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SECRETARY OF THE AIR FORCE**

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**F-15E--OPERATIONS PROCEDURES**

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This volume establishes effective and safe operations of the F-15E and implements AFPD 11-2, *Aircraft Rules and Procedures*; AFPD 11-4, *Aviation Service*; and AFI 11-202V3, *General Flight Rules*. It establishes the minimum Air Force operations procedures for personnel performing duties in the F-15E. This publication applies to the US Air Force Reserve Command (AFRC). This publication does not apply to the Air National Guard (ANG). Selected paragraphs of this publication do not apply to all Air Force units. When an exception exists to the requirements of a paragraph, the exception is indicated in a parenthetical within the paragraph, or by using subparagraphs directed at specific units. MAJCOMs, Direct Reporting Units (DRU) and Field Operating Agencies (FOA) will forward proposed MAJCOM/DRU/FOA-level supplements to this volume to HQ USAF/A3O-AT, through HQ ACC/A3TO, for approval prior to publication IAW AFPD 11-2, para 4.2. & 6.2. Copies of approved and published supplements will be provided by the issuing office to HQ AFFSA, HQ USAF/A3O-AT, HQ ACC/A3TO, and the user MAJCOM/ DRU/FOA offices of primary responsibility (OPR). Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA OPR for post publication review. **NOTE:** The

above applies only to those DRUs/FOAs that report directly to HQ USAF. Keep supplements current by complying with AFI 33-360, *Publications and Forms Management*.

Waiver authority to this publication is set out in [para 1.3](#). See [para 1.4](#) for guidance on submitting comments and suggesting improvements.

This instruction requires the collection or maintenance of information protected by the Privacy Act of 1974. The authority to collect and maintain the records prescribed in this instruction are 37 USC 301a, Incentive Pay; Public Law 92-204 (Appropriations Act for 1973), Section 715; Public Law 93-570 (Appropriations Act for 1974); Public Law 93-294 (Aviation Career Incentive Act of 1974); DoD Instruction 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report*; AFI 11-401, *Aviation Management*; and E.O. 9397, *Numbering System for Federal Accounts Relating to Individual Persons*. System of records notice F011 AF/XOA, Aviation Resource Management System (ARMS), applies.

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#### NOTE:

This instruction contains references to the following field (subordinate level) publications and forms which, until converted to departmental level publications and forms may be obtained from the respective MAJCOM publication distribution office.

#### Publications:

**(SEYMOURJOHNSONAFB)** AFI 11-2F-15E Volume 3, 11 AUGUST 2009, is supplemented as follows. This supplement includes updated publication references and implements current local F-15E Operations Procedures. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional chain of command.

#### **SUMMARY OF CHANGES**

Paragraphs have been reorganized to increase standardization with other AFI 11-2MDS Vol 3s and improve logical flow. A thorough review of this instruction is required by all aircrew to understand the implications of the reorganization.

Changes by chapter and paragraph are as follows:

**Chapter 1** References paragraph is removed. **Para 1.3** COMAFFOR added as a waiver authority. **Para 2.2.2** OG/CC and OGV roles refined. **Para 2.4.1** Additional TOLD guidance. **Para 2.4.2** Modified local area map requirements. **Para 2.4.4** Reorganization and refinement of low altitude map preparation requirements. **Para 2.4.4.3** Added mountainous terrain consideration to RAA calculation guidance. **Para 2.4.4.4** Mountainous terrain defined. **Para 2.4.4.5.1** Added mountainous terrain consideration to MSA calculation guidance. **Para 2.4.5.1** Changed PFPS reference to MPS. **Para 2.5** Added fuel conservation guidance. **Paras 2.6, 2.7** Reorganized brief and debrief requirements and responsibilities. **Chapter 3** All guidance specific to night operations is combined in **Section 3E**. **Para 3.1.3** Added. **Para 3.1.4** Additional COMBAT EDGE vest use guidance. **Para 3.3.4** Additional EOR check guidance. **Para 3.5** Change to Before Takeoff Checks guidance. **Para 3.6** Eliminated guidance to align aircraft with runway heading during rolling takeoffs (basic pilot knowledge). **Para 3.6.9** Added Suspected Hot Brake calculation guidance. **Para 3.9.1** Added ATP-56(B) reference. **Para 3.10.1.2** Defined low altitude maneuvering regime. **Para 3.11.2.1** Changed chase formation restrictions. **Para 3.15** Radio procedures edited. **Para 3.16** Additional student AAR restriction. **Para 3.17.1** Edited formation guidance. **Para 3.17.2.2** Changed separation from known obstacle guidance (climb to MSA/RAA no longer mandatory). **Para 3.17.8** Added guidance for low altitude target pod use. **Para 3.18.2** Prohibits unarmed TF ops (VMC and IMC). **Para 3.18.3** Mountainous terrain for TF is defined by the TO, not FARs. **Para 3.18.9** Added NVG guidance. **Para 3.18.10.2** Deleted requirement for WSO to keep a HUD repeater on during TF ops. **Para 3.20.1** Specifies overhead patterns may be flown with unexpended inert heavyweight ordnance. **Para 3.23.1** Changes desired touchdown point for precision approaches. **Para 3.23.2** Deleted AFI 11-202V3 redundant guidance. **Para 3.24.2** Adds gun malfunction to list of items preventing touch and go landings. **Para 3.26** Eliminated redundant guidance. **Para 3.27** Eliminated technique-based guidance from formation approaches. **Para 3.29.4** Rewritten, but guidance remains the same. **Para 3.33** NVG options are included in night TF ops. **Para 3.34.4** Specific NVG formation guidance. **Para 3.34.7** Deleted NVG min altitude specific instructions already listed in AFI 11-214. **Para 3.38** Significantly shortened list of required crew procedures. **Para 3.39** Added IFF/SIF interrogation guidance. **Para 4.1.1** Added EADI requirement to IMC flight. **Para 4.3.4.2** Removed some trail departure parameters. **Para 4.7.1** Additional IAP restriction. **Para 5.2** Amplified simulated A/A gun employment instructions. **Chapter 6** Removed weather minimum guidance (redundant AFI 11-214 information). **Para 6.2** Amplified simulated A/G attack instructions. **Para 6.4.3** Specified fewer TF loft parameters. **Para 6.5** Night and IMC range delivery instructions are combined. **Para 6.5.3** Clarified requirements for dropping through the weather and added IAM considerations. **Para 7.3.3** Cable call for takeoff aborts is not mandatory. **Para 7.3.5** Additional hot brake reference. **Para 7.5.2.2** NORDO recovery language made directive. **Para 7.5.3** Shortened NORDO guidance. **Para 7.7.4** Added tanker lost wingman reference. **Para 7.9.2** and **Para 7.9.3** Added “firing” nomenclature to paragraphs. **Para 7.9.4** Changed missile malfunction guidance. **Para 7.9.5** Added gun malfunction guidance. **Para 7.9.6** Additional hung ordnance and weapon malfunction recovery procedures. **Chapter 8** is reformatted. **Para 8.2.11** Added BASH program to list of local items. **Attachment 2** Added CBRNE ops. **Attachment 3** to **Attachment 16** Briefing guides edited.

(SEYMOURJOHNSONAFB) This supplement has changed significantly and requires a thorough review by all affected personnel. Insert this supplement immediately after the basic

