BY ORDER OF THE COMMANDER
14th OPERATIONS GROUP

BLAZE STANDARDS
7 March 2019

T-6 FLYING STANDARDS

OPR: 14 OG/OGV (Maj Martin) Certified by 14 OG/CC (Col Stuart)
Supersedes: T-6 Flying Standards Feb 17 Pages: 58

Pilots should adhere to the BLAZE standards when planning, briefing and executing T-6 missions to the maximum extent practical. Exceptions may be briefed and executed when necessary for extenuating mission requirements. Requests for changes or revisions should be submitted to SQ/DOV for consideration in the next update. The BLAZE Standards are not optimized for a single MDS. The intent of the Blaze Standards is to optimize student training continuity, standardize training procedures while allowing flexibility and to provide the best foundation for successful follow-on training of future combat military aviators.

BLAZE Standards will:

- Decrease briefing time for administrative tasks and normal events in a standard profile
- Increase time available for instruction
- Minimize conflicts in technique and promote training continuity for students
- Maximize the standardization of T-6 operations

Standards complement or restate, but do not replace procedures outlined in other governing publications. Topics not addressed by these standards must be understood, briefed and executed IAW applicable governing publications. Standards do not replace good judgment or adherence to applicable directives.

Change Process: To ensure a continuum of training and compliance with regulations, squadrons will submit changes to the standards to 14 OG/OGV. Final approval authority is the Operations Group Commander.

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CHAPTER 1

MISSION PREPARATION

1.1 Aircraft Commander (AC). The Aircraft Commander is ultimately responsible for the safe and effective conduct of the flight. This responsibility encompasses all aspects of the sortie, including mission planning, brief, execution, and debrief.

1.2 Pre-Flight Preparation

1.2.1 **Pre-Mission Coordination.** Students will coordinate with their next IP as early as possible. Ideally, this coordination will be accomplished the day prior to the scheduled sortie. If circumstances prevent a student from coordinating with his or her scheduled IP the day prior, he or she should coordinate with their assigned IP. Pre-mission coordination will include the type of sortie, proposed mission profile, and assignments of additional study material prior to the sortie.

1.2.2 **Pre-Mission Information.** All pilots will ensure that they comply with the pre-mission requirements outlined in the Pre-Mission Guide in the 14th FTW T-6 Inflight Guide. All pilots will confirm their Go/No-Go status in TIMS status prior to brief time, and will clear any No-Go items prior to the brief. All pilots will thoroughly mission plan for every sortie, and the AC will ensure the thoroughness of the plan. As a minimum, pilots should review NOTAMS, weather, airfield status, Ops Notes (SPINS), AHAS, RAIM status, TOLD, and obtain a time hack prior to brief time.

1.2.3 **Briefing Products.** All students will be prepared to brief the items in paragraph 1.2.2. Additionally, students will prepare and brief the following products:

1.2.3.1 Mission & Training Objectives

1.2.3.2 Lineup card

1.2.3.3 Flight plan (when not filing a stereo/canned flight plan)

1.2.3.4 ORM card (note: ACs should coordinate for approval of ORM scores requiring SQ/CC or higher approval authority prior to briefing the sortie)

1.2.3.5 CRM, EP & GK Topics of the Day

1.2.3.6 Category grade summary and solo chit (student solos only)

1.2.4 **Category-Specific Items.** For transition and navigation sorties, students are responsible for signing out and de-conflicting an out base at the ops desk prior to the brief. Prior to briefing low level sorties, students (ACs when flying CT) will sign out a low level entry time and ensure the route is de-conflicted prior to the brief. For formation sorties, see Chapter 8. Students will be prepared for any sortie for which they are opted and will have data cards available for alternate missions.

1.2.5 Report Time. All sortie participants will be ready to brief at scheduled brief time. Flights will plan to finish the formal mass brief at least 15 minutes prior to the first scheduled flying brief time. Students will be ready to brief 10 minutes prior to scheduled brief time.

1.3 Flight Briefings

1.3.1 Briefing times shall be no later than the times found in Table 1.1. Instructors are encouraged to set earlier brief times to allow increased time for instruction when necessary (e.g. T4001, C400X, F400X).

Table 1.1 Mission Briefing Times

MISSION EVENT	H+MM Prior to Takeoff
Local Student and CT Sorties	**1+10**
Cross-Country/Out and Back Sorties (1st flight)	**1+45**
Three- and Four-Ship Formation	**1+30**
Form 8 Evaluations	**Coordinate the day before with FE**
Simulators with CSI support	**1+00**
Simulators without CSI support	**0+15** (prior to Start time)

1.3.2 All pilots will hold questions or comments until the end of the briefing unless specifically addressed by the IP/FL. The sterile briefing concept also applies to debrief. Flight members will not eat during the brief/debrief without permission from their IP/FL. Drinks are acceptable.

1.3.3 Instructors should brief the sorties found in Table 1.2. IPs may elect to brief any sortie they deem necessary for training (re-demo) or time constraints.

Table 1.2 IP Sortie Briefings

MISSION TYPE	SORTIES
Transition	T40XX Block
Navigation	N4001-N4002, L4001
Formation	F4001-F4004, F4101, F4401

1.3.4 Pre-Flight Timeline

1.3.4.1 Step time is defined as the time the aircraft commander briefs the Ops Sup on the planned mission profile. All crew members, including students, will step to the Ops desk to receive the Ops Sup brief and verify their crew's Go/No-Go Status and the accuracy of information loaded into the TIMS Schedule Executor.

1.3.4.2 Step times assume daytime post-solo or better ground ops proficiency. Crew will adjust their step/start/taxi times as required to meet their scheduled takeoff time.

1.3.4.3 Step/Start/Taxi Times:

Runway 31: takeoff time -30 min / -15 min / -5 min

Runway 13: takeoff time -35 min / -20 min / -10 min

1.4 Tabletop Emergency Procedure of the Day

1.4.1 IPs will check the TIMS Emergency Procedures tab before administering table-top EPs to ensure that students are exposed to EPs IAW syllabus requirements and respective Squadron Gradebook instructions.

CHAPTER 2

CREW COORDINATION

2.1 Pilot Flying (PF)/Pilot Not Flying (PNF). The PF is responsible for initiating checklist procedures and ensuring challenge and response items are confirmed by the PNF. The "Verbal Responses" in Attachment 1 will be used to the max extent possible. For Advanced Navigation sorties, see Attachment 6 for expanded crew coordination tasks/standards.

2.2 Cockpit Tasks. The PF will normally accomplish all cockpit tasks (RMU, EFIS, GPS, etc.).

2.3 Transfer of Aircraft Control (With and Without Intercom). Transfer aircraft control IAW AETCMAN 11-248. The AC will ensure positive aircraft control is maintained at all times; however, the extent to which PNF assuming control noticeably shakes the stick may vary depending on phase of flight (e.g. formation wing work). Aircraft control does not need to be transferred for the brake check during the Taxi Checklist or to check flight controls during the Cockpit (All Flights) Checklist.

2.4 Clearing. Clearing is the responsibility of both pilots. Any traffic that may pose a conflict will be verbalized to the other pilot.

2.5 Inflight Checks. The PF will initiate all checklists and ensure completion of those checks should a transfer of aircraft control take place.

2.6 Radio Procedures. The PF is responsible for using radio communication. IPs may assume control of the radios without taking control of the aircraft and will verbalize to the student that they have the radio.

2.7 Avionics Procedures. IAW UPT syllabi, a single-seat mentality applies to T-6 training. This means the PF has control of the aircraft and all of its systems, including the GPS/RMU/TAS/EFIS. In circumstances when the PNF (instructor) needs to make changes to frequencies/navigation setup/displays, the PNF will take control of the specific item by stating, "I have the (VHF/UHF/GPS/HSI/NAVAIDS)." After completing the desired action, the PNF will return control of the item back to the PF by reversing the procedure.

2.8 PCL movement/Hand position. To prevent inadvertent engine shutdown, pilots will:

2.8.1 Use caution not to drape their hands or wrists over the PCL.

2.8.2 Ensure flight suit sleeves are tightly fastened in order to prevent them from inadvertently catching on the PCL.

2.8.3 Exercise caution when bringing the PCL to the idle position and avoid excessive force against the idle stop.

CHAPTER 3

GROUND OPERATIONS

3.1 AFTO Form 781 (Review/Storage)

3.1.1 The AC is responsible for ensuring proper pre-flight and acceptance of the aircraft. Students will plan to review and stow the aircraft forms and perform the exterior inspection under the supervision of the IP.

3.1.2 For ID sorties, both pilots will review the forms.

3.2 Gear Pin/Personal Equipment Stowage

3.2.1 The pilot conducting the Exterior Inspection will ensure the gear pins are stowed in the pouch in the baggage compartment and the fuel card is present.

3.2.2 Neither pilot will stow items under the ejection seat or on any circuit breaker panel. The FCP pilot will not stow any items on the left side and will ensure the Firewall Shutoff Handle and all controls are clear.

3.3 Exterior Inspection

3.3.1 Prior to initiating the Before Exterior Inspection, the first pilot on the wing will ensure that both cockpits have both the Ejection Seat Safety Pin and CFS Pin installed and that the ISS Mode Selector Switch is in SOLO.

3.3.2 Before applying power to the aircraft during the Before Exterior Inspection and the Interior Inspection, pilots will visually ensure the prop area is clear and announce "prop clear" to any personnel in the vicinity.

3.3.3 For student performed exterior inspections, any discrepancies will be briefed to the IP before getting back on the wing.

3.3.4 Students that are not scheduled for another event after/prior to their sortie will step with a crew and perform the walk around with the IP. This will continue through the T42XX block of training.

3.3.5 In addition to the T.O. 1T-6A-1 checklist items, the person performing the walk around should take a last "big picture" look at the aircraft and its surroundings for nearby obstacles, unlatched doors, streamers, obstructions along the route of taxi, etc.

3.4 Instrument Cockpit Check

3.4.1 IPs retain responsibility to ensure that students are properly strapped in until they demonstrate proficiency.

3.4.2 Both crewmembers must ensure that ejection seats are clear of obstructions (i.e. oxygen hoses, comm. cords, lap belts and leg straps) prior to adjusting the seat height.

3.4.3 The FCP pilot is responsible for the Interior Inspection.

3.4.4 Exercise caution when actuating switches and moving flight controls—especially while personnel are moving around the aircraft. During the AOA system test, hold the control stick off the front stop to avoid damage to the flight controls.

3.4.5 To prevent damage to the flight controls, ensure the controls do not firmly impact the stops during the flight control check. Aircraft control does not need to be transferred for this check.

3.4.6 On ID, AHC, and FCF sorties, the FCP pilot may monitor ATIS and obtain clearance while the RCP pilot completes the exterior inspection. When the instrument cockpit check is complete, the crew will close the canopy and start the engine (close and crank). After engine start the crew will obtain ATIS and clearance unless already accomplished. If clearance is not available prior to taxi, coordinate with ground to obtain clearance during taxi.

3.4.7 Ensure the backup UHF radio is tuned to the ground control frequency and turned off prior to engine start.

3.5 Engine Start

3.5.1 The standard for T-6s regardless of ITS/Wind Chill condition is to close the canopy and start the engine (i.e. “close and crank”).

3.5.2 Crews will be familiar with AFI 11-218. When not at Columbus AFB crews are required to follow the local procedures of where they are located. Crews may be required to request engine start.

3.5.3 Unless circumstances dictate otherwise, the pilot occupying the FCP will start the engine. Both pilots are responsible for monitoring the engine start.

3.5.4 The AC will determine if external power is required for engine start. After a start using external power, the pilot accomplishing the checklist will state “hands clear” IAW Attachment 2, and both pilots will raise their hands until receiving a thumb up signal from the crew chief. Pilots will avoid contact with any flight controls (primary or secondary) and will not accomplish any checklist items until the crew chief is clear.

3.6 Instrument Cockpit/Avionics Setup.

3.6.1 Use the Instrument Cockpit/Avionics Setup found in Attachment 1 for local missions to the maximum extent practical.

3.6.2 Single ship aircraft should monitor SOF to the maximum extent practical.

3.6.3 TAS should be selected to “ABV” while climbing enroute and “BEL” when recovery is initiated. In the area and traffic/radar pattern, “NORM” should be selected in order to minimize TAS clutter. Both aircraft will set TAS to “ABV” or “NORM” during low-level missions.

3.7 Clearance and Taxi Procedures

3.7.1 Aircraft will obtain clearance IAW paragraph 3.4.6.

3.7.2 Use the AFPAM 11-205 “run up” signal or flash the landing/taxi lights after obtaining clearance to taxi to alert the crew chief when ready to taxi. Unless required for limited visibility, landing/taxi lights will remain off until performing the Lineup Checklist and turned off after completion of the After Landing Checklist during the hours from official sunrise to official sunset.

3.7.3 The FCP will not perform the brake check until the wings are clear of the sun shelters. The RCP can check theirs when time and conditions permit.

3.7.4 Accomplish the RNEWS check outside of the T-6 parking ramp and prior to takeoff. As part of the “Emergency” portion of the “RNEWS” check, ensure TOLD is reviewed and update as required.

3.7.5 Taxi at speeds IAW AFTO 1T-6A-1. While operating in the congested area of the T-6 parking area, pilots should not taxi faster than a brisk walk.

3.8 End of Runway Procedures

3.8.1 Entering the EOR, change to the appropriate frequency for takeoff (RSU or Tower).

3.8.2 Normally, pilots will take the EOR space closest to the runway. Do not taxi behind an aircraft already established in an EOR run-up spot.

3.8.3 Set the parking brake, clear around the aircraft and verbally ensure both crewmembers are guarding the brakes before accomplishing the Overspeed Governor Check. Do not perform the check if an aircraft is directly in front of or behind yours. The pilot performing the Overspeed Governor Check should ensure that the stick is in at least the neutral position while performing the check.

