Formation Flight Guidance
September 2019

The purpose of this document is to provide amplifying information on the conduct of formation flights. It is in no way a replacement for the FTI. Rather, it is meant to clarify conduct of flight procedures. If any questions exist, see the Form Stage Manager in the Stan Office.

General Guidance/Prep

a.   Prep Day: Ops will schedule you a prep day with a Form Zero. There you will sit down with a Form IP to answer any of your questions, speak to expectations of the brief and Smartpack, and practice a walkthrough. Recommend observing a Form brief, either on your prep day or any day prior. Find the section leader per the schedule and ask if it's okay to sit in on the brief. Reminder to observe crew day.

b.   Form Brief: Practice your own brief as a section, understanding that throughout the flights you will be expected to brief both portions of the brief on subsequent briefs. Critique each other's performance as this will make your brief better after each subsequent attempt. The Form Brief Video available on the University website will serve as a baseline example.

c.   Walkthrough: Following your Formation Brief on your F4001, a walkthrough will be conducted of the flight event. You will be expected to explain every maneuver, identify the checkpoints for each maneuver, simulate the comms from start to finish, and explain wing/lead responsibilities. Chairfly this walkthrough together before your F4001. The IPs understand that you have not seen these checkpoints in person and will show you them in the aircraft when they demonstrate each maneuver.

d.   Internal Callsigns: Section callsigns will be professional and in good taste. Callsigns may have humor, but simplicity, clarity, and professionalism is preferred. Callsigns with one to two syllables are recommended. The Section Leader reserves the right to revoke callsigns. Have a backup. Some examples: AZTEC, WILDCAT, CHARGER, WHIPLASH, etc.

Preflight / Turn-up / Taxi

a.   Preflight and turn-up will be done individually. It may be helpful to let the lineman know that you are part of a formation flight, whether you are leading out or wing aircraft, and where the other aircraft is parked. Lead will conduct the check-in when both aircraft are at flight idle. The IP may bring the twist grip full open and conduct take-off checks while the student copies ATIS.

b.   Lead aircraft will listen to ATIS from letter to letter (i.e. "Information Y" to "Information Y"). Wing will listen to ATIS from where they start back to where they started (i.e. – Winds to winds, R/W to R/W). This ensures wing does not miss Lead's taxi call to Ground.

c.   Lead will call for taxi, explicitly stating Section Leader's side number followed by wingman's side number, souls on board for both aircraft, and both aircraft spot numbers. This enables ground to file a single flight plan for the section with both aircraft on it. (i.e. – "South Ground, Eightball 072 and flight, wingman side number 088, taxi to the east, 2+30 enroute, 2 souls each aircraft, from B-4 and B-5 with information Charlie")

d.   Always check-in wing after a switch (positive or automatic) unless on Ground or Tower frequency. DO NOT CONDUCT CHECK-IN ON GROUND OR TOWER. You will automatically switch from Ground or Tower frequency. DO NOT POSITIVELY PUSH THE FLIGHT OFF GROUND OR TOWER.

Take-off / Operating Area / Maneuvers

a.   After take-off, proceed normal course rules to the Formation Area. At Point Fish, conduct an automatic switch to button 17, with a check-in.

b.   There is no additional requirement to check in to the operating area; the form check-in will suffice.

c.   While in the working area, Wing will initiate all maneuvers using brevity codes and the internal call-sign. Lead will roger the calls, again stating the internal call-sign and brevity code. (e.g. Wing calls "Shadow flight, Charlie Tango"; Lead responds "Roger Shadow flight, Charlie Tango")

d.   Lead is responsible for keeping the formation in the operating area and clear from all traffic and obstacles. Wing is responsible for not hitting lead while remaining in Cruise Form position.

Pattern Work

a.   After completing all the maneuvers, Wing will call for pattern work using the brevity code "TL".

b.   Lead will turn towards Point Racetrack and accelerate to 100 KIAS. Lead will not descend to 700' MSL until South or East of the Blackwater River and clear of the Orange Route.

c.   The Orange Route is directly below the form operating area and is flown at 500' AGL which equates to approximately 700' MSL.

d.   Prior to Point Racetrack, Lead will conduct a positive switch to button 12 (Harold), followed by a check-in.

e.   At Point Racetrack, Lead will call inbound using ONLY the external call-sign. When Lead makes the section's "splitting" call, Lead will explicitly state both Section Lead and Wing's individual side numbers.

f.   Wing will initiate High Speed Approaches using the brevity code "HS". Lead will make the appropriate call in the downwind.