publication. Significant portions were removed or minimized that overlap with SJAFBI 11-250, Airfield Operations. This includes: quick and unrestricted climb request guidance, min-comm launch procedures, departure priorities, non-standard departure request procedures, arrival traffic priorities, IFR recovery procedures, reverse recovery procedures, VFR recovery procedures, radar pattern/local climbout procedures, tactical approaches, reduced same runway separation (RSRS), Echo MOA operations, in-flight fuel dumping procedures, controlled bailout/IFR jettison procedures, VFR jettison location, taxi to park procedures, and hot brake parking locations. Additional changes by paragraph are as follows: Changed all “Base Ops” references to “Airfield Management” or “AM Ops”. Changed “In-Flight Guide” (IFG) to “Aircrew Aid”. Paragraph 8.1.3.1.1. changes filing timing requirement to match 11-250. Removed requirement to notify ground five minutes prior to Echo use. Paragraph 8.1.3.1.3. clarifies split recovery flight plan filing. Paragraph 8.1.3.2.3. Operations Officers will approve End of Tour flight profiles. Removed ice FOD paragraph to avoid overlap with -1 Chapter 7. Paragraph 8.1.3.4.2.1. adds TACAN out alternate/divert fuel considerations when field is VFR. Paragraph 8.1.3.4.3. removed extraneous verbiage regarding LW5 procedures. Paragraph 8.1.3.4.3.2.5. directs aircrew to adjust holding location during LW5 operations to optimize divert options. Paragraph 8.1.3.5.1 adds BT-9/11 as overland for anti-exposure wear. Paragraph 8.1.3.5.3. removed requirements for survival vest wear. Paragraph 8.1.3.6.1. adds FOD check requirement during walk around. Paragraph 8.1.3.6.3. adds local guidance for seat beacon setting. Removed guidance to squawk 4000 on VR routes. Guidance is same in AP1/B. Paragraph 8.1.3.8.2.1. clarifies trail aircraft squawk in non-standard formation. Paragraph 8.1.3.9.2. adds shelter taxi restrictions. Removed reference to hung BDU-33, since BDU-33s do not “hang” and are only unexpended. Removed the auto-switch to tower upon landing since this handoff now occurs airborne. Paragraph 8.1.3.11.2. updates HQ frequency allocation. Removed rolling takeoff restrictions. Removed guidance to contact SOF if tailwind does not permit Runway 26 departure with live ordnance. Paragraph 8.1.4.2.3. adds Adjusted Max Abort for Arrestment (AMA) use guidance. Paragraph 8.1.4.2.4. adds rolling takeoff as the primary departure procedure, for FOD mitigation purposes. Paragraph 8.1.4.4.2. adds FENCE/Trigger check restrictions. Paragraph 8.1.4.4.3. generalizes supersonic restrictions to allow in all authorized airspace. Paragraph 8.1.4.4.4. Minimizes Echo MOA guidance to avoid SJAFBI 11-250 overlap. Paragraph 8.1.4.4.5.1. standardizes altimeter settings in W-122 with VACAPES regulations and adds local guidance for abnormal altimeter settings. Paragraph 8.1.4.6.1.2. adds requirement to confirm annual route survey for low levels and lists some local routes not surveyed annually. Removed allowance to not monitor 255.4 on low levels. Removed forest fire avoidance guidance to avoid confusion with NOTAM published Temporary Flight Restrictions (TFRs) that may be more restrictive. Paragraph 8.1.4.8.1. adds requirement for all aircrew participating in reduced / lights-out training to wear NVGs. Paragraph 8.1.4.8.2. adds qualification requirements for reduced/lights-out training. Paragraph 8.1.4.8.5. updates Reduced/Lights Out operations in R-5314. Paragraph 8.1.4.9.1. adds VHF frequency for Kinston pilot controlled lighting. Paragraph 8.1.4.9.4. adds reference to Kinston powerline obstacle on approach end of Runway 23. Paragraph 8.1.4.9.6.2. clarifies radar trail recovery spacing. Paragraph 8.1.4.10.1.1. adds added expected ATC response to “min fuel” call. Paragraph 8.1.4.10.1.2. adds requirement to raise VFR bingo 1,000 pounds at night. Paragraph 8.1.4.12. adds aircraft fatigue management and ORM procedures. Removed Phelps/Dare intercept SPINS due to lack of use/utility. Paragraph 8.1.4.14.3 updates DEMO procedures. Paragraph 8.1.5.2.3. IMC Intercepts not authorized. Paragraph 8.1.5.2.4. adds unlimited maneuvering floor requirements for FTU operations.

Paragraph 8.1.5.3.5. clarified to permit off-range simulated attacks with Master Arm – Safe.  
 Paragraph 8.1.6.2.6. updates SAR alert force information. Paragraph 8.1.6.7. updates hot brake procedures. Paragraph 8.1.6.8. updates malfunctions which prohibit taxi.

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## Chapter 1

### GENERAL GUIDANCE

**1.1. Abbreviations, Acronyms, and Terms.** See [Attachment 1](#).

**1.2. Responsibilities.** This instruction, in conjunction with other governing directives, prescribes procedures for operating F-15E aircraft under most circumstances. It is not a substitute for sound judgment. Procedures not specifically addressed may be accomplished if they enhance safe and effective mission accomplishment.

**1.3. Waivers.** Unless another approval authority is cited, waiver authority for this volume is MAJCOM/A3, or COMAFFOR for those aircrew and assets under a COMAFFOR's oversight. Waivers are issued for a maximum of one year from the effective date. COMAFFOR will notify HQ ACC/A3 and home station MAJCOM/A3 of waivers within 72 hours of approval.

**1.4. Deviations.** In the case of an urgent requirement or aircraft emergency the pilot in command (PIC) will take appropriate action(s) to safely recover the aircraft. If time permits specific approval of the MAJCOM/A3 or COMAFFOR will be obtained for one time deviations from these procedures.

**1.5. Processing Changes.**

1.5.1. Submit recommended changes and questions about this publication through MAJCOM channels to the Office of Primary Responsibility (OPR) per AFI 11-215, *USAF Flight Manuals Program (FMP)* using AF Form 847, *Recommendation for Change of Publication*.

1.5.2. The submitting MAJCOM will forward information copies of AF Forms 847 to all other MAJCOMs that use this publication. Using MAJCOMs will forward comments on AF Forms 847 to the OPR.

1.5.3. OPR will:

1.5.3.1. Coordinate all changes to the basic volume with affected MAJCOM/A3s.

1.5.3.2. Forward change recommendations to HQ AFFSA for staffing and HQ USAF/A3 approval.

## Chapter 2

### MISSION PLANNING

**2.1. Responsibilities.** The responsibility for mission planning is shared jointly by all flight members as well as the ops and intel functions in the unit.

**2.2. General Procedures.**

2.2.1. **Planning.** Accomplish sufficient flight planning to ensure safe mission execution to include fuel requirements, map preparation, and takeoff and landing data (TOLD) (**USAFE:** For sorties landing at other than home-station, reference AFI 11-202V3\_USAFESUP\_I, Attachment 4, CONTROL OF FIGHTER/ATTACK AIRCRAFT FOR OFF STATION SORTIES/DIVERT). Consider foreseeable safety risks and adopt risk mitigation factors in accordance with Operational Risk Management (ORM).

2.2.2. **Standards.** The SQ/CC is the approval authority for squadron standards. OG/CC may publish and approve group or wing standards. Ops Group Stan/Eval (OGV) will review all standards for compliance with AFI 11-series guidance.

**2.3. Unit Developed Checklists and Local Aircrew Aids.**

2.3.1. Unit developed checklists may be used in lieu of flight manual checklists (except -25 checklists) provided they contain, as a minimum, all items (verbatim and in order) listed in the applicable checklist.

2.3.2. Units will produce an aircrew aid that, as a minimum, includes:

2.3.2.1. Briefing guides (reference Briefing Guide Attachments in this volume).

2.3.2.2. Local radio channelization and airfield diagrams.

2.3.2.3. Impoundment procedures, emergency action checklists, and No Radio (NORDO)/divert information.

2.3.2.4. Arresting gear information for divert bases.

2.3.2.5. Bailout and jettison areas and On-Scene Commander (OSC) checklist.

2.3.2.6. Cross-country procedures to include: command and control, engine documentation, Joint Oil Analysis Program (JOAP) samples, and aircraft servicing.

2.3.2.7. Other information as deemed necessary by the units (i.e. stereo flight plans, local training area diagrams, local area maps of sufficient detail to provide situational awareness on area boundaries).

**2.4. Flight Material Preparation.**

2.4.1. **Mission Data Card.** TOLD will be annotated on mission data cards.

2.4.1.1. The minimum TOLD required is maximum abort speed for expected conditions (i.e. dry/wet/icy), rotation/Nose Wheel Lift Off (NWLO)/takeoff speed, takeoff distance, single engine rotation/NWLO/SETOS, and normal/heavy weight landing distance.

2.4.1.2. The most current version of Technical Orders (TO) 1F-15E-1-1, *Flight Manual Performance Data USAF Series F-15E Aircraft* and 1F-15E-1CL-1 *Flight Crew Checklist USAF Series F-15E Aircraft* are the authorized sources for calculating TOLD.

2.4.1.3. Pre-calculated or automated (e.g. JMPS) data may only be used for TOLD if verified against the information in these TOs.

2.4.1.3.1. Unit developed tabular data must be verified against the TOs and will include a date and signature block of the aircrew verifying it as correct.

2.4.1.3.2. OPR for certification of TOLD in automated systems is ACC/A8SM. OPR for revocation of certification due to TO change is ACC/A3TV. Units will be informed of revocation via MAJCOM Flight Crew Information File (FCIF) message.

2.4.2. **Local Area Maps.** A separate local area map is not required if the unit aircrew aid provides a local area map IAW [para 2.3.2.7](#) (**USAFE:** on flights from a deployed location, each aircrew will have available a local map annotated with designated flying areas, emergency airfields, buffer zones, control zones, and restricted or danger areas if this information is not available in a deploy-location aircrew aid).

2.4.3. **Charts.** Flight Information Publications (FLIP) en route charts may be used instead of maps on navigational flights within areas that are adequately covered by these charts.

#### 2.4.4. **Low Altitude Maps.**

2.4.4.1. On all low altitude flights, each aircraft in the flight will contain a minimum of one Chart Handbook Manual (CHUM) updated map of the low altitude route or training areas. The map will be of a scale and quality that terrain features, hazards, and chart annotations are of sufficient detail to allow navigation and safe mission accomplishment.

2.4.4.2. Annotate time or distance tick marks and headings. Highlight all manmade obstacles at or above the planned flight altitude.