3.8.4 The PF will verbalize the calculated minimum torque expected at 60 knots and receive acknowledgement from the PNF on all dual sorties.

3.8.5 When taxiing to the hold short line, stagger to provide room for other aircraft and ensure adequate separation from a preceding aircraft (no closer than 1/2 ship length). Aircraft should transition from the run-up spots to the hold short line starting with the aircraft closest to the runway and working outward. **Circumstances permitting**, aircraft will hold short of aircraft that subsequently move into the #1 and #2 run-up spots to allow them to perform the Overspeed Governor Check and facilitate quicker flow of traffic.

3.9 Spare Aircraft Procedures

3.9.1 When stepping to a spare, the IP (or AC for CT crews) will check the AFTO Forms 781 and accomplish the exterior inspection.

3.9.2 Aircrew will call their new tail number into Texan Ops. The SUP will inform the aircrew of any dual/solo-only restrictions associated with the new tail number.

3.10 Chock Extension Procedures. IPs will coordinate with Texan Ops for chock extensions and provide a justification. Chock extension times are references from a 1+45 chock time.

CHAPTER 4

TAKEOFF, DEPARTURE, AND ENROUTE

4.1 Lineup. Aircrew will normally line up on the hot side of the runway, close to the centerline (main gear to wingtip over the runway centerline).

4.2 Engine Run Up. Pilots will not run the engine up until cleared for takeoff. The control stick should be in the neutral/aft of neutral position during the engine run up and throughout the takeoff roll.

4.3 Rolling Takeoffs. Pilots should perform rolling takeoffs to the max extent practical.

4.4 Climb. During VFR pattern operations, aircrews should not switch to departure frequency until passing pattern altitude on climb out. Climb out at 180 KIAS to aid in clearing.

4.5 Cruise and Descent. T-6s will cruise and descend at 230 KIAS during local missions unless flying in a four-ship formation. Four-ship formations will cruise and descend at 200 KIAS. T-6 crews will adhere to COLUMBUSAFBI 13-1 for all other speeds (i.e. T-6 pattern, local approaches).

CHAPTER 5

AREA, RECOVERY, AND LANDING

5.1 FENCE-In. When established in the MOA, accomplish a FENCE check. Verbalize emergency airfield options as part of the FENCE check.

5.2 G-Awareness Exercise. The G-Ex will be flown IAW AETCMAN 11-248. Both pilots will verbalize G's and physical condition after the maneuver.

5.3 Specific Area Work and Parameters. Brief all planned maneuvers required to complete mission and training objectives.

5.4 Engine and G Envelope. Identify any maneuvers or portion of the flight with potential for exceeding limits and discuss mitigation techniques.

5.5 Area Orientation. CBM T-6 MOA airspace is primarily defined by the GPS database. However, in accordance with the syllabus, student transition/contact sorties should emphasize the utilization of visual ground references to the maximum extent practical for area orientation.

5.6 Fuel Awareness. Prior to reaching Joker fuel, students will verbalize a numerical fuel state during ops checks. Students will call "Joker" upon reaching Joker fuel. Below Joker fuel, transition from the plain numerical value to a value in relation to Bingo during ops checks to their IPs inter-cockpit or their FLs. For example, if Joker/Bingo is 800/600 and fuel is 750, the student/trainee will report "Bingo plus 150."

5.7 Low-Level

5.7.1 **Bingo/Continuation Fuel.** Pilots should abort the route if reaching Bingo fuel prior to the point at which Bingo was calculated (the farthest point). After the Bingo point is passed, Continuation Fuel will be used as Bingo. If below continuation fuel, pilots will plan appropriately to ensure sufficient fuel is available to discontinue the route and RTB to arrive with normal recovery fuel. (NOTE: Continuation fuel may be less than the calculated Bingo)

5.7.2 **Low Level.** Prior to entering the low-level route, pilots will do a Descent and FENCE-In check.

5.8 Ops Checks. An AFTO Form 781 write-up should be done if the G-meters in both cockpits are not within 1 G.

5.9 FENCE-Out. Complete a "FENCE out" check on all sorties before leaving the working area or when exiting the low-level route. Unless briefed or directed otherwise, the FENCE-out will include obtaining ATIS, completing the FENCE check items and completing the Descent Checklist prior to leaving the confines of the MOA. ATIS is normally obtained via voice capability on the VOR.

5.10 Transition/Instrument/Navigation Sortie Landings. While flying instrument sorties with the SP in the RCP, the IP will either take the aircraft for a touch-and-go or low approach or remain silent to indicate that the student will execute the missed approach at the appropriate time. On transition, navigation or instrument sorties with the SP in the FCP, the IP will inform the student whether to take over visually or remain silent to indicate that the student will execute the missed approach.

5.11 After Landing Checklist. Pilots will not accomplish checklist items until clear of the runway at a safe taxi speed. Clear of the runway is considered past any hold short line.

5.11.1 Upon exiting the runway, if stopping prior to calling ground if required, taxi forward enough to allow another aircraft to safely clear the runway.

5.11.2 If landing on Rwy 13C/31C and the RSU is in control of the inside runway crews should report down on the center with the RSU.

5.11.3 Prior to returning to chocks, return RMU, EADI and EHSI to standard setup described in Attachment 1. Additionally, set the HDG Bug to the active departure's first heading. Reset the G-meter unless an Over-G is suspected.

5.12 Shutdown and Leaving Aircraft

5.12.1 Prior to engine shutdown, pass the crew chief a thumbs up (code 1) or thumbs down (code 2 or 3).

5.12.2 Before walking away from the aircraft, neatly stow the ankle straps, lap belt, shoulder straps, and oxygen hoses.

5.12.3 Students should normally complete the AFTO Form 781 at the aircraft and Before Leaving Aircraft checklist.

5.13 Debriefing

5.13.1 After the sortie, the FL/IP will set a debrief time. Debrief should, at a minimum, cover the items listed in the IFG. Formation debriefs will be conducted by the designated FL. Debriefs will be attended by all pilots unless excused by the FL.

5.13.2 The PIC will fill out the electronic 781 prior to beginning the debrief.

CHAPTER 6

IMC AND NIGHT PROCEDURES

6.1 IMC Procedures

6.1.1 **Unusual Attitudes.** Upon recognition, the affected pilot should verbalize an unusual attitude and, if needed, transfer aircraft control to recover.

6.1.2 **Spatial Disorientation.** If a crewmember becomes spatially disoriented, they should verbalize it to the other crewmember. Attempt to bring the aircraft to a straight and level attitude. Consider requesting an altitude and/or heading change in an effort to find VMC. If required, transfer aircraft control. Depending on the severity of the spatial disorientation, declare an emergency and advise ATC of the problem. As a last resort, do not delay the decision to eject.

6.1.3 **Icing Restrictions.** If icing is forecast or reported for the planned route of flight, comply with TO 1T-6A-1 restrictions and adjust the mission profile and alternate fuel requirements as necessary. When determining fuel requirements, do not plan to cruise in an area of forecast icing.

6.2 Night Procedures.

6.2.1 **Aircraft Lighting.** All external lighting will be turned on when the aircraft is in motion at night. The following exceptions apply:

6.2.1.1 **Taxi.** Use position lights only when in the chocks and EOR. Leave the landing, taxi and anti-collision lights off until after making the first turn out of parking.

6.2.1.2 **EOR.** Once stopped in the EOR, aircrew will turn their taxi, landing and anti-collision lights off. Once cleared for takeoff, turn landing, taxi and anti-collision lights on when completing the Lineup Check.

6.2.2 **After Landing Procedures.** Report down on Texan Ops when the RSU is closed and tower controls the pattern.

CHAPTER 7

EMERGENCY PROCEDURES

7.1 General. In general, an emergency should be declared if traffic priority is necessary or safety of flight is at risk. The T-6 EP Decision Guide in the pink pages of the IFG should be cross-referenced.

7.2 Aircrew Responsibilities. In the case of an emergency, the PF should continue to fly. Apply applicable boldface; however, do not perform any irreversible actions without coordination with the AC. The PF will not cancel any Master Warning/Caution until verbally confirming the indication with the AC. Use appropriate CRM to safely recover the aircraft. Normally, the PNF will consult the checklist and IFG and back up the PF to the maximum extent or as directed. The AC will determine the final course of action for recovery and may delegate full-stop landing responsibilities to the other pilot if necessary.

7.3 Emergency Ground Egress. After the aircraft is stopped and engine is off, the AC will command "Egress, Egress, Egress." Execute the emergency ground egress procedure IAW TO 1T-6A-1. If the canopy cannot be opened or the situation requires right side egress, the AC will command "Egress right, egress right, egress right" and direct CFS handle actuation. In the event of CFS failure, consider ejection.

7.3.1 Exit the aircraft at a 45° angle aft (unless the situation dictates otherwise) and use caution for responding emergency vehicles. Meet at a safe distance (approximately 300 feet) from the aircraft on the egress side.

7.4 Takeoff/Touch and Go Emergencies. Takeoff emergencies will be briefed in detail. As a minimum, brief reasons for abort, sufficient runway remaining determination and sufficient energy conditions required to make HIGH/LOW key. This briefing shall be tailored for environmental conditions and mission profile. Update the briefing for current conditions or changes during the RNEWS check while taxiing.

7.4.1 Pilots should not attempt to land opposite direction at Columbus AFB.

7.5 OBOGS Incident. Serious consideration should be given to not taking off if an OBOGS problem is encountered on the ground with the system on. Follow the appropriate emergency checklist for any OBOGS incident. Crews should note any OBOGS FAIL light could be indicative of a malfunctioning OBOGS system.

7.6 Physiological Incident. Accomplish the appropriate emergency checklist. Comply with IFG procedures and return via a straight-in approach. Consideration should be given to landing at a location with appropriate medical response capabilities (e.g. recovering to CBM or NMM) for rapid decompression. Plan to leave life support equipment connected until met by the flight surgeon.

7.7 Bird Strike. If in a safe position to land, the first priority should be to land the aircraft. Announce the intention to land to the other crewmember. If not in a safe position to land, ensure

the aircraft is level or climbing away from the ground. If there is any personal injury, determine who is best able to fly. Scan for aircraft damage and complete a thorough check of engine instruments. A controllability check should be accomplished if damage to the aircraft is suspected. Utilize a chase ship if needed. If a prop strike or engine damage is suspected, recover via a PEL.

7.8 Electrical Fire. Brief actions to be taken based on current/forecast weather conditions.

7.9 Engine Malfunction/Failure. With an engine malfunction or failure, turn, climb, clean, check IAW TO 1T-6A-1 toward the nearest suitable airfield. If weather or field conditions at the intended recovery field are unknown, utilize outside agencies.

7.10 Ejection (With and Without Intercom/Controlled and Uncontrolled)

7.10.1 Controlled with Intercom. After completing checklists, the AC will command "BAILOUT, BAILOUT, BAILOUT" over the intercom. Time permitting, ejection should be initiated after the third "Bailout" command. Pilots should prioritize activating the ejection sequence in any situation where a short delay to verbally command an ejection may result in unsuccessfully ejecting. If time and conditions permit, attempt to point the aircraft to an uninhabited area. Do not delay the decision to eject below 2,000' AGL. The term "bailout" will not be used at any other time during the flight. Use the term "ejection" instead.

7.10.2 Controlled without Intercom. The AC will hold the emergency pages in the IFG up to signal the need to accomplish the controlled ejection checklist. Once the "Controlled Ejection" checklist has been run, give the other pilot a "thumbs up." Once ready to eject, the AC will signal the "bailout" command (three face curtains) IAW AFPAM 11-205. If previously attempting to communicate by dropping masks and yelling, it is imperative that both pilots have visors down with masks secured before initiating ejection to avoid serious injury.

7.10.3 Uncontrolled (with and without intercom). If uncontrolled at or below 6,000' AGL, command an immediate ejection using the intercom if available. If intercom is inoperative, utilize the face curtain signal.

7.11 Visual Signals with Intercom Failure

7.11.1 Check interphone settings and connections (consider switching to the alternate communications cord). If all settings/connections check good, attempt communication over the non-primary radio. In the absence of smoke/fumes masks may be lowered to communicate when below 10,000 feet cockpit altitude. The FCP pilot should set the mirrors towards the RCP and look for visual signals from the RCP.

7.11.2 **Crewmember Attention.** PF will "stir the stick" to signal the PNF to look in his/her direction (FCP can utilize mirrors, if needed, to view RCP).

7.11.3 **Transfer of Aircraft Control.** PF pumps rudder pedals to offer control of the aircraft to the other pilot. The pilot assuming control shakes the control stick. The pilot relinquishing control shows his/her hands to other pilot. Immediately relinquish control of the aircraft if the AC shakes the stick.

7.11.4 **Emergency Landing Gear Extension (when RCP is PF).** When the RCP pilot lowers the landing gear handle to the down position, the FCP will check airspeed below 150 KIAS and pull the emergency gear handle IAW checklist procedures.

7.11.5 **Aux Battery (when RCP is PF).** The RCP pilot will repeatedly touch his or her mask with two extended fingers to signal the FCP pilot to actuate the Aux Battery switch.

7.12 Lost Communications Procedures. Brief a lost communications plan for all non-local sorties IAW the Flight Information Handbook (FIH). In the local area, pilots are expected to use good judgment and comply with the radio failure procedures in the IFG.

7.13 Lost Procedures. Brief a lost plan for all non-local sorties. In the local area, pilots are expected to climb to a safe altitude, conserve fuel, and inform ATC that they are lost.

7.14 Emergency Divert Airfields

7.14.1 Brief emergency divert airfields suitable for the route of flight/MOA to be used in the event of an engine malfunction/failure. Consider environmental factors such as weather, winds and runway conditions.

