Primary Navigation
Stan Notes

*** THESE STAN NOTES ARE MEANT TO SUPPLEMENT THE FTI. STUDENTS ARE STILL RESPONSIBLE FOR KNOWING FTI, NATOPS, AND OPNAV CONTENT ***

GENERAL NOTES

- Consider your IP as your “voice-activated autopilot.” We are training you to act as mission commanders, so direct your instructors as necessary to successfully execute your mission.
  - Remember to “scan” the cockpit instruments, do not fixate on one item. Keep yourself organized and moving by running through Aviate-Navigate-Communicate-Checklist-Brief.
- Think out loud to enhance CRM and keep your IP aware of what you are setting up.
- After IGS review your knowledge on survival gear, checklists, Pre-flights, Hollywood script, etc. You will be held responsible and IPs will UNSAT for safety of flight knowledge deficiencies. Know the differences for the rear cockpit.
- Have a plan to stow all of your required pubs. HIGHLY recommend a nav bag. Do not stuff them all over your g-suit, you will drop them!
- Know and fully understand your EPs. i.e. The step ‘intercept ELP’ is complex, what does it entail? (Provide heading, airspeed, altitude monitoring). Explain what “sufficient power” means. Continue the procedure to a conclusion or when secured by your IP.
- Use the Jet Log for FUEL ANALYSIS only. If you have a navigational mistake on your jet log, it WILL translate to a HUGE error. NAVIGATE OFF YOUR CHARTS, and fuel plan off your jet log.
- Be VERBAL. Tell your instructor what you are doing/thinking. Say your 6 T’s out loud. If you’re quiet, the IP won’t know what you are working on.
- For discuss items, study the SOURCE (OPNAV-now CNAF M-3710.7, FTI, NATOPS, SOP, FIH, etc) of the material thoroughly, not just notes/gouge.

THE PRIORITY GUIDE: Aviate, Navigate, Communicate

- AVIATE. KEEP THE PLANE FLYING (attitude, altitude, airspeed, AOA).
- NAVIGATE. Ensure the NAV/HSI setup reflects what we are cleared for. Keep CDI tracking on victor/jet ways or approaches, point to points, etc. (CRS and HDG knobs).
- COMMUNICATE. With ATC and ICS, strive for professionalism.
- CHECKLIST. Initiate as time and priority allows. Checklists can be paused to address a higher priority, but remember to return and complete.
- REPEAT. Constantly recycle back to Aviate and Navigate in between communication

MISSION PLANNING

- The flight schedule will normally be published with the following flight profiles:
  - NAV4101: NPA 601/603 backup
  - NAV4102: NPA 602/604 backup
  - NAV4103/4: NPA 612/612R, 613/613R backup
  - NAV4105/4290: DD-175

These are recommendations; text your IP once the schedule is published and recommend a plan for an airfield with approaches you need/want to shoot. Don’t wait all night for an IP to get back to you, sometimes they are busy flying late, so come up with a workable plan and a backup.
- ‘Round Robins’ on the flight schedule do not include drop in approaches. This can be problematic when we try to hit all the required approaches within those first 3 flights (first 2 if you plan on going CCX). If you know you need VOR holding, arcing, circling, and/or approach, then present a plan that includes those items, i.e. NPA 609 or 608, etc.
- Review MCG (green brook) to ensure you’re accomplishing the required types and number of approaches, etc., in the block.
- Study discuss items in advance as much as possible — it’ll save time for flight planning!

- NOTAMS. Include center and GPS NOTAMs in your mission planning. i.e. KZHU, KZJX, KZTL, KGPS. (Houston, Jax, Atlanta, GPS) Check off which ones are pertinent to your flight and brief PERTINENT NOTAMs (unlit towers are not-relevant when we’re flying mid-day). Cross-check NOTAMed navaids for your planned route, and if one is affected, have a plan.
- Bring a copy of the DD-175 and Jet Log for your IP, and give a copy of the DD-175 to the SDO.

*** Flight Planning Ready Room UNSAT Offenses: ***

- Violating crew rest or not informing IP of a potential conflict.
  - **Review the Crew Rest Policy section of the TW-6 SOP and ENSURE compliance.**
- Flying with expired publications or a RED Read and Initial card.
  - **Update your IFG (Blue Brains) with ALL canned route changes in the R&I binder in the duty office, and make sure you have current pubs and checklists before you brief!**

**ENROUTE**

- **TURNPOINT PROCEDURES**
  - 2 MINUTES PRIOR. If you are late, don’t call it a 2 minute prior, say 1 minute prior, 30 seconds prior, etc.
  - NEAREST DIVERT. Use the low chart to find the nearest divert. Check your altitude – could you make it there if the engine failed?