g.   Landing Sequence for individual events (subject to IP discretion):
    i)   F4001: 3 x Normal Approach (IP/IP, IP/SMA, SMA/SMA)
    ii) F4002: 1 x Normal Approach, 3 x High Speed Approach (IP/IP, IP/SMA, SMA/SMA)
    iii) F4003: 1 x Normal Approach, 1 x High Speed Approach (SMA/SMA)
    iv) F4101 2 x High Speed Approach (SMA/SMA)

Return to Base / Landing

a.   Wing will initiate the return to base by using the brevity code "RTB". Lead will make the departing call followed by a positive switch to base, with a check-in.

b.   After calling inbound to base, Lead will conduct a positive switch to tower via ATIS. Do not check-in on tower.

c.   On F4001 and F4002, Lead will request the break when calling inbound at Point Juniper. This allows each student to see the break from Lead and Wing.

d.   SMAs may elect to conduct the break on F4003/F4101. If that is the case make sure you brief it during the formation brief. Note: When returning to South Whiting, sections must utilize a spot on the

active duty runway. For example: when landing RWY 32, the section may land at spot 4, but not spot 1.

e.   The section is considered dissolved when Ground states that the flight plan has been closed out. No explicit call is required.

F4101

a.   The purple route forward and reverse are conducted on the F4101.

b.   In the lead aircraft, the IP will be the PAC and the student will navigate. In the wing aircraft, the student will be the PAC and the IP will conduct the duties of a good copilot.

c.   Brief the route all the way to and from the purple route:

i)   At Point Fish, conduct a positive switch to button 15 (Orange Route) with a check-in.
ii)   At Deaton Bridge, descend to 500' AGL, proceed along south side of the Blackwater River and make a traffic call on button 15.
iii) When clear of the Orange Route, make a traffic call and conduct a positive switch to button 16 (Purple Route) with a check-in.
iv)   Approaching CP 1 of the purple route, descend to 200' AGL and transition to Combat Cruise as briefed in the flight brief. This can be at any point determined by the SMA, recommend using a good landmark (i.e. the power lines crossing the river) as a trigger point to get into proper position. Lead will make the appropriate traffic call starting the route.
v)   At the completion of the Purple Route forward, the section will conduct a lead change at 500'AGL while following the pipe line slash just South of CP 10.
vi)   Wing will return to Cruise Formation and then call for the Lead Change.
vii) After the lead change, Wing will move back to Combat Cruise and Lead will turn back to CP 10 of the Purple Route making the appropriate traffic call.
viii) Upon completion of the Purple Reverse, the flight will either climb to 900' MSL and transit directly to Point Racetrack or proceed back along the river then break off for Point Racetrack. Again, this is at the discretion of the SMA, come up with a good plan and good safety controls and brief it. If the IPs want to do something else they will interject after the brief with the new plan.
ix)   Approaching Point Racetrack, Lead will conduct a positive switch to button 12, with a check- in. The remainder of the flight will be conducted in the same manner as F4001-4003.

F4003 / F4101 Out and In

a.   F4003 and F4101 may be scheduled and flown in the same day. SMAs should call their section lead on the schedule to give them their proposed plan the day prior.

b.   The section will depart South Whiting and conduct maneuvers in the Formation Area as per a normal F4003.

c.   After the normal maneuvers it is up to the SMAs to come up with a brief a plan to execute the purple route forward and reverse and to execute landings at Florala. The section will be getting hot fuel at Florala after executing pattern work. Whether you plan to complete the formation area maneuvers then proceed to the purple route and fly it forward then proceed to Florala or just proceed to Florala, DO NOT EXPECT TO USE THE GPS TO GO DIRECT.

d.   Come up with good checkpoints to get to the Purple route CP1, to get from CP10 to Florala, from Florala back to CP10. Another thing to think about is what will your comm plan be as now you have a CTAF frequency to get to and what uniform frequency will the section use to not clobber CH16 of the purple route.

e.   After refueling, the section will depart Florala for the Purple Route. Upon completion of the Purple Route Reverse, the section may proceed to Harold for pattern work or directly to Point Juniper for South Whiting course rules depending on pattern work being executed at either Florala or Harold.

f.   SNA's shall be detailed in briefing the changes to FALCON that occur when transiting to/from Florala. The expectation is that you have specific ground checkpoints or triggers chosen driving these changes.

Smart Pack Guidance

a.   Highlight the name of the person to whom the smart pack belongs.

b.   Ensure all pages are the same size and the edges are aligned (LZ Diagram may be a full page folded / the corner cut if desired). Use one staple in the upper left-hand corner.

c.   Include the appropriate landing sequence for the flight on the cover page.

d.   Remove all frequencies from the cover page that do not apply to the flight. For example: do not leave Purple Route Common on the F4001.

e.   Brief all pen and ink changes per page as you do the inventory so people only have to flip through the smart pack once.