2.4.4.3. Annotate all maps with a Route Abort Altitude (RAA). Compute the RAA for the entire route/area at a minimum of 1,000 feet (2000' in mountainous terrain) above the highest obstacle/terrain (rounded up to the next 100 feet) within the lateral limits of the route or training area, but in no case less than 5NM either side of planned route.

2.4.4.3.1. Mountainous terrain is designated by FAR 95.11.

2.4.4.3.2. When operating outside US domestic airspace any terrain above 3,000 ft. MSL will be considered mountainous terrain.

2.4.4.4. **Terrain Following (TF) Flight Map Preparation.** In addition to the low altitude map requirements listed above:

2.4.4.4.1. Annotate a Minimum Safe Altitude (MSA) for each leg of the intended route of flight. MSA is defined as an altitude that provides 1000 feet of clearance above the highest obstacle/terrain (rounded up to the next 100 feet) within 5NM of the planned course.

2.4.4.4.2. Annotate maximum and minimum route structure altitudes if applicable.

2.4.4.4.3. To ensure maps accurately display planned routes, TF turn point bank angles must reflect realistic systems limitations.

2.4.4.4.4. In order to verify proper operation of the TF system, TF letdown corridors for the primary (and alternate, if applicable) entry points for low level routes will be computed and briefed. As a minimum, compute MSA and Recovery Initiation Altitude (RIA) as well as values for terrain at 1 NM and command level off.

2.4.4.4.5. For night TF missions select letdown points that avoid initial descents into rugged or mountainous terrain (defined by TO 1F-15E-1 as any vertical change that exceeds 900 ft/NM).

2.4.5. (**CONUS Only**) Aircrew members flying under VFR or inside MTRs will supplement existing mission planning materials (e.g. CHUM, FLIP AP/1B, etc.) with at least one of the following:

2.4.5.1. JMPS (or FalconView if JMPS is not available) chart with the following overlay options selected: airports/heliports, airspace boundaries with approach control frequencies annotated, airways, MTR, parachute jump, and Special Use Airspace (SUA) boundaries.

2.4.5.2. Sectional Aeronautical Charts (SAC) (use in flight is not required) and 1:250,000 low level charts/route books annotated with location and dimensions of class A/B/C/D airspace, civil/military airfields and other potential high density traffic areas (e.g., parachute activity areas and ultra light/hang-glider/glider sites, etc.) within 5 NM of any planned VFR route or MTR.

2.4.5.2.1. Applicable airfield approach control frequencies in the vicinity of class A, B, C, and D airspace will be annotated and briefed on all such flights.

2.4.5.2.2. In addition, annotate and brief the intersection of other Visual Routes (VR) or Instrument Routes (IR) (if applicable) and any other possible areas of conflict.

2.4.6. Aircrew members flying outside CONUS will follow gaining MAJCOM, theater, or host nation guidance on mission planning (**USAFE:** reference AFI 11-202V3\_USAFESUP\_I, para. 2.1). If no gaining MAJCOM, theater, or host nation guidance exists, use the best charts or MPS overlay options available to accomplish the above requirements.

**2.5. Fuel Conservation.** Design procedures for optimal fuel use and efficiency throughout all phases of mission execution. Incorporate enroute tasks to maximize use of airborne training opportunities.

## **2.6. Preflight Brief.**

2.6.1. All flight crewmembers and passengers must attend the flight brief unless previously coordinated with unit supervisors.

2.6.2. Anyone not attending the flight brief must receive, as a minimum, a brief on mission events and emergency procedures (EP) prior to step.

2.6.3. Flight leads/instructors are responsible for presenting a logical brief which will promote safe and effective mission accomplishment.

2.6.3.1. Ensure brief start time provides adequate time to discuss required items and accounts for mission complexity. As a minimum, begin briefs at least 1.5 hours before

scheduled takeoff. Alert briefs will start in sufficient time to be completed prior to aircrew changeover.

2.6.3.2. Structure the brief to accommodate the capabilities of each flight member.

2.6.3.3. Ensure contracts, roles, and responsibilities of each flight member are established, briefed, and debriefed.

2.6.3.4. Include mission priorities, significant rules (e.g. Rules of Engagement [ROE], Special Instructions [SPINS], Training Rules [TRs]), task management, weather, NOTAMs, and EPs.

2.6.3.5. Ensure a formation deconfliction, blind, and get well plan for every phase of flight is briefed and every flight member understands the plan (use [para 3.10](#) as a baseline). All flight members are responsible for executing this plan.

2.6.3.6. Review TOLD and ensure every member of the flight understands it. Place particular emphasis on takeoff abort factors during abnormal situations such as short or wet runway, heavy gross weights, non-standard cable configurations, and abort sequence in formation flights.

2.6.3.7. Include the following special subjects: radar and visual search responsibilities during departure/enroute/recovery, high density traffic areas, mid-air collision avoidance both from other military aircraft as well as civilian aircraft.

2.6.3.8. Include flight responsibilities, proper formation position (to ensure adequate wingtip clearance), and aircraft-unique requirements for each phase of flight when dissimilar aircraft or aircraft configurations are flown in the same formation.

2.6.3.9. For missions using Night Vision Goggles (NVG), emphasize proper tuning, use, and limitations.

**2.6.3.10. Low Altitude Mission Briefs.**

2.6.3.10.1. Emphasize low altitude flight maneuvering, obstacle and ground avoidance, Low Altitude Warning System (LAWS) features and limitations, low altitude comfort level, and complacency avoidance.

2.6.3.10.2. For low altitude training over water and featureless terrain, include specific considerations with emphasis on minimum altitudes and spatial disorientation.

2.6.3.10.3. For low-level missions using TF, emphasize proper setup as well as both ground and air checks of the TF system, procedures for transitioning from medium altitude to low-level TF, and TF maneuvering limitations.

2.6.3.10.4. For low-level missions using TF in conjunction with NVGs, emphasize the inherent limitations of both systems and the necessary maneuvering restrictions that each imposes.

**2.6.3.11. Alternate Mission Briefs.** Brief an appropriate alternate mission for each flight.

2.6.3.11.1. The alternate mission must be less complex than the primary and should parallel the primary mission (e.g. Basic Fighter Maneuvers as alternate for Air

Combat Maneuvers, Basic Surface Attack for Surface Attack Tactics, Tactical Intercepts for Defensive Counter Air).

2.6.3.11.2. If the alternate mission does not parallel the planned mission, brief the specific mission elements that are different.

2.6.3.11.3. Mission elements may be modified and briefed airborne as long as flight safety is not compromised. Flight leads will ensure changes are acknowledged by all flight members.

2.6.3.11.4. Do not fly unbriefed (either on the ground or in the air) missions or events.

#### 2.6.3.12. **Briefing Guides.**

2.6.3.12.1. Reference the attachments to this AFI for basic briefing guide examples.

2.6.3.12.2. Subjects may be briefed in any sequence.

2.6.3.12.3. Those items published in AFIs, Air Force Tactics, Techniques, and Procedures manuals (AFTTP) or unit standards and understood by all participants may be briefed as "standard."

#### 2.6.4. **Multiple Sortie Days.**

2.6.4.1. If all flight members attend an initial or mass flight brief, the flight lead on subsequent flights need brief only those items that have changed from the previous flight(s).

2.6.4.2. On multiple-go days when aircraft turn times do not allow follow-on mission brief(s) and only the initial flight brief is accomplished for all gos, the following guidance applies:

2.6.4.2.1. Upgrade missions will be flown on the first sortie (second sortie if the first is non-effective for weather, maintenance, or airspace availability).

2.6.4.2.2. Subsequent missions will be of equal or less complexity with no additional upgrade training, unless approved by OG/CC.

2.6.4.2.3. Participants in continuation training (CT) missions may fly their primary or alternate missions in any sequence.

#### 2.7. **Postflight Debrief.**

2.7.1. All missions will be debriefed.

2.7.2. All flight debriefs will include, at a minimum, the in-flight execution of flight member responsibilities, deconfliction contracts, tactical employment priorities, and task management.

## Chapter 3

### NORMAL OPERATING PROCEDURES

#### *Section 3A—Ground Operations*

##### **3.1. Preflight.**

- 3.1.1. Do not carry baggage or equipment in an unoccupied rear cockpit (**EXCEPTION:** Forms and maps may be stowed in the map case).
- 3.1.2. The pilot will brief the ground crew as required. Prior to starting, the pilot will get an “okay” signal from the rear cockpit occupant. Use operational headsets to the maximum extent possible during all engine start and pre-taxi checks as well as when technicians are performing tasks on the aircraft. Hand signals may be used as a last resort or if required during alert scramble or combat operations.
- 3.1.3. In lieu of higher guidance (i.e. theater SPINS) flying units will specify a standard setting for the ejection seat radio beacon auto/manual selector switch.
- 3.1.4. Select Pressure Breathing (PBG) on all sorties except those using Aircrew Eye and Respiratory Protection System (AERPS) or Aircrew Chemical Defense Equipment (ACDE).
- 3.1.5. The use of the COMBAT EDGE vest is optional in the F-15E. If aircrew elect to fly with the COMBAT EDGE vest they will remove the port plug on the CRU-94 (if installed), properly stow the plug during flight to prevent a FOD hazard, then re-install upon completion of the sortie.
- 3.1.6. During the Before Taxi flight control checks, confirm the proper movement and position of the flight control surfaces with the crew chief.

