

NFOTS INTERMEDIATE (1542.163A) Section Event Profile Stan Notes

26 AUG 2016

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

General items common to all events:

- All events are only 1.5 hours in duration.
- Start using cold mic for ICS communication. Switch to cold mic when you bring the gear and flaps up. Switch back to hot mic after lowering the gear (in the terminal area), and anytime for SOF.
- 5 touch-and-goes from the landing pattern required for each block (except F4301 & F4590).
- Fly at 270 KTAS instead of 240 KTAS for enroute travel.
- SNFOs brief and debrief the entire flight. IPs fill in any gaps.
 - Utilize the TW-6 T-6A Briefing and Debriefing Guide found in the TW-6 In-Flight Guide when off-station on an out-and-in or cross country. When at KNPA as a section, use the briefing and debriefing guides found in the binders located in each form briefing space. Lead SNFO shall debrief the flight with assistance from the -2 SNFO. Bring up any items that were not executed correctly or according to the briefed game plan. Items that were executed as planned can be briefed as "standard" or "executed according to game plan." Instructors have the last word; however, should not have much to add if the Lead and -2 SNFOs effectively covered all learning points.
 - Note: ADMIN is all conduct that occurs from walk time to Fence-In and Fence-Out to engine shut-down. TAC ADMIN is any administrative items that occur from Fence-In to Fence-Out. Mission Conduct is the actual training items relevant to that mission (e.g. TAC FORM, VR/low level route, etc.)
- Lead Low Wing T&G: Wing does NOT make an airborne call at the completion of the touch and go maneuver. We are simulating that the wingman is NORDO. In a real world situation, the wingman would not be able to report that they are airborne in the event that they had to execute a go-around. It is the responsibility of the lead aircraft to monitor the wingman's status on the recovery.
- Section Missed Approach:
Replace Paragraph 604.5 of Chapter 6 - Section Recovery in the 2013 Formation FTI with the following:
During an approach, if either decision height or minimum descent altitude is reached and the field is not in sight, Lead should initiate a missed approach by smoothly increasing power to arrest the sink rate and gradually rotating the nose to commence a climb. It is not required for Lead to pass the parade signal to Wing. If the flight has to execute a missed approach, then the aircraft never broke out, and the wingman shouldn't be in any position other than parade. Once a rate of climb is established, the Lead SNFO will report "aircraft climbing, above 110 knots, Wingman in position" to the Lead pilot. The Lead pilot will then pass a head nod signaling both aircraft to simultaneously raise their gear and flaps. Wing will give Lead a thumbs up to signal that their gear and flaps are up and they are ready to proceed past 150 KIAS.

Section INAV (F4201-4)

Mission Objectives:

- Administratively move a section from departure point to destination using instrument navigation.

Training Objectives:

- **Gain proficiency with section Admin tasks.**
 - One SNFO should lead the entire flight. Lead changes only as necessary to accomplish training objectives.
- **Each SNFO needs 4 approaches as Lead and 4 as Wing. Average of 2 per flight.**
 - Each SNFO should see the Lead Low-Wing T&G, Section Missed Approach, and Section Drag from the Lead and Wing position.

Admin:

- **Flight Planning/DD-175**
 - **Correction to FTI:** Per the General Planning publication, the Aircraft Designation and TD Code box should list the following: # of aircraft/Aircraft Designation/Navigation Equipment. For example, a section of T-6As with GPS should be listed as **2/TEX2/G** instead of 2xTEX2/G.
- **Preflight**
 - Normal NATOPS preflight
 - Note position of other aircraft
- **Line/Taxi**
 - Normal per FTI
- **Takeoff**
 - Prior to making the takeoff call to tower the SNFO should recommend runway side for takeoff.
 - SNFO should also clear the groove crossing the hold short and confirm runway side for takeoff.
 - SNFO selects cold mic once aircraft clean.
- **Departure**
 - Wing will default to parade position for departure. Lead SNFO should direct cruise or ATC spread (co-altitude combat spread) position for Wing as appropriate. Consider departure procedures and weather.
- **Enroute Procedures**
 - Standard INAV procedures in each cockpit. Emphasize proper formation comm procedures. Wing SNFO should maintain high navigation SA.
 - Lead SNFO shall check Wing's fuel status at least every 20 minutes.
 - If traveling in ATC spread, remember that Wing is responsible for deconfliction. Tac Form geometry works, but you will only be 100' apart vertically, and not likely at a tactical airspeed. Also, using tac form maneuvering may not be as fuel efficient. Check turns IAW navigation do not need to be called. The Wing SNFO should direct his pilot to be sucked or acute prior to the check turn as necessary to maintain position.
 - Utilize GPS and VOR systems together to the max extent practical to make use of all available navigation tools, and to provide crosscheck verification.
- **Pre-Descent/Terminal Area**
 - Get ATIS early. As Lead, consider utilizing Wing to get ATIS. Develop recovery game plan and notify Wing as necessary.