7.14.2 In other situations requiring an emergency divert, reference the IFG/FLIP to determine the best option for recovery. Consider weather conditions and fuel remaining and notify the SOF of divert intentions as conditions permit.

7.15 Emergencies While Flying Low-Level. Immediately initiate a climb away from the ground to gain altitude and energy. Climb at 140 KIAS to maximize energy gain.

7.16 Solo Student Considerations

7.16.1 Engine Malfunctions. Solo students are not *expected* to recover an aircraft with no/insufficient thrust. Once it is determined that a successful recovery is unlikely, do not delay ejection decision below 2000' AGL. Solo students *may* elect to continue a forced landing if they are able to comply with ORM-3-2-1.

7.16.2 For an engine malfunction where there is usable thrust the solo student is expected to enter the pattern through radar termination and fly a normal pattern to a full stop landing. Priority can be expected for the solo student with the emergency. Students who have been trained and are proficient in flying emergency landing patterns may elect to proceed to High Key and fly an ELP.

7.16.3 For non-engine related emergencies, solo students will recover to CAFB unless directed otherwise by SOF, SUP or RSU.

CHAPTER 8

BASIC FORMATION

8.1 Introduction

8.1.1 Definitions

8.1.1.1 The phrase “basic formation” as used in these standards encompasses all maneuvers and procedures that are introduced in the beginning blocks of formation.

8.1.1.2 The phrase “advanced formation” as used in these standards encompasses tactical formation, fluid maneuvering, and 2-ship formation low levels.

8.1.2 Applicability

8.1.2.1 The standards in this chapter provide the foundation for basic, advanced, and three- and four-ship formation and apply to all formations unless superseded by Chapter 9 and/or Chapter 11.

8.1.2.2 Chapter 9 and Chapter 11 of these standards only address those areas where Advanced Formation and Three- and Four-Ship standards differ between those used for Basic Formation profiles.

8.1.3 Formation Positions

8.1.3.1 **Flight Lead (FL).** The term “FL” in this document refers to the AC vested with overall responsibility for all aircraft and aircrew in the formation.

8.1.3.2 **Lead.** The term “lead” is used in this document to indicate the aircraft with the “admin lead” of the formation flying in the #1 position.

8.1.3.3 **Wingmen.** Wingmen will provide mutual support for the FL during mission planning, briefing, execution, and debrief.

8.1.3.4 **Position numbers.** The terms “#1”, “#2”, “3”, and “#4” in this document refer to aircraft currently occupying those admin positions.

8.1.4 Administration.

8.1.4.1 Either the FL or the FL’s student will conduct the formation brief as specified in Table 1.2. The FL will typically conduct the formation debrief.

8.1.4.2 The FL of each formation will be annotated in TIMS prior to step IAW AFI 11-401 and its supplements. The FL is assigned the #1 call sign in the TIMS Schedule Executer or on the flight authorization, as applicable. If a formation splits, aircraft call signs will revert to those listed in the TIMS Schedule Executer or on the flight authorization.

8.2 Briefing and Debriefing.

8.2.1 **Pre-Mission Products.**

8.2.1.1 The student who flies with the FL is normally responsible for preparing mission objectives, lineup cards, flight plans, and ORM cards for the formation. Mission objectives should consider both students' syllabus requirements.

8.2.1.2 The student in the wing aircraft will provide mutual support as directed by the student flying in the FL's aircraft.

8.2.1.3 Students will ensure an Aux frequency is signed out and deconflicted prior to formation briefs.

8.2.1.4 Students are responsible for preparing a formation briefing board IAW the Texanworld Standard Formation Board maintained by each squadron's DOV.

8.2.1.5 Students will choose the appropriate EP of the day (EPOD) and an instructional topic of the day (ITOD) based on their scheduled mission. Topics are found in Table 8.1. Students may select topics other than those listed in the table to widen their breadth of knowledge and/or avoid duplicating a previous sortie's topic.

Table 8.1 Emergency Procedures and Instructional Topics of the Day

SORTIE	EPOD	ITOD
F4001	Abort (Flight vs. Single)	AFPAM 11-205 visual signals
F4002	Engine Failure on T/O	Wingman position parameters (fingertip, route)
F4003	NORDO	Rejoins / Overshoots
F4004	Engine Fire	Wingmen Considerations
F4005	Fuel Pressure Light	Lost wingman procedures
F4006	Electrical fire	HEFOE signals
F4007	Inadvertent Departure from Controlled Flight	Interval takeoff procedures
F4008	Physiological Incident	Extended trail entry / position
F4101	Ejection	Knock it off (when and how)
F4201	Oil System Malfunction/CHIP Light	Blind w/ and w/o radios
F4202	Bird strike (low altitude, high altitude)	Form landing and T/O restrictions
F4203	Hydraulic system failure	Wx for interval and wing T/O
F4204	Midair	Breakouts / Mid-air collision avoidance (when and how)
F4205	Divert	Formation approach procedures
F4206	Electrical Failure with Weather	BD Check

8.2.2 **Briefing.** FL will determine how the EPOD and ITOD are covered during the briefing. Students will normally brief these topics. This does not replace tabletop EP training by individual IPs conducted at the completion of missions.

8.2.2.1 **EPOD.** The purpose of the EPOD is to hone student briefing abilities, ensure continuous review of emergency procedures and to familiarize students with formation

considerations during emergencies. Students will brief the cause, indications and initial actions for each flight member for the EPOD.

8.2.2.2 **ITOD.** Students will brief the ITOD corresponding with the wingman student's mission number during the mission briefing. The purpose of the ITOD is for the student to demonstrate proficiency in formation procedures and standards. The EPOD and ITOD portions of the brief should take approximately one minute each.

8.2.3 **Debriefing.** Discuss items related to the overall mission and training objectives and events that are pertinent to all flight members. Any training rule violations or safety of flight situations should be addressed. Individual instruction will be deferred to single-ship debriefs. Unless specifically requested by FL, formation members will withhold all comments or questions.

8.3 Radio Procedures

8.3.1 **Primary ATC Frequency (Prime).** Refer to the primary ATC frequency as "Prime." Use full call signs when communicating directly with any outside agency (e.g. "Stein 41," or "Bomber 1"). If lead does not suffix the channel change with frequency type, assume the frequency is Prime.

8.3.1.1 UHF frequency changes and check-ins may omit the use of the word "Prime" for brevity. *"Texan 1 check prime," "Texan 1 check"* or *"Texan 1 push 4"* all refer to the ATC radio.

8.3.2 **Inter-plane Frequency (Aux).** Refer to the interplane frequency as "Aux." Aux is a VHF discrete frequency for local sorties.

8.3.2.1 Once established on intra-flight and checked-in, the use of "Aux" for every VHF radio transmission is not required. FLs have the option on the AUX radio to use abbreviated callsigns (e.g. *"1's ready."*). Wingmen will assume inter-plane communication is via the AUX radio when responding.

8.3.2.2 Wingmen will always mimic lead's radio call in response (e.g. *"2, go close trail," "2," "2's in"* or "*Bomber 2, go close trail," "2," "Bomber 2's in."*).

8.3.2.3 "Texan check Aux" or "Texan push Aux 141.50" refers to the inter-plane radio.

8.3.3 **Inter-Plane Communication.** Formations will use the communication table in Attachment 3 to the maximum extent practical. Use visual signals for inter-plane communication when practical. Only the PF will give visual signals.

8.3.3.1 The priority for making channel changes is (1) "push" with no acknowledgement, (2) visually, then (3) "go" with acknowledgement (e.g."*Texan, go 16" "2"*).

8.3.3.2 When "push" comm is combined with any call requiring acknowledgement, wingmen will acknowledge (e.g. "*Texan, FENCE-Out, push 7" "2*").

8.3.3.3 To signal AUX radio changes visually, initiate with a downward pointing motion before passing number visual signals normally.

8.3.3.4 For formation position changes directed on the radio, use the callsign and formation number. *"Texan 2, fingertip left." "Texan 3, tactical right."*

8.3.3.5 #1 will use "set" to refer to airspeeds and "reference" to refer to headings on formation sorties. Airspeeds should be described using whole words "Texan, set two-fifty." Reference headings should be described using single digits "Texan, reference three-five-zero." Neither of these calls will be acknowledged from wingman unless directed.

8.3.3.6 Wingmen will acknowledge all directive calls that cannot be visually confirmed by #1. "Go" verbiage should be limited and used to mimic lead or when an acknowledgment is preferred by FL.

8.3.3.7 Call out traffic that is a factor for the flight (nominally within 5 miles laterally and 1000' vertically). Be directive, then descriptive, as appropriate. *"Texan 1, climb, tally traffic, right one o'clock, 1 mile, level."* Use the term "TAS hit" when referring to a TAS return using bearing/range/altitude delta (BRA) format. *"Texan 1, TAS hit, BRA, zero-three-zero (or clock position), five miles, one thousand high."*

8.3.3.8 Reference Table 8.2 for communication standards regarding other A/C and objects.

Table 8.2 Aircraft and Ground Object Calls

Response References	Acft or Object in Sight	Acft or Object Not in Sight
Aircraft external to the formation	"Tally"	"No Joy"
Aircraft within the formation	"Visual"	"Blind"
Ground objects	"Contact"	"Negative Contact"

8.3.3.9 ***"Sweep ATIS"*** is directive for all flight members to listen to one cycle of ATIS, then return back to the same frequency (or to the frequency directed).

8.3.3.10 ***"(Position #), sweep ATIS"*** is directive for that wingman only to listen to ATIS, then return to the frequency previously assigned. The wingman will automatically report up on Aux as follows:

8.3.3.10.1 Wingman: "(Postion #) back up (ATIS identifier)"

8.3.3.10.2 Lead: "Go with (ATIS identifier)

8.3.3.10.3 Wingman: "(Runway), (winds), (altimeter)(*)"

8.3.3.10.4 *Add any new information that will impact the recovery such as status, winds for a formation landing, single runway ops, bird severe, etc.

8.3.3.11 ***"Take spacing"*** is primarily communicated on the radio (*e.g. "Psycho 2 Take Spacing", "2"*). The wingman will maneuver as required IAW AETCMAN 11-248

paragraph 9.35 to obtain spacing for the briefed follow on maneuvers and call ready when in position *(e.g. "Psycho 2's ready).*

8.3.4 **Comm Plan for Civil Fields.** FL will brief a radio plan for all formation sorties. Formation sorties flown will brief a UHF Aux for use when ATC requires the use of VHF.

8.3.5 **Automatic channel changes.** The following channel changes will occur automatically when operating in the local area:

8.3.5.1 Clearance Delivery to Ground (after flight members acknowledge receipt of clearance).

8.3.5.2 Ground to Sunfish/Tower upon lead initiating the turn into the hammerhead.

8.3.5.3 Columbus Approach to Area Monitor upon being directed to FENCE-in.

8.3.5.4 Area monitor to Columbus Approach upon being directed to FENCE-out.

8.3.5.5 Sunfish/Tower to Ground upon exiting the runway.

8.3.6 **Transponder**

8.3.6.1 Lead should carry the squawk and TAS for the formation. Wingmen will set the transponder to FL's transponder code and squawk STBY. The wingman will set TAS to STBY.

8.3.6.2 If only one aircraft in the formation has an operable TAS, the aircraft with functioning TAS may carry the squawk and TAS for the entire sortie (FL will be directive before takeoff or when the TAS malfunction occurs).

8.3.6.3 If a flight split-up is accomplished, the FL will squawk the original assigned squawk. The wingman, even when splitting from the #1 position, will pick up the newly assigned squawk.

8.4 Ground Operations

8.4.1 **Crew Chief Coordination.** Notify the crew chief upon arrival at the aircraft of position in the flight and the location of the other formation aircraft.

8.4.2 **Check-in Time.** Plan to close and crank regardless of ITS/Wind Chill condition unless briefed otherwise. Check-in 5 minutes prior to taxi time or as briefed.

8.4.3 **Check-in/Engine Start.** For formations within visual range, all aircraft will accomplish the "Cockpit (All Flights)" checklist. Crews will then close and crank. After engine start, crews will check ATIS, and tune to clearance delivery and Aux frequency. Wingmen will pass a "thumbs up" to lead when ready for check-in. If motoring is required, accomplish motoring procedures and close and crank prior to passing the "thumbs up." FL will check wingmen in on Aux and then Prime after the "thumbs up" is given prior to calling for clearance. Flight members will acknowledge receipt of clearance with their position (e.g. *"2"*) on Aux. All aircraft will tune to Aux as soon as the RMU comes online after engine start.

8.4.3.1 If FL is not in sight, utilize crew chiefs to relay "thumbs up" signals. If crew chiefs aren't visual with each other, crews should plan to check in at the formation's check-in time. When crews are not in sight with each other, crews should monitor UHF Ch. 5 from after engine start until check-in time so that problems may be relayed easily from an aircraft that hasn't yet started its engine. Change to check-in frequency at check-in time.

8.4.3.2 If off station, crews should note paragraph 3.5.2 and incorporate clearance to start in the formation's ground ops plan.

8.4.4 **Ground Aborts/Spares.** If visual and the other aircraft encounters a ground-abort situation before engine start, continue with ground ops unless FL directs otherwise. If not visual, report expected delays to lead as soon as possible.

8.4.5 **Taxi.** FL will check flight members in on Aux first. If FL established a check-in time and additional time is required, wingmen will inform FL during the Aux check-in (e.g. "Creek 2 needs XX minutes"). When all flight members are ready, FL will check the flight in on Ground and call for taxi clearance. For staggered operations on taxiway A, wingmen will mirror lead's offset from centerline.