**3.2. Ground Visual Signals.** When ground intercom is not used, use visual signals IAW AFI 11-218, *Aircraft Operations and Movements on the Ground* and this volume. All signals pertaining to operation of aircraft systems will originate with the pilot. The crew chief will repeat the given signals when it is safe to operate the system. Aircrew should not activate any system that could pose a danger to the ground crew prior to receiving proper acknowledgment from ground personnel. The following signals augment AFI 11-218.

- 3.2.1. **Jet Fuel Starter (JFS) Start:** With clenched fist, pilot makes a pulling motion.
- 3.2.2. **Flight Controls Check:** Raise arm, clench fist, and make a stirring motion.
- 3.2.3. **Brake Check:** Hold left or right arm horizontal, open hand and push forward, breaking at the wrist (as in applying rudder pedal pressure with feet).
- 3.2.4. **Digital Electronic Engine Control (DEEC), Improved Digital Electronic Engine Control (IDEEC)/Automatic Thrust Departure Prevention System (ATDPS) Check:** With the fingers and thumb of each hand extended and joined at the tips, open and close the fingers and thumbs of both hands simultaneously, simulating nozzle opening and closing.
- 3.2.5. **Target Pod Clear:** Extend arm and rotate a closed fist in a circular motion.
- 3.2.6. **Loss of Brakes While Taxiing:** Lower tailhook.

### 3.3. Taxi and Quick Check/Arming.

3.3.1. The minimum taxi interval is 150 feet staggered or 300 feet in trail. Spacing may be reduced when holding short of or entering the runway.

3.3.2. Do not taxi during snow or icy conditions until the taxi route and runway have been checked for safe conditions. In this case, taxi on the centerline with a minimum of 300 feet spacing. The minimum Runway Condition Reading (RCR) for taxi operations is 10. OG/CCs may waive this to RCR 8.

3.3.3. Maximum taxi speed during sharp turns (more than 45 degrees of turn) is 10 knots. Above 10 knots the aircraft may skid or depart the three point attitude.

3.3.4. At non-USAF bases aircrew will make every attempt to coordinate for a rollover/End of Runway (EOR) inspection with the host maintenance unit.

3.3.5. Keep hands in view of ground personnel during quick check, arming, and de-arming operations. If the intercom system is not used during EOR checks, the pilot will establish and maintain visual contact with the ground personnel to allow the use of visual signals.

3.3.6. Do not taxi in front of any aircraft arming or de-arming forward firing ordnance.

### 3.4. Flight Lineup. Flights will line up as appropriate based on weather, runway conditions, and runway width.

3.4.1. When separating elements use a minimum of 500 feet spacing between elements.

3.4.2. For formation takeoffs wingmen must maintain wingtip clearance with their element lead.

3.4.3. If runway width precludes line-up with wingtip clearance between all aircraft in the flight, use 500 feet spacing between elements or delay run-up until the preceding aircraft or element releases brakes.

### 3.5. Before Takeoff Checks. After arming and prior to takeoff all flight members will inspect each other for proper configuration and any abnormalities.

## *Section 3B—Takeoff and Departure*

### 3.6. Takeoff.

3.6.1. Do not takeoff if the RCR is less than 12. OG/CCs may waive this to RCR 8.

3.6.2. On training missions, do not takeoff if the computed takeoff roll exceeds 80 percent of the available runway. For single-ship takeoffs, if the single-ship computed mil-power takeoff distance exceeds one-half of the available runway, takeoff using afterburner.

3.6.3. When operating from airfields equipped with a compatible, remotely operated cable, ensure the departure end cable is raised for all takeoffs and landings, unless another departure end cable is in place.

3.6.4. Use a minimum of 10 seconds (15 seconds when using afterburners) takeoff interval between aircraft or elements.

3.6.5. Use a minimum of 20 seconds takeoff interval when carrying live air-to-surface ordnance (N/A for 20mm ammunition) or when performing a radar trail departure.

- 3.6.6. Pilots will steer toward the center of the runway at the start of the takeoff roll.
- 3.6.7. OG/CCs may approve intersection takeoffs.
- 3.6.8. Do not takeoff over any raised web barrier (e.g. MA-1A, 61QS11) or loose/slack cable (e.g. BAK-12/13/14).

**3.6.9. Suspected Hot Brake Speeds.**

3.6.9.1. Unit commanders will ensure Suspected Hot Brake speeds are re-calculated during Hot Pit or Quick Turn operations.

3.6.9.2. A takeoff abort made when adequate brake cooling time is not met (usually within one hour of landing) can place the aircraft into the Brake Energy Caution Zone with brake applications as low as 80 kts (TO 1F-15E-1, *Flight Manual--F-15E* Section 5). Use the following guidance:

3.6.9.2.1. Absorbed energy from landings made one hour or less prior to subsequent takeoffs will be added in full.

3.6.9.2.2. Use a maximum of 20 million foot-pounds to calculate the abort speed where suspected hot brakes will be declared.

**3.7. Formation Takeoff.**

- 3.7.1. Formation takeoffs are restricted to elements of two aircraft.
- 3.7.2. Elements must be led by a qualified flight lead unless an Instructor Pilot (IP) is in the element.
- 3.7.3. Aircraft must be within 3,000 pounds of each other and symmetrically loaded. Consider symmetrically loaded as those store loadings that do not require an abnormal trim or control application to counter a roll or yaw during takeoff and acceleration to climb airspeed.
- 3.7.4. Do not make formation takeoffs when:
  - 3.7.4.1. The runway width is less than 125 feet.
  - 3.7.4.2. The Runway Surface Condition (RSC) is reported as wet, or ice, slush, or snow is on the runway. OG/CCs may waive this requirement if the center 125 feet of the runway is clear of standing water, ice, slush or snow.
  - 3.7.4.3. The crosswind component exceeds 15 knots.
  - 3.7.4.4. Loaded with live air to ground munitions.
  - 3.7.4.5. Ferrying aircraft from a contractor or Air Logistics Center (ALC) facility.
  - 3.7.4.6. The computed takeoff roll exceeds 50% of the available runway.

**3.8. Initial Join-up and Rejoins.**

- 3.8.1. Minimum day weather criteria for a VFR join-up underneath: ceiling 1,500 feet, visibility 3 miles (5 KM).
- 3.8.2. Flight leads will maintain TO climb speeds until join-up is accomplished unless mission requirements necessitate a different airspeed.

3.8.3. Flight leads should limit their angle of bank to 30 degrees for turning rejoins immediately after takeoff.

3.8.4. For further join-up procedures, see [para 3.31](#) (Night) and [para 4.2](#) (Instruments).

### *Section 3C—Enroute*

**3.9. Formation, General.** Flight leads/instructors are responsible for ensuring contracts, roles and responsibilities of each flight member are established and executed.

3.9.1. If any flight member cannot fulfill their basic responsibilities, contracts, or other assigned tasks, they will immediately communicate that information to the flight or element lead.

3.9.2. For additional formation considerations, reference AFTTP 3-3.F15E and AFTTP 3-1.F-15E, *Tactical Employment—F-15E (Secret)*.

3.9.3. **IMC.** In IMC the maximum flight size is four aircraft except when flying in close formation with a tanker (refer to TO 1-F15E-1, Section VIII *Air Refueling Procedures* and Allied Tactical Publication (ATP)-56(B), *Air-to-Air Refueling*).

3.9.4. **Maneuvers.** Do not use rolling maneuvers to maintain or regain formation position below 5,000 feet Above Ground Level (AGL) or outside of SUA (**USAFE:** Consider SUA as anytime the aircraft is under Basic, Traffic, or Deconfliction Service).

3.9.5. **Signals.** Airborne visual signals will be in accordance with AFI 11-205, *Aircraft Cockpit and Formation Flight Signals*. For four-ship flights, formation changes will be initiated by radio call when practical. When formation position changes are directed by radio all wingmen will acknowledge prior to initiating the change. A radio call is mandatory when directing position changes at night or in IMC.

3.9.6. **Recovery.** When circumstances permit, flight leads will direct a battle damage (BD) check after each mission prior to or during Return to Base (RTB). This check is mandatory following the expenditure of any ordnance (including all types of 20mm ammunition) except at night or in IMC. Brief deconfliction responsibilities and position change procedures.

3.9.7. **Breakups.** Flight leads will not break up formations until each wingman has a positive fix from which to navigate (i.e. visual, Inertial Navigation System [INS], Embedded GPS/INS [EGI], or Tactical Air Navigation [TACAN])

3.9.8. **Changing Leads.** Lead changes require a clear transfer of responsibilities from one flight member to another.