- Individually: review field brief & approach brief (give new ones if necessary), and complete Descent Checklists.
- Lead/Wing SNFOs ensure Wing is positioned correctly for approach to the runway.
- Switch to hot mic when lowering the gear. Re-select cold mic once aircraft is clean.
- Section break is not a required item, but an option if training objectives have been met. The request to ATC for a "depart and re-enter" or "vectors to the initial" should accomplish this.
- Lead SNFO should inform ATC that you want to go to "the Tower pattern" if there intending to bounce after approaches. In the landing pattern, aircraft take individual KATT callsigns per the flight schedule.
- Remember, in accordance with OPNAV 3710.7U, touch-and-goes may not be performed in section. This means the aircraft will have to split up (and take individual callsigns), which is coordinated by Lead with tower.
- **Landing**
 - If landing in formation, Lead should take downwind side. SNFOs should recommend landing side. Lead SNFO will get landing clearance for the section. After Lead has BOTH received landing clearance AND reported his/her gear status, Wing SNFO matches format of Lead's gear status call when reporting to Tower (e.g. "dash-2 three down and locked", or "dash-2, gear")Wing IP makes "slow" call if Lead needs to cross Wing's side of the runway to exit the runway.
- **Post Landing**
 - Lead clears the runway and switches to Ground to call for taxi clearance. Wing auto switches to ground when clear of the runway.
 - SNFOs recommend taxi side to IP. Conduct individual checklists.
 - Wing SNFO reports aircraft status to Lead. Lead SNFO calls Base with "in and up/down" status for flight.

Tac Admin: N/A

Mission Conduct:

- **Route of flight**
- **Instrument Approaches**
- **Airfield Study**

Tac Form (F4301)

Mission Objectives:

- To refresh SNFO with tactical positioning and basic tactical formation maneuvers.

Training Objectives:

- Individual take-offs and join-up via a safe and expeditious Geo Ref / Nav rendezvous.
- Accurate and timely direction/acknowledgement of called and uncalled maneuvers.

Admin:

- **Mission Planning**
 - Both aircraft file identical individual flight plans. Plan for a working area clear of clouds.

- **Preflight**
 - Normal per FTI.
- **Line/Taxi**
 - SNFOs get individual ATIS and clearance.
 - Lead initiates comm check and Nav check. Then says, *"With no questions, cleared outbound as singles."*
 - Each SNFO calls Base and Ground for individual taxi.
- **Takeoff**
 - Lead should takeoff first, if able.
 - SNFO selects cold mic once aircraft clean.
- **Departure**
 - Lead executes IFR/VFR game plan to proceed to working area/rendezvous point.
- **Area Entry**
 - Lead establishes working area for the flight. Inform Wing of deviations from the briefed plan.
 - Request two adjacent low blocks when working in the MOA.
 - If using Area 1, claim two adjacent section lines and deconflict using BTN 15.
 - Wing navigates to Lead's working area. If ATC clearance into working area is required (e.g. MOA), request to *"follow my playmate, KATT 6XX, MARSA."* ATC will ask if you accept MARSA (Military Assumes Responsibility for Separation of Aircraft) if you do not preemptively offer it.
- **Area Exit**
 - Lead SNFO directs switch to ATC frequency and directs Fence Out.
 - Lead SNFO check out of the area as a section. Either announce your intentions on area common, *"KATT 6XX, flight of two, departing North and South Pt. Clear,"* or exit the MOA per normal Contact procedures on BTN 5 VHF.
- **RTB**
 - Nav plan for RTB
 - ATIS plan
 - Recovery plan
 - Switch to hot mic when lowering the gear. Re-select cold mic once aircraft clean.
- **Landing / Post Landing**
 - Same as Section INAV

Tactical Admin:

- **Fence Checks**
 - Lead SNFO initiates Fence In and G-Warm once initial rendezvous is complete and feet wet (if possible).
 - If in Area 1, set squawk to 4700 on fence-in, and reset squawk to 1200 on fence-out.
- **G-Warm**
 - Combat spread, ≥ 220 KIAS.
- **Tac Form Set-up**
 - Tac Form turns performed at 200 KIAS.
 - Lead SNFO holds call for next turn until Wing within $\pm 10^\circ$ of abeam.
- **KIO/Terminate**

- Lead SNFO announces intentions for called or uncalled turns. Terminate at end of each set.