8.4.6 **End of Runway Procedures.** When #1 initiates the turn into the hammerhead, formation members will "auto-push" to the appropriate takeoff frequency (Sunfish or Tower). #2 FCP lines up with lead's FCP to be on the same relative position of the dashed EOR line. Additional flight members line up the helmets of lead and #2/#3. When complete with the Before Takeoff checklist and ready for takeoff, wingmen will pass a "thumbs up" to FL. If unable to pass a visual signal, call ready on Aux in order from the last flight member on up (ex: "C/S 4 ready," "C/S 3 ready," "C/S 2 ready").

8.5 Two-Ship Takeoff and Departure

8.5.1 **Lineup.** IAW AETCMAN 11-248 paragraph 9.31.

8.5.2 **Wing Takeoff.** Wingmen may request a single "push it up/give me one" call if unable to maintain position. #1 will not reduce torque below 85%. Visually confirm the "clean" configuration of both aircraft and report any discrepancies on Aux prior to 150 KIAS.

8.5.3 **Interval Takeoff.** A 6-second interval or rolling interval takeoff may be executed if conditions do not permit a wing takeoff or if required for training. #1 will maintain 160 KIAS until the formation is rejoined. The wingman rejoins to fingertip on the inside of the anticipated turn out of traffic. For straight-ahead departures, the wingman rejoins to the left side. Once rejoined, normal climb/cruise speeds will be maintained. #1 should remain clear of clouds prior to the rejoin. If unable to avoid entering clouds prior to the rejoin, #1 will coordinate for a level-off, altitude block, or separate clearances, while ensuring altitude deconfliction.

8.5.4 **Instrument Trail and Rejoin**. #1 will inform Clearance Delivery of the intention to perform an instrument trail departure (e.g. "*Reno 1, 20-second trail departure*"). The last aircraft will squawk 0400 unless directed otherwise. #1 will also inform Tower ("*Reno 1,*

non-standard—20-second trail departure") when requesting clearance for takeoff. #1 will add "non-standard formation" to radio calls to ATC agencies until all wingmen rejoin.

8.5.4.1 Aircrew will follow the Instrument Trail Departure procedures in AETCMAN 11-248.

8.5.4.2 Aircraft will call out DME from a pre-briefed NAVAID when beginning turns.

8.5.4.3 Lead will announce when clear of the weather with altitude (on Aux). Wingmen will report visual over Aux once they are able to maintain VMC to execute a visual rejoin. Flight leads will direct a rejoin only when they are able to maintain VMC. Wingmen will not initiate a rejoin until directed by #1. Once the rejoin is complete, #1 will inform ATC that the formation is maintaining standard spacing.

8.6 Area Work

8.6.1 **FENCE-In**

8.6.1.1 #1 will direct a FENCE-in check once established in the assigned area.

8.6.2 **Rejoins.** All rejoins/reforms are to close formation (fingertip) unless briefed or directed otherwise. Rejoins on departure or enroute (prior to FENCE-in) will be accomplished at 180 KIAS while climbing and 200 KIAS when straight and level.

8.6.2.1 Rejoins in the MOA will be at 180 KIAS. Rejoins on recovery (after the FENCE-out call) will be flown at 200 KIAS.

8.6.2.2 Rejoin speeds in paragraph 8.6.2.1 may be modified by lead as required. Deviations from standard rejoin speeds will be pre-briefed or directed over Aux.

8.6.3 **G-Awareness Exercise.** During basic formation sorties, the G-Awareness Exercise (G-Ex) will be completed from fingertip (or close route) via a pitchout.

8.6.3.1 The first pitchout will be a G-Ex unless stated otherwise. #1 will achieve 200-220 KIAS and proceed with a single G-Ex turn, accomplishing a 4.0-4.5G maneuver within approximately 180 degrees of turn.

8.6.3.2 Priorities during the G-Ex are flight path deconfliction, proper anti-G straining, and positional awareness.

8.6.3.3 Following the G-Ex, lead will initiate an Ops Check IAW Attachment 3 and direct follow-on maneuvering (normally a rejoin).

8.6.4 **Extended Trail Exercise**

8.6.4.1 **Power Setting.** Use Max torque for Extended Trail Exercise levels 2 and 3.

8.6.4.2 **Entry.** Enter from any basic formation position.

8.6.4.3 **Terminate.** Either aircraft may call "Terminate" to end the exercise. Following ET, #2 will stay in fighting wing until directed otherwise. Lead should transition to an

approximately 30° bank turn, direct a reform as required and initiate an Ops check. Plan all reforms from ET at 180 KIAS and 30° of bank.

8.7 Recovery

8.7.1 **FENCE-Out.** At the completion of area maneuvering, lead will direct a FENCE-out check. Lead will be directive with a "sweep" ATIS call when directing the FENCE out (ex: "C/S, FENCE-Out, sweep ATIS, go (channel)"). For sorties that utilize the Columbus MOAs and are recovering to Columbus AFB, upon being told to FENCE-out crews will auto sweep ATIS, and auto switch to Ch. 8/18.

8.7.2 **Flight Split Up.** After flight split up, aircraft will retain call signs signed out on the flight authorization regardless of position during the split up.

8.7.2.1 **Flight Split Up Outside the Pattern.** The FL will read back the wingman's squawk and/or clearance to ATC. Wingmen will not respond to ATC or execute controller instructions until the aircraft leading the formation clears them off on Aux (e.g. "Stomp 2, cleared off"). The aircraft in the lead will relay the wingman's squawk and/or ATC clearance over Aux. Wingmen will acknowledge before being cleared off.

8.7.2.1.1 **Alpha Check.** The lead aircraft should perform an "Alpha check" prior to the split-up. Referencing the primary recovery NAVAID, lead will verbalize the current radial and DME. If the radial/DME is within ±5° and 1 NM, wingmen will respond with "same," otherwise, they will reply with bearing and range. Consider recovering as a formation if the discrepancy cannot be remedied.

8.7.2.2 **Flight Split-Up in the Pattern.** Formations are limited to one formation low approach or one break from initial when entering the pattern unless coordinated with the RSU (this restriction does not preclude multiple VFR patterns once split). Formations are expected to split up at the following places:

8.7.2.2.1 **Break.** #1 will give #2 a "cleared-off" salute. Wing will delay the break a minimum of 5 seconds.

8.7.2.2.2 **Closed.** Lead will request closed for the formation. Do not use a crossunder to reposition #2 if they are the inside of the turn. Instead, obtain clearance to pull closed, clear in the direction of the turn, and clear off #2. The aircraft on the inside will then pull closed, followed 5 seconds later by #1.

8.7.2.2.3 **Crosswind.** Following a low approach (when closed is not requested/available) or after carrying straight through initial, #1 will clear off #2 prior to turning crosswind. The aircraft on the pattern side of the formation will turn crosswind. The other aircraft will delay the crosswind turn a minimum of 5 seconds.

8.7.2.3 **Transponder.** Wingmen will turn TAS on and set 0000 as soon as practical after a flight split-up in the VFR pattern.

8.7.3 **Formation Pattern Breakout.** In the event of a formation breakout from the VFR pattern, lead will be directive. Plan to send the wingman to route or fighting wing to facilitate

clearing. Lead should delay doing this until after initiating the climb to pattern breakout altitude. Direct a reform to fingertip if a formation approach is desired or clear the wingman off prior to re-entering the pattern at VFR entry.

8.7.4 **VFR Pattern/Initial**

8.7.4.1 All turns at and inside the radar termination point will be in echelon except when on a straight-in. A visual signal to signal echelon turns is not required.

8.7.4.2 #1 will attempt to make one continuous turn to initial.

8.7.5 **Wing Approach and Landing**

8.7.5.1 #1 will place #2 on the upwind side prior to the 5-mile point. #1 will attempt to make one continuous turn to final.

8.7.5.2 Wingmen landing on the cold side of the runway should make a "1, cleared cold" call over Aux when speed permits a safe transition and the minimum 150' nose-tail separation is assured. Wingmen landing on the hot side are expected to transition to the cold side when 150' nose-tail clearance is achieved and can be maintained.

8.7.5.3 If the wingman overruns lead during landing roll, the first priority is for both aircraft to maintain their side of the runway. A lead change is not preferred, but can be performed on Aux if necessary. The new lead will taxi the formation to parking.

8.7.6 **After Landing Checks/Taxi Back**

8.7.6.1 If both aircraft in a formation land sequentially, #1 will allow sufficient spacing for wingmen to exit the runway and wait for the other aircraft to exit. Once all formation aircraft are off the landing runway, they will accomplish a check-in and obtain clearance (as required) to taxi to chocks as a formation.

8.7.6.2 Formations should stagger on taxiways E and G (until turning southeast towards the parking area) after landing on 13R and on L and A after landing on 31L.

8.7.6.3 When exiting RWY 13C/31C at taxiway Hotel, #1 will direct #2 to "push" Sunfish, report the flight "down on the center" and return to UHF Ground. #2 will report back on Aux when the report is complete.

8.7.6.4 When exiting 31C at the departure end and Sunfish is in control of the inside runway, formations will "auto-push" to Sunfish once clear of the runway, and #1 will report the flight "down on the center" to Sunfish.

8.7.6.5 Formation members will remain on formation Aux frequency until engine shutdown.

8.8 IMC Procedures

8.8.1 Wingmen may request that lead turn anti-collision lights off if deemed a hindrance.

8.9 Formation Procedures

8.9.1 **In-Flight Checks.** FL is responsible for managing the fuel for the flight. #1 will initiate checks (e.g. ops checks, FENCE checks, etc.).

8.9.1.1 If in close formation at the time the check is directed, wingmen will move to route position to complete the check unless weather is a factor. Once the formation is checked in on the new frequency and/or in-flight checks are complete, wingmen will reform to close formation.

8.9.1.2 All aircraft will accomplish an ops check as part of the FENCE-in check.

8.9.1.3 State fuel for all ops checks; Gs should only be announced immediately following increased G maneuvering (e.g. G-Ex , ET, and FM). In all cases, wingmen will mimic lead.

8.9.1.4 During ops checks, wingmen should immediately respond with fuel (and Gs if required), then accomplish remaining checklist items inter-cockpit.

8.9.1.5 OBOGS checks are internal to the aircraft and need not be verbalized to the formation. A normal ops check initiation and response indicates operative OBOGS and pressurization system in each aircraft.

8.9.1.6 If the required BINGO fuel changes (e.g. as a result of a change in alternates), #1 may adjust the JOKER fuel if necessary and inform the wingman. Wingmen will acknowledge any in-flight changes to JOKER/BINGO.

8.9.1.7 Pilots will announce reaching JOKER/BINGO on Aux. If initiated by lead, wingmen will respond with fuel as described below. If initiated by wingmen, lead will acknowledge. Reference JOKER if at or above JOKER. Reference BINGO if below JOKER (e.g. “Rusty 1, JOKER” “Rusty 2, BINGO plus 100”).

8.9.2 **Formation Spacing.** Unless IMC or for training purposes, #1 should loosen the formation to route or tactical formation during extended cruise periods to enhance clearing for the formation. Tactical formation should be used to the maximum extent possible, syllabus options permitting. Maintain spacing IAW with AETCMAN 11-248 at a logical position for the situation.

8.9.3 **Position Change.**

8.9.3.1 The primary concern during a position change is to maintain proper formation position and flightpath deconfliction while maintaining visual.

8.9.3.2 The standard changeover fuel/time for student formation sorties is 750 pounds or 35 minutes as referenced by the D/T function of the GPS (based on 1.5 ASD). These should be modified as necessary to meet mission objectives.

8.9.4 **Wake Turbulence.** If encountering wake turbulence while maneuvering at increased G, pilots should assume the G’s were asymmetric.

8.9.5 **Breakout.** When a breakout is initiated by lead, lead will direct the wingman when to roll out. When a breakout is initiated by the wingman, a “roll out” call is not required.

8.9.6 **Flightpath Deconfliction.** Normally wingmen have primary responsibility for flight path deconfliction within the element; however, anytime there is an imminent flight path conflict, all aircrew will avoid collision by aggressively maneuvering away from the conflict. Deconflict head-on convergences to the right. An aircraft with an established comparative nose-high attitude will continue that vertical deconfliction flight-path (i.e. "nose-high goes high"). Initiate a KIO call when conditions permit.

8.9.7 **Terminate/Knock-It-Off (KIO).** After each flight member has acknowledged the "Terminate/KIO" call, the aircraft that initiated the call should state the reason. Terminate and KIO calls will not be combined with other communications, such as ops checks.

8.9.8 **Lost Sight/Blind.**

8.9.8.1 If lead loses position awareness of a wingman, he or she should query with a "posit" call (e.g. "Mohawk 2, posit").

8.9.8.2 If both aircraft are blind (i.e. "double blind"), all aircraft will turn on squawk and TAS to aid in reforming the formation. If a rejoin is not accomplished prior to BINGO, lead will coordinate with ATC for flight split-up.

8.9.9 **Visual Signals.** Use visual signals IAW AFPAM 11-205 to the maximum extent practical. Exception: FL will signal the wingmen to route using an open-handed pushing motion toward the wingman. A salute from lead indicates wingmen are cleared off. Only the PF gives/acknowledges visual signals.

8.10 Formation Emergencies

8.10.1 **Ground Abort.** In case of a formation ground abort on local sorties, the good aircraft will revert to the IP's assigned call sign (e.g. Claw/Ripsaw XX) and pass the new call sign and intended single ship clearance to Texan Ops. For 3- or 4-ship sorties, re-number the flight members to facilitate admin and pass new call signs to Texan Ops.

8.10.2 **Takeoff.** FL is responsible for briefing considerations for abort scenarios as they apply to the formation. Discuss contingencies prior to brake release, after brake release, and after rotation including expected actions and comm.

8.10.3 **In-Flight Malfunctions.** The malfunctioning aircraft should take initial actions to handle the emergency, call KIO (if necessary) and inform other formation members as soon as conditions permit. As a minimum, the malfunctioning aircraft should be offered the lead three times:

8.10.3.1 Immediately upon recognition of the malfunction

8.10.3.2 On recovery and able to navigate VFR to the field

8.10.3.3 On final with the field in sight and clearance to land

8.10.4 **Element Integrity**. Maintain element integrity to the maximum extent practical. The good aircraft will act as a chase ship as appropriate for the malfunction. If both aircraft are experiencing a malfunction, each should obtain a separate chase ship.