3.9.8.1. Lead changes will be initiated and acknowledged with either a radio call or visual signal.

3.9.8.2. Ensure deconfliction is established before initiating a lead change.

3.9.8.3. The lead change is effective upon acknowledgment.

3.9.8.4. All flight members must continue to ensure aircraft separation during position changes.

3.9.8.5. When flying in limited visibility conditions, initiate lead changes from a stabilized, wings level attitude.

3.9.8.6. The minimum altitude for a lead change is 500 feet AGL over land or 1,000 feet AGL over water (for night see **para 3.22.4.2.**, for IMC see **para 4.6**)

3.9.8.7. When conducting lead changes from fingertip, route, spread, or tactical, do not initiate lead changes with the wingman further aft than 30 degrees from line abreast.

### **3.10. Formation Deconfliction.**

3.10.1. **General.** Apply the following rules for flight path deconfliction during tactical maneuvering:

3.10.1.1. Flight leads will consider wingman/position and ability to safely perform a maneuver before directing it.

3.10.1.2. Trailing aircraft and elements are responsible for deconfliction from the lead aircraft and elements. Wingmen and elements will deconflict vertically from the lead/lead element to the max extent practical. During low altitude maneuvering (1000' AGL and below), wingmen and trailing elements will deconflict above the lead/lead element.

3.10.2. **Loss of Visual.** Use the following procedures when one or more flight members lose visual contact within the formation or between elements:

3.10.2.1. When any flight member calls "blind", they will initially maneuver away from the last known position of the other flight member/element (primarily by altering altitude) and await a response. The appropriate flight member will immediately respond with "visual" and a position report or "blind".

3.10.2.2. If the other flight member is also "blind", then the flight lead will take action to ensure altitude separation between flight members and elements.

3.10.2.2.1. The flight lead will specify either AGL or Mean Sea Level (MSL) when directing the formation to deconflict and use a minimum of 500 feet altitude separation.

3.10.2.2.2. Avoid climbs or descents through the deconfliction altitude when possible.

3.10.2.3. If visual contact is still not regained, the flight lead will take additional action to ensure flight path deconfliction within the flight to include a Terminate/Knock-It-Off (KIO) call if necessary. The flight lead should consider scenario restrictions such as sanctuary altitudes and adversary blocks when directing deconfliction.

3.10.2.4. Aircraft will maintain altitude separation until visual and, if necessary, will navigate with altitude separation until mutual support is regained.

3.10.3. **Two-Ship.** The following rules apply for flight path deconfliction during tactical maneuvering of two-ship formations:

3.10.3.1. The wingman is normally responsible for flight path deconfliction.

3.10.3.2. The flight lead becomes responsible for deconfliction when:

3.10.3.2.1. Tactical maneuvering places the lead in the wingman's "blind cone" or forces the wingman's primary attention away from the lead (i.e. wingman becomes the engaged fighter).

3.10.3.2.2. The wingman calls "padlocked" or "blind".

3.10.3.3. Deconfliction responsibility transfers back to the wingman once the wingman positively acknowledges a visual on his lead (except in cases of tactical maneuvering where the flight lead is no longer in the wingman's "blind cone").

3.10.4. **Three/Four-Ship (or Greater).** When flights of more than two aircraft are in tactical formation:

3.10.4.1. Formation visual signals performed by a flight or element lead pertain only to the associated element unless specified otherwise by the flight lead.

3.10.4.2. Trailing aircraft and elements will maintain sufficient spacing so that primary emphasis during formation maneuvering and turns is on low altitude awareness and deconfliction within elements, not on deconfliction between elements.

### 3.11. Chase Formation.

3.11.1. **Restrictions.** Any pilot may fly safety chase for aircraft with a problem or under emergency conditions.

3.11.1.1. Pilots who have successfully completed an Instrument and Qualification evaluation may chase as safety observer for aircraft performing simulated instrument flight or hung ordnance patterns.

3.11.1.2. Specialized missions (i.e., Operational Test and Evaluation (OT&E), Weapon Systems Evaluation Program (WSEP), live weapons delivery, etc.) and training conducted IAW AFI 11-2F-15EV1 may be chased by Combat Mission Ready (CMR)/Basic Mission Capable (BMC) pilots designated by group or squadron commanders.

3.11.1.3. All other chase events may only be flown by an IP, Flight Examiner (FE), or upgrading IP (UIP) under the supervision of an IP.

3.11.2. **Procedures.**

3.11.2.1. A safety observer in a chase aircraft, except IP/FE/specialized mission chase, will maneuver in a 30-60 degree cone and maintain nose/tail separation to effectively clear and provide assistance.

3.11.2.2. IP/FE/specialized mission aircraft will maneuver as necessary, but must maintain nose/tail separation.

3.11.2.3. No chase aircraft will stack lower than the lead aircraft when below 1,000 feet AGL.

3.11.2.4. For live ordnance missions, the chase pilot is responsible for maintaining own ship frag deconfliction.

**3.12. Show Formation.** Refer to AFI 11-209, *Aerial Event Policy and Procedures* and applicable MAJCOM directives for specific rules and appropriate approval levels to participate in static displays and aerial events.

**3.13. Maneuvering Parameters.**

3.13.1. If flight through wingtip vortices or jetwash is unavoidable or inadvertently encountered, immediately unload the aircraft to approximately 1 G.

3.13.2. Do not extend flaps during Air Combat Training (ACBT).

**3.13.3. Minimum Altitudes.**

3.13.3.1. Nose high, low speed recoveries and Aircraft Handling Characteristics (AHC) vertical maneuvers: 10,000 feet AGL.

3.13.3.2. Aerobatics: 5,000 feet AGL.

3.13.4. **Authorized speeds.** (CONUS) Below 10,000 MSL (outside SUA or MTRs) fly no faster than the maneuvering airspeeds as published in TO 1F-15E-1 (e.g. 300 KCAS unless in the radar pattern). In order to aid adherence to this guidance, flight leads and aircrew will comply with the following:

3.13.4.1. **(CONUS)** Accomplish air-to-air (A/A) systems checks above 10,000 MSL to the maximum extent possible.

3.13.4.2. **(CONUS)** Accomplish TF checks above 10,000 MSL to the maximum extent possible. If TF checks must be accomplished below 10,000 MSL (i.e. due to weather) aircrew will minimize the time at higher airspeeds.

3.13.4.3. Aircrew flying outside the CONUS will follow gaining MAJCOM, theater, or host nation guidance on airspeeds (**USAFE:** Aircrew will operate at airspeeds consistent with TO 1F-15E-1, AFTTP 3-3.F-15E, and local guidance). If no gaining MAJCOM, theater or host nation guidance exists, use the guidance in this instruction to the maximum extent practical.

**3.14. G-Awareness Exercise.**

3.14.1. G-awareness exercises will be accomplished IAW AFI 11-214, *Air Operations Rules and Procedures*. The Heads Up Display (HUD) will be filmed during G-awareness exercises with hot mic in both cockpits.

3.14.2. During maneuver execution use visual lookout and briefed formation contracts as primary means to ensure aircraft deconfliction. Use onboard systems (i.e. FDL) only as an aid to situational awareness.

3.14.3. Do not use G-awareness turns for systems checks or other items that detract from the intended purpose.

3.14.4. Flight leads will ensure the airspace intended for conducting the G-awareness exercise is free from potential traffic conflicts. Use Air Traffic Control (ATC) services to the maximum extent practical to aid in clearing the airspace. Conduct the G-awareness exercise in the following airspace with preference to the order as listed (**USAFE:** Consider SUA as anytime the aircraft is under Basic, Traffic, or Deconfliction Service):

3.14.4.1. SUA (e.g. Restricted or Warning areas, ATC Assigned Airspace, [ATCAA], Military Operating Areas [MOA], or MAJCOM-approved large-scale exercise and special mission areas).

3.14.4.2. Above 10,000 MSL outside of SUA.

3.14.4.3. Inside the confines of MTRs and above 5,000 AGL.

3.14.4.4. Below 10,000 MSL outside of SUA.

### 3.15. Radio Procedures.

3.15.1. Any flight member may make a "Knock-It-Off" or "Terminate" call IAW AFI 11-214. A KIO applies to any phase of flight and any type of mission.

3.15.2. Wingman acknowledgment of flight lead radio calls indicates the wingman understands or that the appropriate action is complete or in the process of being completed.

3.15.3. In addition to the radio procedures outlined in AFI 11-202V3, AFMAN 11-217V1 and V2, *Instrument Flight Procedures*, and FLIP publications, the following radio transmissions are required:

3.15.3.1. All flight members will acknowledge understanding the initial ATC clearance. Acknowledge subsequent ATC instructions as directed by the flight lead.

