

FORMATION IUT

27 Apr 2018

NOTE:

This document is intended to be a supplement to the MCG and a guide to how the IUT syllabus should flow.

GOAL

IP'S completing the Formation IUT syllabus shall:

- Have mastery of all formation maneuvers.
- Have complete comfort leading a formation flight within the Eastern formation area.
- Have a grasp of historical SNA techniques and tendencies.

SYLLABUS

Notes:

- IUT should see section pattern work at both Harold and Santa Rosa to gain familiarity.
- IUT should have RWOP familiarity with formation operations within the Western Operating Area.

F4001: While most IP's wishing to enter the Formation syllabus have vast amounts of formation flying experience, they do not have experience flying formation in the TH-57. The focus of this flight should be on the following:

- Complete understanding of how a SNA F4001 brief would be conducted and what the expectations are for a SNA F4001 brief.
- Introduction, practice, and potential mastery of the cross-over, cruise turn, climbs and descent, break-up and rendezvous, overrun, lead change, section take-off and landing.
- Familiarity with the Eastern Formation area:
 - o Cockpit set up to ensure proper distance from KNDZ prior to any climbs.
 - o Understanding the western and southern boundaries as "hard" boundaries.
- Establishing the proper "abeam" points for when to enter both normal and high speed approaches for all courselines.
- Formation flight logistics at KNDZ to include how we schedule them, how to overcome mx issues, etc.

F4002: The focus of this flight should be the mastery of formation maneuvers in addition to the IUT being exposed to common student tendencies and errors. The focus of this flight should be on the following:

- Practice, and potential mastery of the cross-over, cruise turn, climbs and descent, break-up and rendezvous, overrun, lead change, section take-off and landing.

- Introduction and practice of IIMC procedures, Lost Comm procedures, and high-speed approaches.
- Formation Stan pilot conducting the flight should demo the following to IUT (but not limited to):
 - o Cross-over SNA tendencies/IP techniques:
 - Tendency to rush through each position rather than ensuring no closure rate with lead.
 - Increased altitude leading to increased lateral separation.
 - Crossing the tail, but not proceeding all the way to 30 degree bearing prior to descending.
 - Not having a clear distinction between the lateral movement across lead and the vertical aspect of the descent.
 - o Cruise Turn SNA tendencies/IP techniques:
 - Lack of step-up control leads to large airspeed deviations/porpoising.
 - Crossing the tail, but not proceeding all the way to 30 degree bearing prior to crossing back inside the turn.
 - Holding excessive AOB when moving to the inside leading to rapidly getting acute.
 - Simply crossing the tail back and forth.
 - When to apply collective corrections.
 - How long to spend on this maneuver.
 - o Climbs and Descents SNA tendencies/IP techniques:
 - Tendency to get acute on climbs and sucked on the descents.
 - Slow to change power or anticipate lead resulting in being low in climb and high in descent.
 - Lead rolls out on cardinal heading with space for B&R's even if they need to roll out prior/after reaching descent altitude.
 - IUT to understand that climb/descent shall be at least 500', but turn reversal should occur at least once in both climb and descent.
 - o Breakup and Rendezvous SNA tendencies/IP techniques:
 - SNA should incorporate a BI scan during the break-up as lead and wing, holding 30 AOB for 180 deg at 1000' and 80kts, then shift to picking up lead during the join-up.
 - SNA tendency to lose A/S scan, in addition to pulling power will cause unsafe closure.
 - SNA tendency to turn too far inside of lead and then leaving in an AOB, getting more acute.
 - IUT should understand the different airspeed advantage techniques (80-85 KIAS vs. 95-100 KIAS)
 - o Overrun SNA tendencies/IP techniques:
 - Formation STAN pilot to demo high closure rate and/or extreme acute bearing in order to put IUT in an overrun situation.
 - SNA tendency to maintain energy advantage after crossing lead's tail = far from position on outside.
 - Maneuver should be benign, SNA tendency to gain excessive step-up or using aft cyclic when performing an overrun.
 - o Lead Change SNA tendencies/IP techniques

- SNA tendency to incorrectly time verbals or stalling abeam Lead.
- o Section landing SNA tendencies/IP techniques
 - As lead being to aggressive with pattern work and not considering wing.
 - SNA tendency to cross the tail early resulting in being sucked on the outside of the turn or acute on the inside of the turn.
 - SNA tendency to pull too much power when sucked in a climbing left turn.
 - SNA tendency to maintain too much energy when rolling final resulting in need to bottom collective.
 - SNA tendency to fixate on lead rather than transitioning scan to ensure closure rate matches their own landing spot.
 - SNA tendency to box off approach or step down on glideslope as Lead.
 - Formation Stan IP should fly a profile that would require a wave-off (multiple scenarios preferred).
- o High speed approach SNA tendencies/IP techniques
 - SNA tendency to cross the tail early resulting in being sucked on the outside of the turn or acute on inside of the turn.
 - Lead fails to make appropriate traffic call (recommend once making turn at 200ft/60kts).
 - Lead/wing leveling off at 50ft with aft cyclic not pwr and slowing below 80kts.
 - Lead/wing failing to increase pwr to maintain 50ft during transition.

F4101: The focus of this flight should be on the following:

- Flying the purple route forward and reverse to include:
 - o Wing SNA's tendency to not help with navigation.
 - o Examples of "Magellan" radio calls.
 - o Lead change along the pipeline slash.
 - o Formation Stan IP to emphasize SNA's tendency to remain in a fixed position from lead.
- Practice and potential mastery of high speed approaches:
 - o Formation Stan IP to demo/discuss how wing must manage the bottom of the high-speed approach so as to maintain wing position.

F4290: The focus of this flight should be the demonstration of the mastery of formation maneuvers by the IUT.

- IUT will fly the formation maneuvers at altitude.
- IUT will do at least one iteration of a normal approach and high-speed approach on the controls.
- IUT should have the confidence and ability to demonstrate maneuvers in strict accordance with the FTI.
- Formation Stan IP shall fly at least one landing pattern iteration mimicking poor student tendencies.

STAN UPGRADE FLIGHT

HT FORM STAN UPGRADE: The focus of this flight should be the mastery of a Formation flight by the potential STAN IP.

- Discussion and flight will be focused on teaching IUTs.
- IUT will fly all formation maneuvers from the **right** seat.
- IUT should show mastery of handling a section in the Eastern Form Area and OLFs.
- Flight will consist of Formation maneuvers, section LLNAV, combat cruise, and landings.