8.10.5 **Mid-Air Collision.** The designated FL will direct necessary steps to maintain flightpath deconfliction, coordinate for separate chase ships (if available), and direct the recovery/diversion sequence.

8.10.6 **Radio Failure**

8.10.6.1 **Simple NORDO.** Attempt to communicate from both cockpits on UHF, VHF and the backup UHF radio. The good aircraft will lead the formation back for a straight-in and offer the lead on final with clearance to land. If clearance to land is subsequently cancelled, the good aircraft will move abeam and rock their wings to initiate a go around. If lead is refused, accomplish a formation landing.

8.10.6.2 **Blind and NORDO.** All flight members will aggressively clear their flight paths and utilize TAS if possible. Designated FL will transition to the base altitude, and wingmen will transition to the appropriate altitude relative to the base altitude. Aircraft will not cross the base altitude. Altitudes are based on the call sign assigned in TIMS/on the flight authorization, not on the position the aircraft is occupying when the situation occurs.

8.10.6.2.1 Base altitude: 11,000’ MSL (low area), 19,000’ MSL (high area), 15,000’ MSL (high/low area). Base altitudes begin once formation is established in the working area.

8.10.6.2.2 Wingmen will transition to the following altitudes:

#2: Base altitude ± 1,000’ MSL

#3: Base altitude ± 2,000’ MSL

#4: Base altitude ± 3,000’ MSL

8.10.6.2.3 The NORDO aircraft will squawk 7600 and enter a 30° left bank orbit over the center radial/DME of the formation’s assigned area at 180 KIAS. If unable to navigate, the NORDO aircraft may orbit over their present position.

8.10.6.2.4 Non-NORDO aircraft will utilize NAVAIDS, TAS and ATC as required to regain visual contact with the NORDO aircraft. Once visual, move no closer than route until the NORDO aircraft signals a rejoin with a wing rock.

8.10.6.2.5 Do not overfly BINGO in an attempt to rejoin. If another malfunction exists, avoid the other aircraft’s last known position, squawk 7700 and recover single ship if required. If no other emergency exists but visual contact between aircraft cannot be reestablished, the NORDO aircraft will RTB single ship upon reaching JOKER or the planned MOA exit time. Aircraft with working radios will work with ATC to ensure deconfliction with the NORDO aircraft and RTB after reaching JOKER or the planned MOA exit time.

8.10.7 **HEFOE.**

8.10.7.1 **Electrical Failre or NORDO.** If unable to communicate using radios, utilize HEFOE signals to communicate a malfunction with your aircraft. The other aircraft should acknowledge the signal by repeating it and offer the lead as described in paragraph 8.10.3.

8.10.7.2 **Hydraulic/Landing Gear Malfunctions.** If landing with a gear or hydraulic problem, the good aircraft should delay lowering gear until the emergency aircraft's landing gear begins to extend. Normally, use separate signals for gear and flaps. If the disabled aircraft refuses the lead on final, the good aircraft will execute a low approach and the emergency aircraft will land.

8.10.8 **Physiological Emergency**. Comply with the IFG. The EP aircraft should lead the recovery. The unaffected aircraft should monitor the emergency aircraft. Remain VMC if able.

8.10.9 **Bird Strike.** Striking a bird is preferable to a mid-air collision. Consider a formation landing if forward visibility is restricted.

8.10.10 **Ejection.** If able, the wingman will provide on-scene search and rescue IAW the IFG. Adjust JOKER/BINGO fuels required. Do not under fly parachutes or overfly BINGO in an effort to coordinate rescue efforts. The other element aircraft, or the chase aircraft, will follow the On-Scene Commander checklist IAW T-6 IFG.

8.10.11 **Divert.** Maintain element integrity to the maximum extent practical. FL is responsible for ensuring the safe recovery of the formation. FL should plan based on the aircraft with the lowest fuel state. If NORDO, hold up an approach plate book followed by signaling three numbers corresponding to the page number of the planned approach to indicate the divert airfield.

8.10.12 **Formation Solo Student Considerations**

8.10.12.1 **IP Aircraft with an Emergency and Good Radios.** If time and conditions permit, the IP will coordinate with ATC for a separate clearance for the solo student to recover single-ship. Depending on the EP, the IP should consider clearing the solo off to recover first. A solo student will not be used as a chase ship but may provide mutual support from a position no closer than route.

8.10.12.2 **Simple NORDO.** The good aircraft will lead the formation back to initial and notify SOF/ATC/Sunfish of the situation. The NORDO aircraft should expect light-gun signals from the RSU.

8.10.12.3 **IP Aircraft NORDO with an EP.** Pass applicable HEFOE signals. If the IP intends to RTB single-ship, he/she will squawk 7700 and clear the solo student off with a salute. The solo student should recover normally and notify SOF/ATC/Sunfish of the other aircraft's problem if able.

CHAPTER 9

ADVANCED FORMATION

9.1 Introduction

9.1.1 Maneuvers introduced in the advanced formation blocks will be flown IAW AETCMAN 11-248, Chapter 9 and Attachment 3.

9.2 Ground Operations

9.2.1 **TAS Usage.** #1 will carry the squawk for the formation. Both aircraft may have TAS On for tactical formation sorties, and it will be briefed or directed by FL. Both aircraft will have TAS On for LL missions.

9.2.2 **Bullseye (B/E) Check.** FL will initiate a B/E check check on Aux from the designated B/E at any point in the sortie prior to the Line Up checklist. Normally, the B/E is a NAVAID or GPS waypoint located off the airfield that can be used as a geographic reference point with which to identify the location of other objects within the formation. Locally, use the first significant GPS fix to be used on the departure routing (BENRE/BUZER/NARRO). Off-station, use any receivable ground-based NAVAID or any appropriate GPS point. Wingmen will acknowledge with "same" if within 5 degrees and 1 NM; if not meeting these criteria, the wingman will respond with his/her own bearing and range. E.g. "*Psycho, bullseye check, 1's bullseye <Radial/DME>.*"

9.3 Area Maneuvers

9.3.1 G-Awareness Exercise

9.3.1.1 **Two-Ship (from tactical position).** Minimum spacing will be 3,000'. The G-Ex consists of two turns – a G-Warmup and a G-Awareness exercise. Both turns begin at max power 220±10 KIAS LAB. and both ending with 180 degrees of turn via hook-turn mechanics merged with high-G turns. FL will prepare the flight for the G-Ex with a standby call (e.g. *"Psycho, Standby G-Ex" "2/3/4"*). FL will use a check turn if required to achieve LAB. FL will prepare the formation for the first turn by calling "*C/S 1's ready*" with wingmen mimicking. FL will initiate the maneuvers with hook-turn communication (e.g. *"C/S G-Warmup/Awareness, hook L/R"*). No response from wingmen is required. The first turn will be 4-4.5 G's and the 2nd at 5-5.5 G's. FL will avoid check-turns between the G-Warmup and G-Awareness turns. FL will initiate an ops check with G following the G-Ex . If for any reason either pilot is not feeling good after the G-Ex , either knock off the high-G profile or RTB based on the severity.

9.3.2 Two-Ship Tactical

9.3.2.1 **Contract.**

9.3.2.1.1 Tactical airspeed is 200 KIAS. #2 will maintain position between LAB and 10° aft of LAB.

9.3.2.1.2 Tactical turns will be accomplished at 200 KIAS and use G as required to maintain both altitude and airspeed (~70° AOB and ~3 G's in the Low MOA).

9.3.2.1.3 All tactical turns are at the discretion of #1 and lead may be directive with a reference heading. Anticipate 180°, 90° or 45° standard AETCMAN 11-248 turns. However, rollout heading is at #1's discretion, and #2 is expected to maneuver as required to return to LAB.

9.3.2.2 **Position.**

9.3.2.2.1 Wingmen should strive to maintain a stack while in tactical formation. Stack should provide 200-300 feet vertical separation minimum while in assigned airspace. #2 must ensure that their stack allows #1 to maintain a visual on #2 while also accounting for environmental conditions (e.g. sun, background, etc).

9.3.2.2.2 When navigating to/from the MOA, #2 should still maintain a slight stack if in tactical, but must maintain standard formation (i.e. within 100 feet and 1 NM).

9.3.2.3 **Rejoins.** Tactical RJs will be at 200 KIAS and 45° of bank. #1 will announce any deviations >10 kts or any changes of direction.

9.3.3 **Fluid Maneuvering.** IAW AETCMAN 11-248 Attachment 3. If an additional set of FM is desired or not transitioning directly to ET, a "*terminate*" call will be used to end the exercise. Normally, the maneuvering aircraft will call terminate when Desired Learning Objectives (DLOs) are achieved.

9.3.3.1 **Base Altitudes.** The Base altitude for FM is the altitude at which the exercise begins. The standard base altitudes are 11,000' for a low area, 18,500' for a high MOA, and 15,000 (high/low MOA). FL will brief or be directive if weather or another variable dictates a different base altitude.

9.3.3.2 **Floor.** Fight floor will be 9,000' (low MOA/continuous MOA) and 17,000' (high MOA). FLs will brief the fight floor or be directive with a new fight floor if weather or other variables become a factor in-flight.

9.3.3.3 **Entry and Reset**

9.3.3.3.1 Primary entry parameters are from tactical, 200±10 KIAS, LAB, 3,000 feet spacing, and base altitude +/-100 feet.

9.3.3.3.2 #1 will precede FM with a "*next set*" call (e.g. "*C/S, next set FM level 1/2 for 1/2*"), followed by a ready call (e.g. "*C/S 1's ready, C/S 2's ready*").

9.3.3.3.3 #1 may check the formation as required between the "*next set*" and "*ready*" calls to ensure LAB.

9.3.3.3.4 After the *"next set"* call, both aircraft will achieve the entry parameters listed in paragraph 9.3.3.3.1.

9.3.3.3.5 If for any reason the wingman is not level, off airspeed, or out of LAB position after the *"ready"* call, the wingman will call *"standby (reason)"* (e.g. *"2, standby, spacing/stack/airspeed"*).

9.3.3.3.6 Upon calling *"ready,"* #1 will announce a check left or right as required based on the setup description to commence initiation of the perch setup. Both aircraft will perform a contract turn, with the training aid rolling out after 45° of turn. As the maneuvering aircraft achieves pure pursuit, the training aircraft will set a 4AA, and both aircraft will maintain base altitude ± 100 feet and 200±10 KIAS until the *"fight's on"* call. The maneuvering aircraft will maintain pure pursuit.

9.3.3.3.7 If for any reason the parameters are outside of 200±10 KIAS, ±100' from base altitude, or 1500±200' range, the aircraft with the deviation will initiate a *"terminate"* call and reset the setup.

9.3.3.4 **Post Terminate Flow**

9.3.3.4.1 Upon terminate from goal position, #1 will direct the wingman to a heading and will reset the formation to tactical position.

9.3.3.4.2 During the reset, both aircraft will show their energy state with pitch as required (up or down) to get to 180 KIAS and subsequently climb at 180 KIAS to base altitude. Both aircraft may transit the fight floor (not the MOA floor) in order to get to 180 KIAS. If, for example, the wingman is at 150 KIAS upon termination, it is expected that the wingman dive for 180 KIAS while turning to the assigned heading, then achieve 180 KIAS for a constant-speed climb back to base altitude. Aircraft will accelerate to 200 KIAS when level at base altitude.

9.3.3.5 **Between Sets.** #1 will initiate an ops check with G between each setup.

9.3.3.6 **Transition to Extended Trail**.

9.3.3.6.1 ET level 3 is assumed unless a different level is specified either in the mission briefing or the radio call to transition from FM to ET.

9.3.3.6.2 On advanced formation sorties, transition into Extended Trail will be from the FM set-up.

9.3.3.6.3 **Goal Position.** The goal position is defined as the forward edge of the fighting wing cone (500', 40AA, fuselages aligned).

9.3.3.6.4 If ET is desired following FM, the maneuvering aircraft will announce *"1/2's in"* once established in the goal position. This will be countered with either a negative call from #1, or *"C/S, check max."* When *"check max"* is stated, both aircraft will set max power. After the *"in"* call, both aircraft are expected to adhere to Extended Trail maneuvering parameters.

9.3.4 **Two-Ship Low Level**

9.3.4.1 Aircrew will FENCE-in and accomplish all requisite radio calls prior to LL entry.

9.3.4.1.1 For VR and SR routes, use U255.4 and V-Discrete.

9.3.4.1.2 For IRs, use U-ATC and V-Discrete.

9.3.4.2 Prior to route entry, lead will check in the flight on 255.4. Lead will then state altimeter setting on Aux (e.g. *"C/S set 29.90", "2"*). Use the minimum altitude found during preflight planning or current setting, whichever is lower.

9.3.4.3 Standard calls for threats on or attached to the ground include a threat description similar to BRA format based off own-ship visual for the threat (e.g. *"Psycho 2, climb, tower 1030, 1 mile"*).

9.3.4.4 If encountering a threat that will not require either aircraft to maneuver (i.e. able to maintain 2,000' lateral or 500' vertical), the directive call *"continue"* and/or *"no factor"* may be added to the standard tower call (e.g. *"Texan 1, continue, tower, 1 o'clock, 2 miles, no factor"*). A maneuver call may be added if the threat is a factor (e.g. *"Psycho 2, climb, tower off your nose, 1 mile"*).

9.3.4.5 If an IMC route abort takes place and the wingman is not rejoined prior to entering the weather, the wingman will climb to 1,000' above Emergency Route Abort Altitude (ERAA) and lead will climb to ERAA.