3.15.3.2. Gear Checks. Each pilot will report gear down IAW the following guidance, but in no case later than crossing the runway threshold:

3.15.3.2.1. Base turn for overhead patterns.

3.15.3.2.2. Prior to 3NM final for VFR straight-in.

3.15.3.2.3. Final Approach Fix (FAF) or glide slope intercept for instrument approaches.

3.15.3.2.4. A wingman or chase ship need not make this call during a formation or chased approach.

**3.16. Air Refueling.** Pilots undergoing initial or recurrency training in air refueling will not refuel with a student boom operator (does not apply to KC-10). The receiver aircrew will ensure no student-to-student AR occurs during initial or recurrency training.

### 3.17. Low Altitude Procedures.

3.17.1. **Formation.** Line abreast formation is only authorized at or above 300 feet AGL. When flying below 300 feet AGL direct the wingman to a wedge formation position.

3.17.2. **Terrain and Obstacle Clearance.**

3.17.2.1. All obstacle avoidance planning will be based on MSA and RAA as defined in [para 2.4.4](#).

3.17.2.2. If unable to visually acquire or ensure lateral separation from known obstacles that could be a factor to the flight, flight leads will direct a climb not later than 3 NM prior to ensure sufficient vertical separation IAW with AFI 11-202V3 paragraph 5.10. Do not descend back into the low level environment until visual with the obstacle or positional awareness dictates it is safe to do so.

3.17.2.3. During all low altitude operations the LAWS will be set at 90 percent of the briefed minimum altitude or 90 percent of the command-directed minimum altitude, whichever is higher.

3.17.2.4. During all low altitude operations, the immediate reaction to task saturation, diverted attention, KIOs, or emergencies is to climb to 1000 feet AGL or higher (e.g. MSA or RAA if at night).

3.17.3. **Maneuvering.** When crossing high or hilly terrain, maintain positive G and do not exceed 120 degrees of bank. Maneuvering at less than 1G is limited to upright bunting maneuvers only.

3.17.4. **Minimum Airspeed.** The minimum airspeed for low level (less than 1000' AGL) navigation is 300 KCAS.

3.17.5. **Minimum Weather.** The minimum WX for visual low level training is 1,500 feet ceiling and 3SM visibility (**USAFE:** 1500'/8KM) or as specified in FLIP for MTRs, unit regulations, or national rules, whichever is higher.

3.17.6. **Minimum Altitude.**

3.17.6.1. 500 Feet AGL for Low Altitude Training (LOWAT) Category I qualified aircrews.

3.17.6.2. 300 Feet AGL for LOWAT Category II qualified aircrews and F-15E Formal Training Unit (FTU) students with instructors when conducting training IAW an applicable syllabus.

3.17.6.3. 100 Feet AGL for LOWAT Category III qualified aircrews. Training in the 100 feet to 300 feet AGL altitude block will be in short segments consistent with real-world risks and realistic tactical considerations.

3.17.6.4. "Show of Force" maneuvers will be flown at or above aircrew LOWAT minimum.

3.17.6.5. For night operations the minimum altitude is MSA unless operating under the conditions of [para 3.18](#) (TF Operations) and/or [para 3.34](#) (Night Vision Goggles Procedures)

3.17.6.6. For over water operation the minimum altitude is 1000 feet above the surface unless in sight of land or using TF flyup protection. If in sight of land or using TF flyup protection the minimum altitude may be lowered to 500 feet above the surface.

3.17.6.7. For Air to Surface range operations, minimum altitudes will be determined by range, AFI 11-214, or aircrew delivery restrictions, whichever is greater.

3.17.7. **Low Altitude Route and Area Entry Procedures.** Accomplish entry/descent into the low altitude structure or training area under an ATC radar service (e.g. flight following) to the maximum extent practical.

3.17.8. **Visual Meteorological Conditions (VMC) Route and Area Abort Procedures.**

3.17.8.1. Maintain safe separation from the terrain and other aircraft.

3.17.8.2. Comply with VFR altitude and national airspace restrictions. Squawk applicable IFF modes and codes.

3.17.8.3. Maintain VMC at all times. If unable, follow IMC procedures outlined below.

3.17.8.4. Attempt contact with controlling agency, if required.

**3.17.9. IMC Route and Area Abort Procedures.**

3.17.9.1. Immediately climb to (or above) the briefed RAA.

3.17.9.2. Maintain preplanned ground track. Execute appropriate lost wingman procedures if necessary.

3.17.9.3. Squawk emergency if deviations from normal route or area procedures are required, or if the RAA or MSA is higher than the vertical limits of the route or area.

3.17.9.4. Attempt contact with the appropriate ATC agency for an IFR clearance. If required to fly in IMC without an IFR clearance, cruise at appropriate VFR altitudes until IFR clearance is received.

3.17.10. **Low Altitude Target Pod Use.** The target pod may be used down to aircrew LOWAT category, weapons delivery minimum altitudes, or national rules (if outside the CONUS).

**3.18. General TF System Operations** (also see [para 3.33](#) for night TF requirements).

3.18.1. The minimum altitude for TF training will be the higher of MTR, MOA, or aircrew LOWAT category.

3.18.2. Unarmed TF operations are prohibited.

3.18.3. The pilot will maintain 400 KCAS minimum airspeed in mountainous terrain as defined by TO 1F-15E-1 (any vertical change that exceeds 900 ft/NM).

3.18.4. Minimum equipment required for TF operations is TF radar, radar altimeter (RALT), and E-SCOPE. For IMC TF a functioning A/A and A/G radar is also required.

3.18.5. Check TF systems in flight using TO 1F-15E-1 procedures prior to TF operations. If any feature critical to overall system performance (e.g. RALT, INS) is questionable or disabled and cannot be fixed IAW 1F-15E-1CL-1 or 1F-15E-34-1-1-CL-1, discontinue the TF portion of the mission.

3.18.6. Each crew will confirm by inter-cockpit communication that the TF and RALT are on and working properly before descending below the MSA.

3.18.7. Initially set a 1000 feet AGL Set Clearance Plane (SCP) to verify proper systems operation prior to commencing letdown to a lower SCP.

3.18.8. During low altitude operations, the pilot will not operate any heads down sensor while outside of TF system limits. Sole attention will be placed on re-establishing aircraft parameters within TF limits.

3.18.9. Any intentional maneuvering that will put the aircraft outside of TF limits will be at or above the MSA (or RAA if not within 5NM of course) or within the restrictions of [para 3.34](#) NVG Procedures.

3.18.10. **Abnormal Operation during IMC TF.** Aircrews who experience failure of any portion of the TF system or A/A / A/G radar while flying IMC TF will immediately climb to (or above) the MSA (or RAA if not within 5NM of course).

3.18.10.1. If the failure(s) can be cleared and safe TF regained, TF operations may resume.

3.18.10.2. If the aircraft position cannot be accurately determined, aircrews will terminate the low level portion of the mission and execute route abort procedures IAW [para 3.17.7](#).

### 3.19. Fuel Requirements.

3.19.1. **Joker Fuel.** A pre-briefed fuel needed to terminate an event and proceed with the remainder of the mission.

3.19.2. **Bingo Fuel.** A pre-briefed fuel that allows the aircraft to return to the base of intended landing or alternate (if required), using preplanned recovery parameters and arriving with normal recovery fuel as listed below.

3.19.3. **Normal Recovery Fuel.** The fuel on initial or at the FAF at the base of intended landing or alternate, if required. Fuel quantity will be as established locally or 2,500 pounds, whichever is higher.

3.19.4. **Minimum and Emergency Fuel.** Declare the following when it becomes apparent that an aircraft may land at the intended destination or alternate, if required, with:

3.19.4.1. Minimum Fuel. 1900 pounds or less.

3.19.4.2. Emergency Fuel. 800 pounds or less.

### *Section 3D—Recovery and Landing*

#### 3.20. Overhead Traffic Patterns.

3.20.1. Overhead patterns may be flown with unexpended A/G practice ordnance (to include inert heavyweight), live air-to-air missiles, and any 20mm ammunition. Overhead patterns may be performed at deployed locations with unexpended live ordnance if required by local force protection arrival procedures.

3.20.2. Initiate the break in the first 3,000 feet of the runway or as local procedures direct.

3.20.3. Execute individual breaks in a level 180 degree turn to the downwind leg at minimum intervals of 5 seconds (except IP/FE chase or when in tactical formation).

3.20.4. Aircraft must be wings level on final at approximately 300 feet AGL and 1 mile from the planned touchdown point.

3.21. **Tactical Overhead Traffic Patterns.** Tactical entry to the overhead traffic pattern is permitted when:

3.21.1. Specific local procedures are developed and coordination has been accomplished with appropriate ATC agencies.

3.21.2. No more than four aircraft are in the flight.

3.21.3. No aircraft are offset from the runway in the direction of the break. The intent is to avoid requiring a tighter than normal turn to arrive on normal downwind.

3.21.4. Normal downwind and base turn positions as well as formation spacing are flown.

### **3.22. Low Approaches.**

#### **3.22.1. Minimum Altitudes.**

3.22.1.1. Normal and no-flap single ship low approaches: So that touchdown does not occur.

3.22.1.2. Practice single-engine go-arounds: Initiate in sufficient time to ensure the aircraft does not descend below 300 feet AGL.