Mission Conduct:

• **Geo Ref/Nav Rendezvous**

- Concept: The purpose of this maneuver is to join two aircraft that are currently separated. Choosing your rendezvous point and inbound course at Point 1 (tangential line) will determine the location of the circle. Realize that this is really a procedure utilized at the carrier during operations at sea. Aircraft (like FA-18s configured as tankers) will hold in a left orbit overhead the ship (where the ship's tacan is Point 1 and the ship's heading is the inbound course). Aircraft needing fuel will contact the tanker and use the circle as well as Points 1-4 to visually acquire the tanker and rendezvous on it. Therefore, it is carrier operations that drive the procedures for this maneuver.
- Brief the planned rendezvous point, altitude, inbound course, turn direction, and airspeed. Inform Wing of any airborne changes to the brief (which could be due to flexing to a different working area).
- Execution: As the Lead setting the circle, you want to make sure that you are compensating for winds aloft in order to preserve that circular track over the ground. (Realize that at sea when holding over the ship, the ship is constantly moving, and therefore you will have to adjust your holding profile to always keep the ship's tacan at Point 1 on the circle.) Adjust angle of bank as required to hit Points 1-4. That will enable Wing to quickly acquire the Lead aircraft visually. As the Lead SNFO, monitor the circle geometry and make the required radio calls on Tac (i.e. "point one"). Once the Wing SNFO has visually acquired Lead, report "(Callsign) visual" on Tac. Once Wing calls "visual", the Lead SNFO no longer needs to report Points 1-4. Additionally, now it is Lead's job to be a steady rendezvous platform for Wing. Maintain a constant altitude, angle of bank, and airspeed. It is no longer important to preserve that circular track over the ground.
 - Once Wing calls visual:
 - Lead SNFO should primarily be scanning outside to monitor Wing's join (safety of flight concerns), but also scanning inside to verify that the Lead IP is maintaining proper altitude, airspeed, and angle of bank.
 - Wing SNFO should be dividing their scan between inside and outside (altitude and bearing with the outside scan, and closure with the inside scan of the airspeed until visual closure rate can be ascertained).
- Wing should maintain at least 500' of stepdown until on bearing line with closure under control. Once bearing line and closure rate have been solved, Wing may then step up for a normal co-altitude rendezvous.

• **Tac Form**

- Lead SNFO calls the turns. Wing IP responds.
- Perform one of each turn type - first called, then uncalled. Turns may be executed in any order, as well as extra turns as necessary for area management.
 - Tac turn into & away
 - 45 turn into & away
 - In-place turn into & away
 - Cross Turn
 - Shackle
- SNFOs direct turns and roll outs to make turn geometries work.

- **Tail Chase Exercise**
 - Since the formation is already in combat spread, Lead IP will direct "90 left (or right) for tail chase, go" to place Wing in trail.
 - Wing IP calls "clear to maneuver." Both aircraft set max power.
 - Lead IP maneuvers while Wing IP maneuvers to stay ~1000' in trail at 5-7 o'clock. SNFOs must call Wingman position to IP and monitor pilot airwork / airspace boundaries (laterally and vertically).
 - SNFOs should move their body around in the cockpit so that they can always maintain sight of the other aircraft. At the same time, SNFOs must scan the instrument panel to monitor the aircraft's energy status (airspeed/AOA), and call out altitudes approaching a vertical boundary.
 - Ends with Terminate call (or KIO if appropriate)
- **Lead change**
 - Rejoin to parade and signal Lead change via hand signals.
- **Lost Sight Exercise**
 - This exercise is designed to simulate a flight in VMC entering inadvertent IMC. Initiated from the parade position with Lead in a turn AND a climb/descent. Lead will continue the climb/descent for at least 500' of separation from Wing.
 - SNFOs make all required radio calls for the exercise. Execute the full 30 seconds of separation. (In an actual lost sight scenario, IPs will make the radio calls. SNFOs will back up their execution and airwork.)
 - At the end, Lead SNFO will direct a new rendezvous point with altitude, and clear Wing to rejoin.
- **Repeat Sequence (Geo Ref/Nav Rendezvous, Tac Form, Tailchase, Lead change)**

Section VNAV (F4401-3, F4590)

Mission Objectives:

- To execute a section low-level ingress and target attack on a simulated target.