9.3.4.6 Minimum tactical airspeed is 160 KIAS on any LL.

9.3.4.7 Wingmen will not stack lower than FL at any time within the LL structure.

9.3.4.8 FL will retain the squawk and both members will have TAS on set to LVL throughout

9.3.4.9 TAS hits will be called by either aircraft when a factor to the flight (<10NM/±2000').

9.3.4.10 Communication for identifying TAS threats will use BRA format (e.g. *"2's TAS hits 1 o'clock, 5 NM, level,"* followed with *"1's tally/no joy."*)

9.3.4.11 #1 will maneuver the formation away from any potential conflicts to include exiting the assigned MOA airspace or low level environment as safety dictates.

9.3.4.12 Any potential ground conflicts will be called in the same manner with *"contact," "negative contact," "tally,"* or *"no-joy."* Targets are verbalized as tally and no-joy, while all other threats are contact/negative contact. Verbiage will be relative to the speaker (wingmen will not call threats based on the other aircraft's perceived position, but will rather call out based on their own BRA).

9.3.4.13 Ensure all communication is directive and then descriptive. If the threat requires the other aircraft to maneuver, preface the communication with the specific action required (e.g. *"2 climb, tower 1 o'clock, 1 mile"*).

9.3.4.14 All tactical turns will be max power, G as required to hold altitude and airspeed (~3 G's/approx. 70° bank) with deconfliction assured by wingmen. All turns will be level or climbing.

9.3.4.15 At the IP, or within 1-3 minutes Time-to TGT, #1 will direct the wingman to wedge. Wedge will be 2000-3000', 45AA on either side of #1. This is not a fluid position (like fighting wing). Both aircraft will cross directly over the target with the wingman auto-cleared out of wedge to achieve target parameters.

9.3.4.16 Aircrew will call "*C/S, off dry*" when passing overhead the target to simulate ordnance release. Wingmen will include the number of aircraft in sight in the call. (e.g. *"Psycho 2, off dry"*).

9.3.4.17 **Escape.** An escape heading will be briefed. Formations will use one of the following options to escape the route.

9.3.4.17.1 **Option 1.** When the #1 aircraft calls "off dry," they will turn 90° right or left from the briefed heading and begin their climb. When the #2 aircraft calls "off dry," they will continue straight ahead on the briefed heading and climb. Upon hearing #2's call, #1 will snap back to the briefed heading and direct #2 to tactical on the right/left.

9.3.4.17.2 **Option 2.** When the #1 aircraft calls "off dry," they will turn to the briefed heading. After the #2 aircraft calls "off dry" the #1 aircraft will direct the #2 aircraft to fighting wing.

9.3.4.17.3 CT crews may accomplish a FENCE-out check and necessary channel changes during the rejoin. The PNF will monitor the rejoin for safety. Student sorties will accomplish a FENCE-out only after the formation is rejoined.

9.3.5 **BD Check.** A BD check will be performed on all advanced formation sorties unless time and conditions dictate otherwise.

9.3.6 **Recovery**. The typical recovery should be to tactical initial if off-station. When recovering to Columbus, #1 will ensure the formation is in a non-tactical formation prior to radar termination.

CHAPTER 10

ADVANCED NAVIGATION

10.1 Introduction. The advanced navigation block allows for the student to hone their instrument, VFR, and low-level flying skills. It is also used to introduce crew resource management (CRM). This is done through the use of a mix of pilot monitoring (PM), pilot flying (PF), and pilot not flying (PNF) duties. This block of training should be used to set the students up for success as future copilots.

10.1.1 The advanced navigation block should be flown as out and back sorties. One leg of the out and back should be used to advance the student's flying skills through instrument approaches, VFR flying, and low-level flying. They should fly it as if it were a Transition or basic Navigation sortie. A high emphasis on instrument general knowledge should be set. The other leg should focus on CRM. Learning how to fly as a crewmember should be the highest priority. The use of PM and PNF duties throughout the sortie will be used and will be briefed in how that will be accomplished prior to takeoff. Reference Attachment 6 for how to implement CRM during the sortie. The PNF duties should include being the radio operator for as much of the sortie as possible. PNF duties should be handled by both the student and the instructor throughout the sortie.

10.1.1.1 The PF should be very directive in what they wish the PNF to do. The PF may transfer aircraft control for their approach set-up and briefing. They should be directive with the PNF on where to fly the aircraft. The PNF will also make the standard PM call outs that are listing below.

10.1.2 **Ground Ops.** Ground ops through the lineup checklist will be performed in accordance with all published regulations, technical orders, and the Blaze Standards.

10.1.3 **Pilot Monitoring Callouts** (taken from AFI 11-2T-1 V3):

Non-precision Approaches

- "One hundred feet above" MDA (published, PWC as applicable)
- "Minimums" at MDA (published, PWC as applicable)
- "Runway in sight" Call when the runway environment is, and will remain in sight.
- "Go Around" Call at the MAP if the runway environment is not in sight.

Precision Approaches

- "One hundred feet above DA/DH"
- "Continue" Call at DH/DA if the runway environment is in sight…
- "Go around" Call at DH/DA fi the runway environment is not in sight

Enroute Navigation

- Level-Off: "1,000 above/below" Call 1,000 feet from ATC assigned altitudes.
- The PM will announce heading deviations of 5 degrees or more, airspeed deviations of 5 knots or more below desired, and altitude deviations of 100 feet or more from desired.

CHAPTER 11

THREE- & FOUR-SHIP FORMATION

11.1 Ground Ops

11.1.1 The standard for three- and four-ship formation engine start is to close and crank. The FL may brief a different start plan.

11.1.2 Crews will close and crank, check ATIS, and be prepared for FL to check all players in 10 minutes prior to takeoff. FL and deputy FL will monitor UHF Ch. 5 prior to check-in on Aux. If a problem occurs that prevents an aircraft's ability to maintain fragged timeline that crew will inform FL as early as possible. If the problem occurs with FL they will either rolex the timeline or pass FL duties to the deputy FL. FL may grab clearance prior to the check-in, but should prioritize availability on UHF Ch. 5 for any wingman issues. FL may brief an alternate start and check-in plan.

11.2 Takeoff

11.2.1 **4-ship Lineup.**

11.2.1.1 The standard 4-ship line-up is the "element" lineup as depicted in AETCMAN 11-248. Ensure 500' minimum spacing between elements for 10-second element takeoffs.

11.2.1.2 Spacing between elements may be reduced to nose-tail separation only for single ship takeoffs.

11.2.1.3 If departing from the center runway at Columbus, use echelon lineup with 6-second interval takeoffs. Aircraft in each element will avoid crossing the centerline of their respective side of the runway in addition to the runway's painted centerline.

11.2.1.4 Use 4x6-second rolling interval takeoffs when at off-station airfields to reduce the time the formation is on the runway.

11.2.2 **Takeoff**

11.2.2.1 **All Takeoffs.** When the second element is in place, #3 will announce *"3's ready"* on Aux. Lead will state, *"CALL SIGN, run it up."* This call does not require acknowledgement. When the second element has confirmed its engine and instrument parameters, #3 will state, *"CALL SIGN 3's ready."*

11.2.2.2 **Element Takeoffs.** Use 10-second spacing between elements.

11.2.2.3 **Instrument Trail Departures.** Line up with 500' between elements and use 20-second spacing (minimum). State intentions to the tower clearly (e.g. *"Number one is CALL SIGN, flight of four, 2 (or 4) by 20, interval"*). When visual with #1 on departure, wingmen will notify lead by calling "visual" and the total number of aircraft they see in front of them. Lead will clear wingmen to rejoin as desired.

11.2.2.4 **Fall-out (3-Ship).** #3 will join up on the outside of #1's anticipated first turn out of traffic.

11.3 Departure and Enroute

11.3.1 On departure, #1 will maintain 160 KIAS with a pre-briefed power setting until all wingmen are rejoined.

11.3.2 Fingertip/Route – 2 inside turn, 3/4 outside first turn.

11.3.3 Fluid 4 – 2 left, 3/4 right.

11.3.4 Use Fluid 4 to the max extent practical.

11.4 Area Work

11.4.1 Close Formation

11.4.1.1 Echelon turns do not require visual signals to be passed up the line.

11.4.1.2 Cross-under signals for a single aircraft to maneuver to the majority side are prohibited. Radio use is required. #1 will not wing-dip into another aircraft. If in echelon position, #1 will use the radios to put #2 on the other side, or swing the entire formation to the other side ("2 take the left; C/S echelon left").

11.4.2 Fluid 4

11.4.2.1 Enter from route via a porpoise maneuver. #3 will mimic #1 for #4 to see the same signal.

11.4.2.2 #3 will mimic all signals for rejoins and wing-flashes, and will use radios when correcting #4.

11.4.2.3 Wingmen will stack based on #3's relative stack on #1. For example, if #3 is stacked high, relative to #1, then #2 would bias their stack on #1 low; and #4 would bias their stack on #3 high. Any deviations from this stack will be transitory in nature, and will not occur unless the deviating wingman has confirmed that there is no risk of conflict. The primary reason to deviate will be if the wingman perceives a need to fix their own ship geometry. No player will transit the stack of another until all players are visible and deconfliction is assured.

11.4.2.4 Element Leads – standard deconfliction rules apply between the wingman and flight lead. However, the flight lead should confirm wingman position prior to putting G on the jet anytime there's a chance that the fluid four wingman could be on the side that the flight lead is turning towards/into.

11.4.2.5 14 OG T-6s will not fly G-Ex maneuvers from Fluid 4.

11.4.3 Wall

11.4.3.1 Primary entry will be via Fluid 4.

11.4.3.2 All turns are standard TAC turns

11.4.3.3 #3 will mimic #1's wing flashes if turns require #4 to turn first.

11.4.3.4 No cross-turns or shackles will be flown.

11.4.3.5 The wingmen will stack based on #3's relative stack on #1. For example, if #3 is stacked high, relative to #1, then #2 would bias their stack on #1 low; and #4 would bias their stack on #3 high. During four-ship wall tactical turns (in-place, hook and delay turns), all wingmen will maintain stack, flying the contract parameters during the turn. Any deviations from this stack will be transitory in nature, and will not occur unless the deviating Wingman has confirmed that there is no risk of conflict.

11.4.3.6 Conflicts are most likely to occur due to a combination of poor adherence to "contract," and a lack of attentiveness to maintaining stack and heading.

11.4.3.7 G-Ex must be from wall with 3,000' spacing between all members.

11.4.4 **Offset Box**

11.4.4.1 Only entry will be from Fluid 4 during a turn by #1 away from #3.

11.4.4.2 All hook turns are delayed hook turns unless specified by #1.

11.4.4.3 #3 will call saddled either high or low once established in the offset box position after entry from Fluid 4.

11.4.4.4 Altitude deconfliction will be maintained by each player throughout each maneuver until all players are in sight and have rolled out.

11.4.4.5 #2 will be given the option to go high or low during rejoins. #3 and #4 will maintain spacing until #2 is stabilized on the rejoin line.

11.4.4.6 #3 determines #4's position in formation based on his offset position. The default is for #3 to be stacked low and between #1 and #2, with #4 staying to the outside of #2. As in all of the previously described formation positions, conflicts are minimized if all wingmen utilize a stack, especially during turns.

11.4.4.7 Shackle – A shackle executed while in four-ship box or offset box should be flown with care due to risk of conflict born out of the varying and somewhat unpredictable geometry of the formation members. If a shackle is required, it will be commanded by a radio call. All members will ensure that a stack is in place for vertical deconfliction. The assumption for a shackle is that it will be executed by element, one element at a time. The greatest area of conflict occurs when #1 and 2 shackle due to the closing geometry that they will have with #3 and 4. #3 will call "3 & 4 shackle" either after #1 and 2 are complete or there are no deconfliction issues.

11.4.4.8 14 OG T-6s will not fly G-Ex maneuvers from box or offset box.

11.4.4.9 Box formation may be used for tac-initial off-station and during MOA operations. Enter Box from Fluid 4 with #3 behind #1 and #4 behind #2. Delay as required to assume the position.

11.4.5 **Tactical Rejoins**

11.4.5.1 Contract is 200 KIAS and 45° bank.

11.4.5.2 All aircraft will maintain at least 100' spacing on the preceding aircraft until that aircraft is in a close route position.

11.4.5.3 #2 and #3 will call any idle or boards condition.

11.4.5.4 Any overshoot to the opposite side, i.e. crossing #1's 6 o'clock, will result in a potential conflict with the formation members on the opposite side. Formation members should avoid crossing #1's 6 o'clock unless crucial to preventing a collision. If crossing #1's 6 o'clock is required, the aircrew must communicate this ASAP to include verbalizing the deconfliction direction, e.g. *"2's overshooting low."*

11.5 Recovery

11.5.1 After Marble/Stennis, maneuver the formation to route echelon based on break direction.

11.5.2 Maintain route echelon position until established on runway centerline at initial, then rock in to fingertip.

11.6 Formation Procedures

11.6.1 **Radio Procedures**

11.6.1.1 Responses are required for all FENCE comm, rejoins, breakouts, practice lost wingman, and any radio calls that use the word "go" (e.g. *"Go wall"*, *"Go offset box"*, or *"Go channel 4"*).

11.6.1.2 Responses are not required when #1 can observe acknowledgement of the call (e.g. *"2 take the left side"* [cross-under], *"C/S echelon L/R"*). #3 will only respond to the following calls:

11.6.1.2.1 B/E checks and Alpha checks. If #2 or #4 show an error, they will wait for #3's response and check their systems if #3 responds *"same."*

11.6.1.2.2 Calls informing the formation that #1 is going off frequency or is back on frequency, only #3 will respond. While #1 is off frequency, #3 will respond to calls in #1's stead.

