

## **VNAV Cross Country Planning Guide**

Please read through this planning guide carefully. This guide was made to give you guidance on exactly what you need to do in order to prepare for your cross country without extra effort since you likely have other flights to study for as well. Pay special attention to anything that is underlined as those are common errors from the SMAs that came before you.

### **General Guidance**

- Be safe, voice any concerns that you have early and often. The majority of recent TW5 mishaps have occurred during cross-country flights despite the fact that they are in the minority of the flight hours flown.
- If we don't have fun then we aren't successful.
- Our flight will go as easily and efficiently in the air as we plan and brief it on the ground.
- Crewday/crewrest and fuel are your most precious resources. Make sure to show up to the brief well rested and please don't show up early.
- Unexpected weather and maintenance frequently cause last minute changes to the plan so stay flexible. As a reminder any changes to the route of flight should be cleared with the chain of command.

### **Example KNDZ Departure Timeline**

T-1:30	Start crewday clock by entering squadron spaces. <u>Don't be early, even for the weight and balance.</u>
T-1:30	Conduct NATOPS/ORM brief, check weather, <u>complete weight and balance during brief.</u>
T-1:00	Depart HT-8 for aircraft issue.
T-0:30	Spin
T-0:05	Call for taxi
T-0:00	Takeoff

### **Products**

Work with your CCX partner and use the following as a checklist for flight planning. Bring the following completed products to the brief on Thursday. The flight brief is where decisions are disseminated, not made, so contact the IP in advance to settle any questions.

#### **1. FLIPs**

- VFR sectional/terminal charts and IFR Low Charts. Bring one set for both of you to share to help save weight so that we can carry more fuel. I'll bring my own set of charts.
- VFR sectional charts to cover everything east of the Mississippi River and South of the Mason-Dixon Line – Draw only the VNAV route per figures 1-6 and 1-9 of the Instrument FTI. Doghouses should not cover up Airport,

- Communication, NAVAID or any other information that is necessary for navigating that leg of the route.
  - IFR Low Charts to cover everything east of the Mississippi River and South of the Mason-Dixon Line.
  - Approach plates to cover everything east of the Mississippi River and South of the Mason-Dixon Line.
  - Standard Terminal Arrival Procedures
  - TCN. Verify, correct and brief any changes directly affecting our route or stopover airports.
2. Smart Pack - kneeboard sized and stapled. Make one per crewmember. Place all documents that are too big for the smart pack in a folder and bring it to the brief. Use JMPS to make the route cards and please don't waste your time making handwritten jetlogs because you won't use them. Smartpack order: page 1 cover page, leg 1 route card, leg 1 airport diagram, leg 2, 3, etc. route cards and airport diagrams in same order. The VNAV Comm Guide is the last page and should be attached upside down and backwards (the IP will explain why during the brief).
    - a. Cover page. Update the cover page for your mission/crew and any crews that are flying to the same destination as you. Some of the cells on the cover page have comments attached to provide amplifying instructions.
      - Title – self explanatory
      - SLAP Column - Fill in sunset, end of evening nautical twilight, moonrise, and percent illumination.
      - Weight and Balance – Penciled by individual pilots on morning of departure.
    - b. Timeline, mission fuel and crew positions – The timeline and crew positions are available on the CCX request submitted by your IP to Ops. Use JMPS to calculate mission fuels based on the “mission fuel” definition provided on page 1-28 of the Instrument FTL.
    - c. JMPS route cards for each leg.
    - d. Airport diagram for each airport
      - highlight FBO and place an “x” at the exact parking location on the diagram
      - annotate FBO frequency
      - annotate FBO name
      - annotate GPU availability
      - annotate loaner car availability
      - annotate contract fuel availability
      - annotate ramp fees
  3. Blank FAA Flight Plan minus military stopover page
  4. Flight Folder
    - ✓ NOTAMS and TFR map for route of flight pulled within 24 hours of departure time.
    - ✓ GPS NOTAMS (search for KGPS)
    - ✓ Print out of all military contract fuel locations for the states encompassing the route of flight. This needs to be easily readable because it will be our primary source of information in the event that we need to divert in flight

due to weather or fuel. Refer to <http://www.airseacard.com/cgi-bin/fbo locate>. Call FBOs to verify contract fuel availability even if the website says that it is available.

- ✓ **(Completed by IP)** DD-175-1 Weather Brief
- ✓ DD-175 for KNDZ departure
- ✓ **(Completed by IP)** You IP will discuss hotel and rental car plans if required during the brief.
- ✓ TDY Orders, POC Jerry in Admin.

### **Discuss Items**

Contact your IP for specific guidance on how to prioritize your discuss item study.

### **VNAV Navigation Tips (aka, techniques)**

1. The considerations for checkpoint selection are as follows: easily identifiable, minimize time of flight, refueling stops, airspace entry/exit/avoidance, obstacle avoidance. Consider that a checkpoint that is acceptable during the day may be unsafe or unusable during the night or SVFR.
2. To ease GPS flight plan creation, plan your route using airports and VFR GPS checkpoints when possible (try for at least one every 50 miles). If you have to choose between a good checkpoint and a GPS checkpoint then choose a good one.
3. The most important checkpoints are the first and the last. The first gets you started on the route and the last guides you into your destination.
4. Identify channeling, intermediate and limiting features during your planning that you can use to aid navigation during flight.
5. Identify which checkpoints will be primarily pilotage and which will be primarily dead reckoning.
6. Navigate from chart to ground, use the 100kt finger, and the 5-mile thumb.
  - chart to ground - Look at the chart for identifiable features and then identify them on the ground using all of the aircrew to help. This technique mitigates the confusion that comes from all of the terrain features that exist in the world but aren't on the chart.
  - 100kt finger - Move your finger along the chart at the same rate that we fly over the ground.
  - 5 mile thumb - Compare your gloved thumb width to the mileage scale on the VFR sectional for an expedient means of estimating distance while flying.
7. "Talkies" - With few exceptions, plan to navigate and manage NAVAIDs/radios while I talk on the radios and fly. Provide directions to me using verbiage that doesn't require me to look inside the cockpit. Example, "Come left/right, I'll call your rollout...rollout. See that plowed field...fly to it. Our next checkpoint is the intersection of I-65 and some railroad tracks. The backup heading is 090 and leg timing is 9:58. The next intermediate feature that we will encounter is a pond with a windmill to the north, please let me know when you see it."

## Useful Websites

[FAA Graphical TFRs](#)

[Airnav](#)

[DESC Contract Fuel Locator](#)

[Naval Observatory](#)

[Defense Internet NOTAM Service](#)

[Sky Vector](#)

[Fltplan](#)