3.22.1.3. IP/FEs flying chase position: 50 feet AGL.

3.22.1.4. Formation low approaches and non-IP/FE chase: 100 feet AGL.

3.22.1.5. Chase aircraft during an emergency: 300 feet AGL unless safety or circumstances dictate otherwise.

3.22.2. **Go-Around.** During a go-around, remain 500 feet below VFR overhead traffic pattern altitude until crossing the departure end of the runway unless local procedures, missed approach/climb-out procedures, or ATC instructions dictate otherwise.

### **3.23. Landing.**

3.23.1. The desired touchdown point is 500-1000 feet past the runway threshold for a VFR pattern or 500-1000 feet past the Runway Point of Intercept (RPI) for a precision approach.

3.23.2. Minimum pattern and touchdown spacing is IAW AFI 11-202V3 as supplemented by MAJCOM. F-15A-D and foreign variants are similar fighter type aircraft to the F-15E. Increase spacing whenever wake turbulence is anticipated.

3.23.3. Normally, all aircraft will land in the center of the runway and clear to the cold (turnoff) side of the runway when speed and conditions permit.

#### **3.23.4. Landing Restrictions.**

3.23.4.1. When the computed landing roll exceeds 80 percent of the available runway, land at an alternate if possible.

3.23.4.2. Do not land over any raised web barrier (e.g. MA-1A, 61QS11), or loose or slack cable (e.g. BAK-12/13/14)

3.23.4.3. During the aerobrake portion of a normal, dry runway landing, leave flaps down to provide increased aerodynamic drag and normal nose fall.

3.23.4.4. When the RCR at the base of intended landing is less than 12, land at an alternate if possible. If an alternate is not available, an approach end or mid-field arrestment is recommended.

**3.24. Touch-and-Go Landings.** Fly touch-and-go landings IAW AFI 11-202V3, as supplemented by MAJCOM. Do not fly touch-and-go landings with any of the following:

3.24.1. Live A/A or A/G ordnance (**EXCEPTION:** any 20mm ammunition).

3.24.2. Hung ordnance or gun malfunction of any kind.

3.24.3. Fuel remaining in any external tank.

### **3.25. Closed Traffic Patterns.**

3.25.1. Initiate the pattern at the departure end of the runway unless directed otherwise by local procedures or ATC.

3.25.2. If executing a formation low approach, a sequential closed may be flown with ATC concurrence.

3.25.3. Plan to arrive on downwind at 200-250 KCAS.

**3.26. Back Seat Approaches and Landings.** During back seat approaches and landings, the front seat pilot will visually clear the area, monitor aircraft parameters and configurations, and be prepared to direct a go-around or take control of the aircraft (as briefed by the rear cockpit pilot) if necessary.

### **3.27. Formation Approaches and Landings.**

3.27.1. Normally accomplish formation landings from a precision approach. If not, accomplish the landing from any applicable published approach or a VFR straight-in using available approach path guidance (VASI, PAPI, PLASI, etc.). In all cases, use a rate of descent similar to a normal precision approach.

3.27.2. CT formation landings must be led by a qualified flight lead unless an IP is in the element.

3.27.3. Do not practice formation approaches with a combined fuel and stores weight greater than 10,000 pounds (N/A for FE Chase).

3.27.4. Aircraft must be within 3,000 pounds weight of each other and symmetrically loaded as defined in [para 3.7.3](#).

3.27.5. Formation landings are prohibited when:

3.27.5.1. The crosswind component exceeds 10 knots.

3.27.5.2. The RSC (or primary braking portion of the runway for dual surface runways) is reported as wet; or slush, ice or snow is on the runway.

3.27.5.3. The runway width is less than 125 feet.

3.27.5.4. Landing with hung or malfunctioning ordnance.

3.27.5.5. Landing with unexpended live ordnance (**EXCEPTIONS:** live A/A missiles, any 20mm ammunition, chaff/flares).

3.27.5.6. The weather is less than 500 feet ceiling and 1.5 miles (2.4 KM) or the highest Pilot Weather Category (PWC) in the flight, whichever is higher (except in an actual emergency requiring a formation landing).

**3.28. After Shutdown Procedures.** All flight members will accomplish a post flight walk-around. The intent of this inspection is to find evidence of birdstrike, lost panels, damaged ordnance, structural damage resulting from over-Gs, or other in-flight abnormalities.

### *Section 3E—Night Procedures*

#### **3.29. Night Ground Operations.**

3.29.1. When ground personnel are working under the aircraft, the anti-collision lights should be OFF and the position lights ON and not flashing.

3.29.2. Taxi with a minimum of 300 feet spacing.

3.29.3. Use the taxi light while taxiing unless it might interfere with an aircraft landing or taking off. The taxiing aircraft will come to a stop if the area cannot be visually cleared without the taxi light.

3.29.4. Minimum required operational exterior lighting for night flying operations is: landing and taxi light, both wing-root anti-collision lights, both wingtip position lights, and at least one of the vertical stab lights, either the Left Vertical Stab (LVS) position light or the Right Vertical Stab (RVS) anti-collision light. Substituting a formation light in lieu of a wingtip position light is not permitted.

#### **3.30. Night Takeoff.**

3.30.1. During a night formation takeoff, direct brake release and configuration changes on the radio.

3.30.2. Following takeoff, each aircraft and element will climb on runway heading to 1,000 feet AGL before initiating turns, except where departure instructions specifically preclude compliance.

#### **3.31. Night Join-Up.**

3.31.1. Weather criteria for night join-up underneath a ceiling is minimum 3,000 feet ceiling and 5 miles (8 KM) visibility.

3.31.2. After join-up, turn the anti-collision lights OFF, but keep position lights ON except for the last aircraft in formation. The last aircraft will keep the anti-collision lights ON unless otherwise directed by the flight lead.

#### **3.32. Night Formation Procedures.**

3.32.1. When in trail formation maintain aircraft spacing primarily by instruments, radar, Air-to-Air Interrogator (AAI), and timing. If aircraft spacing cannot be ensured, then establish altitude separation (1,000 feet minimum). Cross-check instruments at all times to ensure ground clearance.

3.32.2. Do not change lead or wing formation positions below 1,500 feet AGL unless on RADAR downwind. Direct lead and position changes using the radio and from a stabilized, wings-level attitude.

3.32.3. Prior to a formation break-up at night, the flight lead will transmit attitude, altitude, airspeed, and altimeter setting, which will be confirmed and acknowledged with “good NAVAIDS” by the flight.

3.32.4. Battle damage checks will not be performed at night without NVGs (see [para 3.34.6](#))

#### **3.33. Night TF Operations.**

3.33.1. A fully functioning TF system is required to conduct night TF operations (VMC or IMC). In addition to the minimum equipment listed in [para 3.18.5](#), a usable Navigation/Forward Looking Infrared (NAV/FLIR) HUD image is required. NVGs may be used in place of the NAV/FLIR.

3.33.2. **TF failure prior to low altitude entry:** If the TF system fails prior to route entry, aircrew may still enter the route and continue the mission either at the MSA (or RAA if greater than 5NM from course) or by using NVG Procedures from [para 3.34](#).

3.33.3. **TF failure while low altitude:** Aircrews who experience failure of any portion of the TF system or NAV/FLIR imagery (or NVGs if used in place of the NAV/FLIR) while flying night TF low level will immediately climb to (or above) the MSA (or RAA if not within 5NM of course) or transition to NVG procedures.

3.33.4. Climb to MSA (or RAA if not within 5NM of course) when NAV/FLIR transmissivity or NVG visibility (if NVG is used in place of the NAV/FLIR) is insufficient for use as an aid for terrain avoidance (N/A for IMC TF qualified crews and supervised crews in an IMC TF upgrade using IMC procedures).

### **3.34. NVG Procedures.**

3.34.1. NVGs must be preflight tested and adjusted by the individual in the unit eyeline prior to NVG operations.

#### **3.34.2. Donning and doffing NVGs.**

3.34.2.1. NVGs must be off and secured during takeoff and landing.

3.34.2.2. Do not don NVGs until at least 2,000 feet AGL in climbing or level flight.

3.34.2.3. Remove NVGs prior to initial or the FAF or glide slope intercept.

3.34.2.4. Flight members will communicate when donning or doffing NVGs. Only one crewmember per aircraft will don or doff NVGs at a time.

3.34.3. NVGs will not be worn in IMC.

3.34.4. Wingmen will fly no closer than NVG close formation (as defined in AFTTP 3-3.F-15E Chap 8).

3.34.5. NVGs may be worn for tanker rejoins, but will be raised to the up and locked position or removed and stowed no later than the pre-contact position.

#### **3.34.6. Night BD Checks.**

3.34.6.1. Night BD checks are permitted only when wearing NVGs.

3.34.6.2. The crew performing the BD check will approach with position lights bright and steady and beacons on while the aircraft being checked sets external lights to a minimum (with at least anti-collision beacons off).