11.6.1.3 To send the formation to echelon, lead will direct, *"Psycho, echelon left."* If #1 uses *"go,"* acknowledgment is required from wingmen.

11.6.2 **Route Position and Spacing.** Extended cruise in three- and four-ship should be in route formation as much as practical.

11.6.3 **Visual Signals.** Visual signals (e.g. pitchout, echelon turn, BD check) should be mirrored down the line (1→2→3→4 in echelon, 1→3→4 in close/route formation). No acknowledgement is required.

11.6.4 **Element Rejoins.** Once cleared to rejoin by the lead element, the aircraft in the #2 position of the rejoining element will automatically go to fighting wing.

11.6.5 **BD Checks.** When lead directs a BD check, all other aircraft will maintain position while number 2 checks the entire formation and returns to the original position. Number 4 (#3 if 3-ship) is automatically cleared to check number 2 and return to position. No response is required unless an issue is discovered.

STUART.DEREK.S.1152560571
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Date: 2019.03.07 17:37:43 -06'00'

DEREK S. STUART, Colonel, USAF
Commander, 14th Operations Group

ATTACHMENT 1

LOCAL INSTRUMENT COCKPIT/AVIONICS SETUP

TYPE	ITEM	SETUP
RMU	UHF	Memory, Direct Entry
	VHF	Memory, Direct Entry CH 12 (CBM SOF) for local missions
	VOR	Memory, Direct Entry
GPS	SUPER NAV 5	Track Up (Right CRSR button) Range: As Desired OBS: As required
	Baro/Altimeter Setting	Set to current altimeter setting during GPS initialization. Update as required for navigation and GPS approaches.
	MODE	CDI Mode: +/– 1.00 NM
	SETUP 3	Surface: Hard Runway length: 3,000 ft
HSI	HSI Mode (may use w/Composite mode) or Map Mode with Composite selected on EADI	Nav Source: VOR or GPS (as required) ETE displayed White Needle: VOR Magenta Needle: GPS
TAS	ON/STBY	ABOVE: Departure BELOW: Recovery Range: As Desired

ATTACHMENT 2

CHECKLIST TERMINOLOGY

"(BOTH)" Items. The front cockpit pilot (or pilot flying) will initiate challenge and response items and ensure the other crewmember responds for every item highlighted and marked as (BOTH). T40XX students and pre-solo ALP students will verbalize each checklist item. Replies are only required for (BOTH) items.

BEFORE EXTERIOR INSPECTION	
Before Exterior Inspection (Note 3)	Before reaching into or placing item in the cockpit, the first pilot on the wing verifies both ejection seat/CFS pins are installed and the ISS is in solo and states, ***"ISS Solo, 2 safe seats."*** Before checking proper PCL movement, each pilot confirms, ***"PCL Clear"*** Once the check is complete, pilots state, ***"PCL Checks."*** ***"[ISS SOLO]"*** – RCP only. ***"Two pins in"*** – Ejection seat, and CFS pin installed. ***"OFF"*** – PCL stops check and is in cutoff. ***"Down"*** – Gear handle down. ***"Caged and locked"*** – Standby ADI caged and locked. ***"NORMAL"*** – Starter norm. ***"NORMAL"*** – Ignition norm. ***"Blower & OBOGS OFF"*** – Evap Blower off**,** OBOGS off ***"Seat, CFS, and Breakers good"*** – Ejection seat handle in good condition, eyebolt plungers seated, left and right top latches fully engaged with guide rail locking lugs, emergency O_2 is within limits, CFS donor plungers flush with housing, pin box is closed and latched and all circuit breakers are in. <u>Aux battery on</u>: ***"Fire 1, Aux Batt checks"*** – Standby instruments, backup UHF (FCP only) and fire 1 check; CWS & AEDD clear. RCP replies with same. <u>Battery on</u>: ***"Seat & Pubs good,"*** – Seat height adjusted; pubs/helmet bags properly stowed. ***"FDR light's out"*** – MAINT and FAIL light is extinguished (Note 3) RCP responds, ***"Seat & Pubs good"***

COCKPIT (ALL FLIGHTS) (Note 1)	
Strap-In	When fully strapped in the FCP will initiate this step by using the following terminology while verifying correct connections: ***"Legs, lap, seat kit, shoulders, helmet, harness, hoses, all strapped in, mask checks."*** The RCP IPs may respond with the same verbiage or ***"All strapped in, mask checks."***
Flight Controls	Each pilot will query ***"Feet and knees clear?"*** and verify controls are clear before checking the flight controls are free and correct. Each pilot then states "***Flight controls check"*** after visually confirming the flight controls move appropriately through the full range of motion.
Lamp Check	FCP pilot states, ***"My lamps check"*** once lamp test is complete and all lights are verified operational. RCP pilot responds with the same.
Fire Detection System	FCP will push the fire detection test switch forward and challenge by saying ***"Fire 1"*** and the RCP will respond with ***"Fire 1"*** for the proper light operation. Accomplish the Fire 2 test in the same manner.
Trim Disconnect/Trim	FCP verifies and states ***"Trim disconnect NORM."*** RCP responds with same. FCP checks trim operation all three axes, leaves the rudder trim out of the green and states ***"My trim checks, two in the green."*** RCP responds same.
Generator Switch	FCP states ***"Gen switch OFF."*** RCP responds with same.
Canopy	FCP states ***"Visor down, rail clear."*** RCP responds with same. After the canopy is confirmed closed and locked and the unlock lever checks, both pilots confirm, ***"Canopy is closed and latched, light's out."***
Before Engine Start/Motor	Ensure all BOTH items of "Cockpit (All Flight)" checklist are complete, then clear fore, aft, left and right and state, ***"Prop clear, crew chief, fire bottle, no oxygen or refueling within 50 feet, good temps, good volts, Start Ready illuminated/extinguished, ready to start/motor?"*** The RCP will respond with ***"Ready to start/motor."***
External Power	If used for engine start, FCP states, ***"Hands clear,"*** and the RCP responds with the same. Both pilots will keep hands visible to the crew chief until receiving the thumbs up signal indicating that the external power is safely disconnected.
BEFORE TAXI	
OBOGS	FCP challenges with ***"On, normal, normal, good blinker, lever On/Off."*** RCP responds with the same.
STBY ADI	FCP challenges with ***"Uncaged and adjusted."*** RCP responds with ***"Uncaged and adjusted."***

Anti-G Suit Test	FCP will challenge with ***"My G-suit checks"*** and the RCP will respond with ***"My G-suit checks."***
Speed Brake	FCP challenges with ***"Speed brake out, lights on"*** and RCP responds with ***"Light's on."*** Leave speed brake extended for flaps check.
Flaps	After flaps are lowered to landing, FCP challenges with ***"Flaps landing, lights out"*** and RCP responds with ***"Flaps landing, lights out."*** After setting flaps to TO, FCP challenges with ***"Flaps TO, lights out, speed brake won't extend."*** RCP will respond with ***"Flaps TO, lights out, speed brake won't extend."***
Flight Instruments	***"Flight instruments check"*** from both pilots after checking flight instruments IAW TO 1T-6A-1 and 11-217 V1.
Altimeters	***"XX.XX set twice, showing XXX*** *(altitude in main altimeter)* ***over YYY*** *(altitude in stby altimeter).***"** RCP responds with same.
CWS Panel	***"Panel Checks."*** Both pilots verify warning and caution panel is clear.
TAXI	
Taxi Brake Check	***"My brakes check."*** PF checks brakes once clear of sun shelters and directs the PNF to check brakes by stating ***"Check yours."*** The PNF checks brake operation and states, ***"My brakes check."***
Heading/Turn & Slip Indicators	Once clear of congested area, PF performs check and states, ***"Needles left/right, balls right/left, and decreasing/increasing on two."*** Only one turn is required. No response is required from the PNF.
BEFORE TAKEOFF	
End of Runway	Once verified with the checklist, the PF states ***"Minimum power at 60 knots is XX%,"*** and the RCP pilot confirms, ***"XX%, checks."*** If performing a wing takeoff, PF will state ***"Available power at 60 knots is XX%, min power is 85%."*** Once ejection seat pins are removed, FCP states ***"Pin's removed and stowed."*** RCP responds ***"Pin's removed and stowed."*** After both pins are removed and stowed, FCP queries ***"Confirm ISS (desired position)."*** RCP responds with ***"ISS (desired position)."***
LINEUP	
Caution and Warning Panel	Both pilots confirm no aircraft are on final, turn Probes on and check that the warning and caution panel has no abnormal indications. ***"Final's clear, panel checks."***

TAKEOFF	
Minimum Torque at 60 KIAS	During takeoff roll, the PF checks the calculated minimum value for torque at 60 KIAS and states *"**60 knots, torque checks."*** This call out is advisory only and no response is required by the PNF unless a discrepancy is observed. Aircraft performing formation wing takeoffs should check torque is within the acceptable range and use the same verbiage.
IN-FLIGHT CHECKS	
After Takeoff Check (Note 2)	***"Climbing"*** – Verified by looking outside during a contact takeoff and by checking the altimeter and VSI during an instrument takeoff. ***"Good engine"***—Engine instruments are within limits. ***"Gear clear?"***—Preparatory command for student to raise landing gear ***"Gear flaps up, lights out, (read airspeed)."***
Climb Check (Note 4)	Check cockpit altitude and ΔP passing 10K' MSL. They should read approximately 8,000' and 0.8 psi. FCP states ***"OBOGS good."*** RCP response is the same.
Ops Check	***"[Actual fuel], OBOGS good."*** RCP response is the same.
G-Ex	***"[Actual Gs], feeling good."*** RCP response is the same.
Pre-Stalls, Spins, and Aerobatics	***"Loose items stowed."*** RCP response is the same.
Descent Check	After receiving ATIS, both pilots will state, ***"XX.XX set twice. Heading and attitudes check."***
Before Landing (Note 2)	Prior to lowering the gear, PF will state: ***"XXX (PF reads actual airspeed), gear clear?"*** Once gear is down, ***"Check handle down, three green, flaps [desired position]."*** PNF verifies configuration (FCP physically verifies gear handle position) and responds, ***"Handle checks down, three green, flaps [desired position]."***

AFTER LANDING/ENGINE SHUTDOWN/BEFORE LEAVING AIRCRAFT	
After Landing	After past the hold short line, the FCP queries, ***"ISS SOLO?"*** RCP verifies the ISS is in Solo and responds, ***"ISS SOLO."*** After ejection seat pins are installed, both pilots confirm ***"Pin's in."*** Once standby ADI is caged and locked, both pilots state ***"Caged and locked."***
Engine Shutdown	Prior to placing the PCL off, both cockpits will confirm ***"Blower & OBOGS off."*** Before opening the canopy, the pilot opening the canopy will verify ***"Loose items stowed, rail clear"*** and receive confirmation from the other pilot. Before turning the batt/gen off, the FCP will check the FDR/Maint light and confirm ***"FDR light is out."***
AFTER LANDING/ENGINE SHUTDOWN/BEFORE LEAVING AIRCRAFT (Cont)	
Before Leaving Aircraft	Challenge and respond with: ***"ISS SOLO"*** – RCP only. ***"Two pins in"*** – Ejection seat and CFS pins in. ***"OFF"*** – PCL in cutoff. ***"Down"*** – Gear handle down. ***"Caged and locked"*** – Standby ADI caged and locked. ***"NORMAL"*** – Starter norm. ***"NORMAL"*** – Ignition norm. ***"Blower & OBOGS OFF"*** – Evap Blower off, OBOGS in off position, hoses & comm cord stowed loop forward. ***"Seat, CFS, Breakers good"*** – Verify Ejection seat is raised to the full-up position, straps/belts are properly stowed, plungers are seated and all circuit breakers are in.

NOTES:

1. If the FCP has partially completed the checklist prior to the RCP arriving on interphone, he/she need not interrupt the checklist to catch the other pilot up but may wait until the end of the Interior Inspection Checklist and perform all of the challenge and response items at the end.

2. On student, pre-solo transition and/or contact sorties, the IP must acknowledge the gear clear call with ***"clear"*** before the SP raises or lowers the gear. On all other sorties this is an advisory call only.

3. FDR FAIL light will be illuminated for approximately 10 seconds after battery power is applied while it conducts a BIT. After the 10 second BIT, any MAINT or FAIL light requires maintenance attention.

4. If applicable, the Ops Check and Climb Check may be combined.

ATTACHMENT 3

EXAMPLE FORMATION COMMUNICATION

Note: [Brackets] indicate items that are at lead's discretion. <Angle brackets> indicate information that are situation-dependent.