Training Objectives:

- Expeditious and accurate tac admin execution and wingman consideration
- Effective section formation management on the route and target attack mechanics (Prioritize, Aviate, Navigate, Communicate).
- TOT +/- 1 minute

Admin:

- **Mission Planning**

- Route entry times drive takeoff time. This means you should not plan to take off 30 minutes before your route entry if it will only take you 15 minutes to get to point A (no matter what the schedule says)!

- **Preflight/Line/Taxi**

- Normal per FTI

- **Takeoff**

- Section or Interval
 - Prior to making the takeoff call to tower the SNFO should recommend runway side for takeoff.
 - SNFO should also clear the groove crossing the hold short and confirm runway side for takeoff.

- **Departure**

- Wing will default to parade position for departure. Lead SNFO should direct cruise or ATC spread (co-altitude combat spread) position for Wingman as appropriate. Consider departure procedures and weather.
- **Enroute Procedures**
 - Standard INAV procedures in each cockpit (if IFR clearance hasn't been canceled).
 - Cancel IFR once sure of VFR navigation to route entry point and with SA to any traffic in between.
 - Direct Wing to contact FSS for weather, winds, and altimeter. Lead may also brief Wing to get ATIS/AWOS/ASOS for an airfield near the route entry point.
- **RTB**
 - Lead SNFO executes IFR/VFR navigation game plan.
 - ATIS plan
 - Section Recovery plan (e.g. approaches, break, touch & goes)
 - Descent Checklist, review Field Brief and Approach Brief
 - Switch to hot mic when lowering the gear. Re-select cold mic once aircraft clean.
- **Landing / Post Landing**
 - Same as Section INAV

Tactical Admin:

- **Fence Checks**
 - Lead directs Fence in/out when feet wet (if able)
 - Report in/out with fuel state and G (as applicable)
- **G-Warm**
 - Combat Spread, ≥ 220 knots.
- **Route Entry**
 - Lead makes the FSS call within 5 mins of entering the route. Lead and Wing set squawk to 4000.
- **Time Hack**
 - Lead calls over tactical frequency: *"Standby for time Hack."* *"Time hack in three, two, one, hack. One, two, three."* Wing responds: *"Good hack."*
- **Tac Form Turns**
 - All turns are called.
 - Turn to the leg heading.
- **Off Target Rendezvous**
 - Brief plan to get from combat spread at route altitude to cruise position for IFR/VFR navigation to RTB.
 - Accomplish fence-out, resetting transponder to 1200, etc, prior to transitioning back to admin phase (getting weather, etc.).
 - Lead reports exiting the route on FSS frequency.

Mission Conduct:

- **Low Level Route Brief**
 - Brief the route in its entirety. On each leg identify:
 - Points to/from, heading, altitude, airspeed, MCF
 - Corridor width and any altitude restrictions
 - All hazards (including expected BASH condition)
 - Divert fields
 - Intermediate Checkpoint
 - Turnpoint Description

- **Low Level Procedures**
 - Include type of tac turn with 2 min prior call.
 - Mark on Top procedures
 - Overfly the turnpoints. Initiate call for turn 2-3 seconds prior to crossing the point.
 - Mark on Top as Lead SNFO calls for the turn. Clear the turn. Stay heads up during the turn.
 - Wings Level Calls
 - Course Corrections
 - 10° for 1 minute to correct for 0.5 NM off course
 - 20° for 1 minute to correct for 1.0 NM off course
 - No BDHI
 - If Lead has turnpoint in sight they may turn formation to overfly the point
 - Speed Corrections
 - 20 knot increments (10%), no slower than 180 KIAS
 - Fuel Management
 - Lead shall initiate a fuel check at least every 20 minutes. If either aircraft is close to MCF, consideration should be given to doing more frequent fuel checks (after every turnpoint, for instance).
- **Target Attack Brief**
- **Section Target Attack**
 - For all section target attacks, wing will descend to co-altitude combat spread prior to initiating pop (typically done at the "attack" call).
 - **PUP** (Pop-up Point): The point at which the pilot begins executing the pop-attack. For our Z-diagrams, the PUP will always be at 2 nm.
 - **Shift Attack**
 - **Crossing Attack**
 - **Off/safe.** Students must accomplish the "place-holder" of switching NAV mode to VOR to simulate physically placing weapons to SAFE mode before calling "off/safe."