- **POINT TO POINTS**
  - Before setting up the CDI, give an initial heading. Think big picture - where are you on the chart and where do you need to go. That should give you a ballpark initial heading.
  - PTPs must be updated throughout to adjust for winds.
  - Turn after course intercept, NOT DME intercept.

**THE TERMINAL ENVIRONMENT**

- The Terminal phase starts after getting ATIS. The most important part is making sure the instruments are properly set up to fly the approach. Abbreviate turnpoint procedures as necessary to ensure proper navigation, and use the approach brief to ensure you’ve set the approach up correctly.

- **ATIS / ASOS / WX:** Getting weather early will help determine if it’s appropriate continuing to the destination and what to expect for approach selection. Remember, ATIS usually updates 55min past the hour. Between 100 to 50 NM from the field is ideal, and use squelch if the frequency is unreadable, but let your IP know you using it first.

- **REQUESTING APPROACHES:** Confirm with IP before making the request with ATC. Always use “Approach, (Callsign), Altitude, Information ____ , Request.”

- **SETUP FOR HOLDING**
• For entry, think big picture: where are you on the approach plate, what direction you’re heading to the fix, and what makes sense for the entry method.

• Twist in the holding course 2-4 miles ahead of the holding fix, then use the heading bug and bearing pointer to continue navigating to the fix. Doing this further out will cause homing. For GPS, ensure OBS is selected prior to reaching the fix and deselected prior to the fix when cleared for the approach.

• SETUP FOR THE APPROACH
  • Strive to get and stay ahead – ask yourself, “What’s next, are we set for it, what’s after that, and are we set for that?” Scan your EHSI, GPS, and RMU, and if there is any data (such as previous frequency in the VHF), replace it with the next needed frequency.
  • As soon you’re on vectors, you are clear to configure the navigation for the approach.
  • For RNAV approaches, think, “CLEARED the approach, CLICK off OBS.”
  • Backup approaches: As time allows, loading a “backup” approach such as an RNAV while shooting a PAR or ILS can enhance navigation, but don’t let it distract you from other critical duties.

• MISSED APPROACH / CLIMBOUT / WAVEOFF
  • You can say “missed approach” on ICS in the cockpit between crew members, but do not say “missed approach” on the radio to tower/ATC unless the weather actually caused you to not see the runway environment.
  • Remember to verbalize procedures to the IP. IPs ARE ACTING AS VOICE ACTIVATED AUTOPILOTS WAITING FOR YOUR COMMANDS. Simply stating “execute missed approach” isn’t good enough.
    ▪ “Execute missed approach, max power, climb to XXXX, 2 positive rates, gear up, 110 flaps up, fly heading XXX.”
    ▪ Then report to ATC, “Tower, KATT XX executing climbout.”
  • Executing a missed approach/climbout when actual weather prevents runway environment in sight: Same comms over ICS but report to tower “Tower, KATT 15, Runway environment not in sight, executing Missed Approach.”
Intermediate ANAV Stan Notes

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General items:
- All flights are only 1.5 hours instead of 2.0.
- 5 touch and go’s from the landing pattern required in block.
- Fly at 270 KTAS instead of 240 KTAS for enroute transit.
- SNFOs brief and debrief the entire flight. IPs will help fill in gaps if required.

Mission objectives:
- Plan, brief, and execute a single aircraft instrument flight at 270 KTAS mostly in the High Altitude structure.
  - Fewer turnpoint calls in the high altitude structure should allow student to get ahead of the aircraft despite the faster airspeed. Focus on details like: entering next frequency and NAVAID, anticipating the next radio call, have the next chart out and ready prior to needing it, studying the approach plate enroute vice in the brief, if necessary, etc.

Training Objectives:
- To familiarize the SNFO with the Enroute High Altitude structure.
  - Fly Enroute High Altitude Structure for at least one leg. Hi-Altitude Approaches are an option, and should be briefed thoroughly on deck. Many MIFs are higher now, so high performance is required to meet CTS to pass EOB.
- To familiarize the SNFO with GPS navigation and procedures.
  - Make one flight a GPS flight (only one). Students load the flight plan, navigate with it, load the approach, and check the RAIM (STA 5 page). IPs encouraged to take away students’ jet logs (must still be prepared, however!). Students should derive necessary information for the turnpoint calls from actual GS and FF. Ensure students are navigating from the chart. SNFOs should always back up their position with nearest NAVAID. Students can expect a “Failed” GPS on one leg forcing them to switch to the backup nav source while IP “troubleshoots.” Return the GPS once the objective is met.
- Re-gain SNFO proficiency in the landing pattern.
  - 5 x landing pattern. Knock off the rust on the first flight. Recommend reviewing it in the brief.
- Gain proficiency in professional briefing.
  - Student briefs entire flight. SNFO should have a working knowledge of emergencies by now. Focus on briefing the conduct of the flight exactly as you expect it to happen.
  - Use the briefing guides. Debrief should only focus on what did NOT go according to brief.