EVENT	LEAD CALL	WING CALL
Radio Check-Ins	***"Psycho, check [Aux]"***	***"2"***
Radio Channel Changes	***"Psycho, push / go XX [Aux]"***	***"No response / 2"***
Bullseye Check	***"Psycho, bullseye check, 1's bullseye <radial/distance from bullseye>"***	***"2 same" or "2's bullseye <radial/distance from bullseye>***
Alpha Check	***"Psycho, alpha check to <NAVAID/airfield>, 1's <radial distance from NAVAID/airfield>"***	***"2 same" or "2's <radial/distance from NAVAID/airfield>"***
FENCE-In (Note 2)	***"Psycho, FENCE-in"***	***"2"***
Climb Check (Note 1)	***"Psycho, climb check"***	***"2"***
Ops Check (Notes 2, & 3)	***"Psycho, ops check [Psycho] 1 is 900, [4 G's]"***	***"[Psycho] 2's same" or "[Psycho] 2 is 800, [5 G's]"***
Close Trail	***"[Psycho] 2, go close trail"***	***"2" / "[Psycho] 2's, in"***
Knock-it-off/Terminate (For Terminate, replace the term "Knock-it-off" with "Terminate")	***INITATED BY LEAD***	
	"Psycho, Knock-it-off… Psycho 1, Knock-it-off"	***"Psycho 2, Knock-it-off"***
	"Alibi"	***No response***
	INITIATED BY WING	
		"Psycho, Knock-it-off"
	"Psycho 1, Knock-it-off"	***"Psycho 2, KIO, Alibi"***
Breakout	***DIRECTED BY LEAD***	
	"[Psycho] 2, breakout"	***No response***
	"[Psycho] 2, roll out"	***No response***
		"[Psycho] 2's, visual"
	INITIATED BY WINGMAN	
		"[Psycho] 2's breaking out"
		"[Psycho] 2's visual"

Practice Lost Wingman	***"[Psycho] 2, go practice lost wingman"***	***"2"***
		"<[Psycho] 1 roll out>, [Psycho] 2's lost wingman"
	"[Psycho] 1 is <Attitude>"	***"2"***
		"[Psycho] 2's visual"
Extended Trail Exercise	***"[Psycho], go ET level [1,2,3]"***	***"2"***
		"[Psycho] 2's in"
Blind EX Check Turn	***"Psycho, standby blind exercise, reference heading <xxx>"***	***"2"***
	"Psycho, turn away"	***No response***
		"[Psycho] 2's blind, altitude"
	"[Psycho] 1's, blind, altitude. Psycho 2 <climb/descend/maintain altitude/snap HDG xxx>"	***"2"***
Check Turn	***"Psycho, check XX [degrees]<Left/Right>"***	***No response***
FENCE-Out (note 3)	***"Psycho, FENCE-out"***	***"2"***

NOTES:

1. OBOGS checks are always internal to the aircraft. No calls on Aux are necessary.
2. Only state ***"same"*** if Wing has the same values as Lead for Fuel (+/- 50 #) and G (+/- 0.5 G); otherwise respond with actual values.
3. Formation members will verbalize fuel on all Ops Checks. Include G's in the MOA or as directed by lead.

Fluid Maneuvering from Tactical

	LEAD CALL	WING CALL
(Note 1)	***"Psycho, ops check, [Psycho] 1 is 800, 4 G's"***	***"[Psycho] 2 is 800, 4 G's"***
	"Psycho, next set FM level 1/2/3/4 for 1/2"	***"2"***
	"[Psycho] 1 ready"	***"[Psycho] 2 ready"*** ***or*** ***"Psycho 2, standby [reason]"***
	"Psycho check left/right" (Away from maneuvering aircraft)	
	TRAINING AIRCRAFT CALL	**MANEUVERING AIRCRAFT CALL**
		[Psycho 1 Ease-Off/Tighten Down]
(Note 2)		***"[3, 2.5, 2]"***
		"Psycho, fight's on"
		"Psycho terminate"
	"Psycho [1/2], terminate"	***"Psycho [2/1], terminate"***
	"Psycho, reference hdg XXX, go tactical right/left"	

NOTES:

1. During advanced formation sorties, both aircraft should state fuel and G's regardless if they are within 50 lbs and ½ G.
2. The maneuvering aircraft may count down their distance to the training aircraft prior to the *"fight's on"* call.

Fluid Maneuvering from a Pitchout

	LEAD CALL	WING CALL
(Note 1)	***"Psycho, Ops Check, 1 is 800, 4 G's"***	***"Psycho 2 is 800, 4 G's"***
	"Psycho, next set FM level 1/2/3/4 for 1/2"	***"2"***
	"Psycho, pitchout right/left" ***or*** ***Gives pitchout signal***	#2 delays ~5-6 sec
	"Psycho 1 ready"	***"Psycho 2 ready"*** ***or*** ***"Psycho 2, standby [reason]"***
	TRAINING AIRCRAFT CALL	**MANEUVERING AIRCRAFT CALL**
	Training aircraft starts turn, then pulls to put maneuvering aircraft at 4 AA	Maneuvering aircraft pulls pure pursuit
(Note 2)		***"[3, 2.5, 2]"***
		"Psycho, fight's on"
		"Psycho terminate"
	"Psycho [1/2], terminate"	***"Psycho [2/1], terminate"***
	LEAD CALL	**WING CALL**
	"Psycho, reference hdg XXX, go tactical right/left"	

NOTES:

1. During advanced formation sorties, both aircraft should state fuel and G's regardless if they are within 50 lbs and ½ G.
2. The maneuvering aircraft should count down their distance to the training aircraft prior to the *"fight's on"* call.

Tactical to ET

LEAD CALL	WING CALL
"Psycho, standby ET level 1/2/3"	***"2"***
	#2 ensures 3,000' LAB, 200 KIAS
"Psycho 1, ready"	***"Psycho 2, ready"*** ***or*** ***"Psycho 2, standby [reason]"***
"Psycho check right/left" (Away from #2)	
Training aircraft checks away from #2 with a contract turn	Maneuvering aircraft continues until pure on #1
Training aircraft turns back into maneuvering aircraft, putting them on a 4 AA	
Both aircraft set power	***"[Psycho] 2's in"***
	"Psycho, terminate"
"Psycho 1, terminate"	***"Psycho 2, terminate"***
"Psycho, ops check, [Psycho] 1 is 700, 4 G's"	***"[Psycho 2] is 700, 4 G's"***

ATTACHMENT 4

GK OF THE DAY

Date	Transition (Contact Emphasis)	Transition (Instrument Emphasis)
1.	Taxi Operations	Instrument takeoff
2.	Takeoff/TOLD definitions	Approach plate/chart symbology
3.	Joker/bingo fuel (and how to adjust for a TD fuel)	Steep turns
4.	Bengal/Buzzsaw Departure	Airspeed/rate climb/descent
5.	Basic acft control and torque/trim considerations	IFR Supplement information
6.	Engine system/oil system	Vertical S
7.	Power-on stalls/stall characteristics	Confidence maneuvers
8.	Contact Recovery Status	Unusual attitudes
9.	In-flight planning/area orientation/energy mgmt	Course intercepts
10.	Traffic pattern stalls/stall characteristics	Direct-to-fix
11.	Use of terrain clearance charts	Instrument departure procedures
12.	OCF recognition/recovery/characteristics	Holding
13.	Electrical system	Bigbee Recovery (KMEI)
14.	Contact recoveries	Enroute descent calculations
15.	Slow flight	VOR final approach
16.	Pickens Recovery	PAR/ASR approach
17.	Sunfish 2 Recovery	ILS approach
18.	Normal straight-in	Localizer approach
19.	No-flap straight-in	GPS approach
20.	Normal overhead	Circling approach
21.	No-flap overhead	Transition to landing
22.	Heavyweight patterns	Missed approach
23.	Go around/offset	340 Coded Recovery (TCL)
24.	Fuel system	Slots/IFR Recovery Status
25.	G-awareness exercise	Arrival
26.	Pattern break out	Penetration approaches
27.	Aileron roll/loop/split s	Joker/bingo (and TD fuel changes)
28.	OBOGS/pressurization system	DD175/1801/GP, Ch. 4 procedures
29.	Advanced aerobatics	Alternate/filing requirements
30.	Hydraulic system	Electrical failure approach options
31.	Night considerations	TCL Departure

Date	Formation	Low Level
1.	G-awareness exercise	SR corridor structure/AP-1B info
2.	Knock-it-off situations/actions initial	VFR off-station arrival/tactical
3.	Terminate situations/actions	Map symbology
4.	Break out situations/actions	Map preparation
5.	Blind procedures	Airspace classification (11-217, V2)
6.	Lost wingman	Emergency route abort altitude
7.	Taxi operations	Continuation fuel
8.	Formation takeoff	Bingo fuel (and TD fuel changes)
9.	Interval takeoff /join-up	Emergency divert airfields
10.	Instrument trail departure	Departure to SRs
11.	Fingertip position/wingwork exercise	Recovery from SRs
12.	Cross-under	Weather abort
13.	Echelon turn	AHAS use
14.	Route	Threat avoidance requirements
15.	Double-blind exercise	Use of terrain clearance charts
16.	Turning rejoin initial	VFR off-station arrival/tactical
17.	Straight-ahead rejoin	SR corridor structure/AP-1B info
18.	Overshoot	Map symbology
19.	Fighting wing	Map preparation
20.	Extended trail	Airspace classification
21.	Close trail	Emergency route abort altitude
22.	Tactical turns	Continuation fuel
23.	Tactical rejoins	Bingo fuel (and TD fuel changes)
24.	Fluid maneuvering	Emergency divert airfields
25.	Formation approach/landing	Departure to SRs
26.	Formation responsibilities	Recovery from SRs
27.	Lead change	Weather abort
28.	Visual signals	AHAS use
29.	Joker/bingo fuel (and how to adjust for a TD fuel)	Threat avoidance requirements
30.	In-flight planning/area orientation/energy mgmt	Use of terrain clearance charts
31.	Formation abandon approach/go around	Alternate entry/exit of SRs

ATTACHMENT 5

BRIEF/DEBRIEF ETIQUETTE

A5.1 The following outlines tasks and proper behavior leading up to and during T-6 briefings and debriefings. It is designed to maximize learning in the UPT environment. Additionally, it will prepare students for their follow-on training and operational squadrons.

A5.2 The briefing sets the tone for the mission and needs to be conducted in a professional, systematic method. Likewise, debrief is where the majority of learning will occur if conducted properly. The following expectations will facilitate these two objectives and will further develop professional airmanship and habit patterns.

A5.2.1 **General ROE**

- Coordinate all requirements prior to the briefing/debriefing
- Ensure all go/no-go items are accomplished
- Be on time
- IP/FL is the only one speaking until they ask for inputs

A5.2.2 **Student/Trainee ROE**

- Be in your seat prior to the beginning of the briefing
- Remain seated during the briefing
- Actively listen (DON'T follow along in the IFG)
- Do not interrupt
- Hold questions until asked e.g. motherhood questions at the end of motherhood
- Valid questions are **what, when, where** for the Flight Lead (coordination brief)
- Save **How** questions for the individual brief
- Be ready to brief your part e.g. WX, NOTAMS etc.

A5.2.3 **Instructor/Flight Lead**

- Ensure the mission is thoroughly briefed
- Set the tone, be the center of attention, and use a logical briefing flow
- Manage time to allow individual instructional briefings
- Focus on contracts and contingencies to successfully accomplish the objectives

A5.2.4 **Debriefing**

- Types of Errors
  - Perception - Cues
  - Decision - Action
  - Execution - Mechanics
- Your assistance/participation is required!
  - Must be able to recall perceptions, decisions, and actions during mission events!
- Rank comes off (the IP/FL is the IP/FL, independent of rank)
- Check egos/defensiveness at the door
- Back yourself up with fact(s)
  - 11-248, 11-2T-6V3, Squadron Standards, AFIs, T.O.s. etc.

- Expect
    - To be corrected
    - To be instructed
- Nothing is personal. You have to have thick skin to survive this business!

A5.2.5 **DO's and DON'Ts**

- DO let the Flight Lead talk
- DO highlight Safety / Training Rule Violations
- DO answer direct questions with direct answers
    - Yes, No, I don't know, etc.
- DO own Up To Your Mistakes
- DO save questions until the FL/IP asks
- DON'T speak unless asked to
- DON'T expand/elaborate until the FL/IP asks (sounds like an excuse)
- DON'T whine or quibble
- DON'T take it personally – learn and press on!

ATTACHMENT 6

ADVANCED CRM (NAVIGATION/LOW LEVEL)

A6.1 The navigation and low level flight environments are highly dynamic, which may require a different approach to CRM. Below is the recommended CRM format to utilize when flying advanced navigation and low levels sorties:

General	Radio usage (i.e. PNF deemed radio operator), checklist management (i.e. initiator of the checklist responsible for its completion), O2/crew station checks (circuit breakers, generator/battery, fuel quantity/flow, O2 , hydraulics)
Ground Operations	Preflight, late takeoff capability, need for new LL entry, PPR timing
Departure	Identify major action points and routing
Ingress and Egress (MOA or Low Level)	Routing, Communication (check-in, controlling agency), squawk codes, AOR review, range/LL route details (time, block altitudes), lights, altimeter setting (as required), FENCE
Recovery	IAF, landing time and fuel, approach review (minimum safe altitudes, missed approach point, airfield sketch, MDA, DH, VDP), pattern activity/plan, bird watch condition (BWC), low visibility approaches
Miscellaneous	Crunch points, emergency airfield, contingencies

A6.2 Avionics and Displays. Normally the PF is responsible for the setup and configuration of the avionics. However, in the advanced navigation phase it is recommended that the PNF accomplish these duties to the max extent possible. All administrative duties (to include radio communications) will be accomplished by the PNF in all phases of flight:

Device/Equipment	PNF Responsibilities
RMU	UHF & VHF: All frequency inputs AND radio calls Squawk Codes: Input and set assigned squawk
GPS	Navigation: Manage routing and ensure all filed/assigned waypoints are in flight plan

	Approach: Load all planned approaches Baro/Altimeter Setting: Set current altimeter setting during ground ops, and update altimeter setting as required for navigation and GPS approaches CDI Mode: Set to +/- 1.00 NM OBS: As required
HSI	Heading Bug: Set to either pilot's request or current ATC-directed heading Course Needle: Set to inbound approach course (IFR) or runway heading (VFR) Nav Source: VOR or GPS (as required) White Needle: VOR Magenta Needle: GPS HSI+Composite: ILS/LOC/VOR/PAR/ASR Approaches Map+Composite: GPS Approaches
TAS	Above: On departure or when climbing Below: On recovery or when descending Range: As desired

A6.3 Low Level. The PNF will accomplish the following:

Ground	Load route in GPS and determine late takeoff capability. Coordinate for earlier/later entry time if necessary.
Ingress	Accomplish FENCE-In check. Change squawk as required.
In Route Corridor	Accomplish SHAFT checks 1+30 prior to each turn point.
Egress/Recovery	Accomplish FENCE-Out checks. Change squawk as required. Load planned recovery approach.