Factors affecting performant – HHH (hot, high, humid). Density altitude.
    - Factors affecting Indicated Airspeed.
    - Cruise – TAS v IAS. How to calculate TAS.
- NOTAMS – local, distant, TFRs – where to get them?
- Sources of WX
  - FSS, DUATS, Other.
  - Types of briefings.
  - What weather products – especially DUATS and Other briefings.
    - TAF/METAR – cloud heights. When issued (6 hrs, and hourly)
    - PIREPs – cloud heights
    - Area Forecasts – cloud heights

    - Winds and Temps Aloft – what information do they give (best alt, turbulence).
    - SIGMET, Conv SIGMENT, AIRMET – what information.
- Various WX scenarios – discuss options for leaving and handling airspace. Lokk at weather conditions further up the route – use these conditions to help in the decision process.
    - 1.5SM, 800 Overcast
    - 1.5 SM 1200 Overcast
    - 3 SM 2000 Overcast
    - Fog – temperature/dewpoint – issues with ground fog.
    - En-route thunderstorms.
        - Factors present for them to form – lifting, unstable, high moisture.
    - Turbulence – how to predict it. Cloud types.
    - Personal Minimums – PAVE.
- Altitudes – hemispherical rule above 3,000 AGL. Use of oxygen.
- Route Planning – how, what and why.
    - Variation and Deviation
    - Elements of the Flight Log
        - Checkpoints
        - Courses
        - Navaids
        - Altitudes
        - Winds and WCA
        - Groundspeed.
        - Distances
        - Time
        - Fuel
    - VFR Flights – filed, opened and closed with who?
- Fuel Planning – required reserves, prudent reserves, day and night.
- Weight and Balance
    - Why is it important?
    - Describe how to calculate one.
    - Useful load of this aircraft – fuel/weight trade-off.
    - Effect of CG on aircraft (fwd – higher stall, slower cruise, more stable. Aft – the opposite).
    - How heavy is 100LL?
- Aircraft discrepancies – MEL or 91.213
- Frost and ice.
- Departing other airports – e.g. Asheville – issues?

Departure

- Seat belts – when required?
- Altimeter setting if no ATIS/AWOS?
- Who to talk to - what frequencies to use?

- Runway incursions – safe practices.
- Cross wind takeoffs, tailwind takesoffs.

En-Route

- Weather Updates – how to get them, who from?
- Scenarios:
  - Lowering ceiling – issues with staying low, towers, airspace etc.
    - Minimum safe alts. 500 ft anywhere, 1,000 above/2,000 away congested.
  - Thunderstorms
  - Rain Showers
- Flight Following – how to find who to call?
- Emergency Frequency?
- Pilot authority in emergency. Required reports? Written in 10 days IF REQUESTED.
- Diversions – how to handle?
  - 4 C's. Climb, Communicate, Confess and Comply.
- System Failures:
  - Electrical System
  - Vacuum
  - Oil Pressure/Temperature
- Aeromedical
  - Hypoxia
  - Hyperventilation
  - Carbon Monoxide Poisoning
- Night – NAV lights at what times.

Arrival

- Radio requirements – Class C.
- Equipment and Clearance requirements – Class B.
- Traffic pattern altitudes.
- Wind and windshear.
- Wake turbulence.
- LAHSO operations.
- Load factor, stalls, spin recovery.
- Ground effect.