#### **3.34.7. NVG Abnormal Procedures.**

3.34.7.1. During in-flight emergencies, immediately assess whether the NVGs aid or hinder completion of emergency procedures. If they are a hindrance or the emergency may deteriorate into an ejection situation, remove and stow the NVGs.

3.34.7.2. For NVG failure or inadvertent flight into weather while in formation or close proximity to other aircraft:

3.34.7.2.1. Immediately transition to instruments.

3.34.7.2.2. Perform appropriate lost wingman procedures if applicable.

3.34.7.2.3. Terminate or KIO as appropriate.

3.34.7.2.4. Move NVGs to the up and locked position or remove and stow completely if practical.

3.34.7.2.5. Maintain or regain VMC as soon as possible.

3.34.7.3. For NVG failure or inadvertent flight into weather while low altitude, ensure separation from other aircraft and climb to (or above) MSA (or RAA if not within 5 miles of course) prior to troubleshooting.

### **3.35. Night Landing.**

3.35.1. Normally land from an instrument straight-in approach. Refer to AFI 11-202V3, Chap 5, as supplemented, for specific procedures.

3.35.2. Only perform night formation landings when required for safe recovery of the aircraft.

### ***Section 3F—Miscellaneous Procedures***

**3.36. Change of Aircraft Control.** Both aircrew members must know at all times who has control of the aircraft. Use the statement "you have the aircraft" to transfer aircraft control. The aircrew member receiving control of the aircraft will acknowledge "I have the aircraft" and lightly shake the stick. Once assuming control of the aircraft, maintain control until relinquishing it as stated above. **EXCEPTION:** If the intercom fails the pilot in the front cockpit, if not already in control of the aircraft, will shake the stick and assume control of the aircraft and radios unless otherwise prebriefed.

### **3.37. Ops Checks.**

3.37.1. Accomplish sufficient ops checks to ensure safe mission accomplishment. Each aircrew should monitor the fuel system carefully throughout the flight to identify low or trapped fuel or imbalance situations as soon as possible. Ops checks are required:

3.37.1.1. During climb or at level-off after takeoff.

3.37.1.2. Prior to each ACBT engagement or intercept. In addition, a check for proper operation of all transfer tanks (wing tanks balanced and tank 1 feeding) will be performed prior to and between engagements or planned maneuvering above 30 units Angle of Attack (AOA).

3.37.1.3. Prior to entering an A/G range, at least once while on the range if multiple passes are made, and at least once after departing the range.

3.37.1.4. Following Air Refueling.

3.37.2. Minimum Ops Check items are engine instruments, total and internal fuel quantities and balance, G-suit connection, oxygen system, cabin altitude, and Overload Warning System (OWS).

3.37.3. In formation flights, the flight lead may initiate ops checks by radio call or visual signal and wingmen will respond appropriately. The query and response for ops checks will include the following:

3.37.3.1. Pointer over counter readings (e.g. "13 over 25, externals" or "13 over 18, CFTs").

3.37.3.2. Following external wing tank and CFT fuel consumption, ensure tank one is feeding correctly; add a "balanced" call to the normal Ops Check reply when wing tank fuel balance checks are required and the difference is no greater than 200 lbs. (e.g. "8 squared, balanced, tank 1") (**EXCEPTION:** Total fuel only may periodically be used during high demand phases of flight).

3.37.4. Fighter Data Link (FDL) fuel status will not be used as the primary source of fuel checks.

**3.38. F-15E Crew Duties.** Both crewmembers are responsible for successful sortie completion. They will perform a crew brief before each flight to ensure an understanding of all aspects of the mission. Aircrew will reference AFTTPs 3-3.F15E and 3-1.F-15E for a thorough discussion of F-15E crew coordination. Unless briefed otherwise, the following duties apply. (**EXCEPTION:** The restrictions listed in [para 3.38.2](#) may not be altered.)

3.38.1. **General.** Brief radar and visual lookout responsibilities, crew coordination, and specific duties for each phase of flight.

3.38.2. **Weapon Systems Officer (WSO) Flying.** WSOs will not fly during:

3.38.2.1. Takeoff or landing.

3.38.2.2. AAR operations.

3.38.2.3. Close formation or rejoins to close formation.

3.38.2.4. Tactical maneuvering.

3.38.2.5. Weapons delivery (actual or simulated).

3.38.2.6. Below 1,000 feet AGL (unless flying practice instrument approaches and no lower than non-precision approach minimums, the pilot's weather category, or 500' AGL, whichever is higher).

3.38.2.7. Overhead patterns

3.38.3. **Takeoff.** The WSO will check the Min go/Max abort speed when required, monitor engine and flight instruments, check gear and flaps up prior to their TO speed limits, and advise the pilot of any discrepancies.

3.38.4. **Climb/Departure.** The aircrew member flying the aircraft will call altimeter setting to 29.92 when passing the transition altitude.

3.38.5. **Cruise, Navigation, and Instrument Flight.** The WSO will relay aircraft attitude, altitude, and airspeed information to the pilot when departing a formation at night or in IMC.

**3.38.6. Air Refueling.**

3.38.6.1. **Pilot Responsibilities.** Be prepared to immediately use the air refueling release HOTAS if an IP/UIP in the RCP is accomplishing the refueling and either the RCP air refueling release button on the stick doesn't work or safety dictates.

3.38.6.2. **WSO Responsibilities.** Advise the pilot of boom position and call when boom is positively disconnected and clear.

**3.38.7. Instrument Penetrations and Descents.**

3.38.7.1. The aircrew member in control of the aircraft will advise the other crewmember of intentions when performing any penetration or approach.

3.38.7.2. Both crewmembers must confirm the Decision Height (DH) or Minimum Descent Altitude (MDA) for an approach, or the RAA and MSA altitudes for descents into the low altitude environment.

3.38.7.3. Both crewmembers will refer to appropriate FLIP publications during the holding, penetration and approach.

3.38.7.4. The crewmember not in control of the aircraft will verbally check altimeter settings when passing the transition level.

3.38.7.5. The crewmember not in control of the aircraft will advise the other crewmember when 1,000 feet above any intermediate level off altitude, 100 feet above DH or MDA for the approach being flown, or when 1000 feet above the minimum altitude during descents into the low altitude environment.

**3.38.8. Pattern and Landing.** The crewmember not in control of the aircraft will:

3.38.8.1. Monitor the pattern with emphasis on engine power, altitude, airspeed, landing gear, and flap position.

3.38.8.2. Visually clear the area.

3.38.8.3. Monitor ground speed versus runway remaining during the landing roll to assess aerobraking effectiveness and available stopping distance.

3.38.9. **After Landing.** If an IP/UIP accomplished the landing from the RCP, the pilot in the FCP will assume control of the aircraft as briefed by the pilot in the RCP to perform the taxiing.

**3.39. Identification Friend or Foe/Selective Identification Feature (IFF/SIF).** Excessive Mode 3/A and Mode 4 interrogations can cause ATC to momentarily drop surveillance tracks. Aircrew may continue to interrogate Mode 3/A and 4 as operational, training, and safety requirements dictate, but will minimize use in Range While Search (RWS) when pointed at known high-density traffic areas. Interrogations in the more focused radar modes (e.g. STT, TWS) have less impact upon ATC operations.

## Chapter 4

### INSTRUMENT PROCEDURES

#### 4.1. General.

4.1.1. In IMC the Electronic Attitude Director Indicator (EADI) must be used as the primary attitude reference by the crewmember flying the aircraft. The F-15E HUD is not certified as a Primary Flight Reference (PFR) IAW AFI 11-217V1; therefore, it cannot be used as a sole attitude reference.

4.1.2. The HUD is the primary reference for low level and TF operations.

4.1.3. Do not use the HUD to recover from an unusual attitude or when executing lost wingman procedures except when no other attitude reference is available.

4.1.4. The F-15E INS and EGI are approved for Enroute Area Navigation (RNAV); however, RNAV and GPS approaches are not authorized.

#### 4.2. Takeoff and Join-Up.

4.2.1. The flight lead must get an appropriate ATC clearance (altitude block or trail formation) when a flight join-up is not possible due to weather or operational requirements.

4.2.2. Formation trail departures must comply with instructions for a nonstandard formation flight as defined in FLIP.

4.2.3. If weather is below 1500 feet ceiling and 3 miles (5 KM) visibility, each aircraft and element will climb on takeoff heading to 1,000 feet AGL before initiating any turns, except when departure instructions specifically preclude compliance.

#### 4.3. Trail Procedures.

##### 4.3.1. General.

4.3.1.1. The flight lead must brief the flight on spacing, configuration and airspeeds in all phases of flight that trail formations will be flown.

4.3.1.2. Flight leads will request non-standard formation from ATC.

4.3.1.3. ATC instructions to the lead aircraft will be for the entire flight.

4.3.1.4. Limit all turns to a maximum of 30 degrees of bank.

##### 4.3.2. Trail Departure.

4.3.2.1. Reference AFTTP 3-1.F-15E, para 3.6, for Trail Departure techniques.

4.3.2.2. During trail formations basic instrument flying is the first priority. Strictly adhere to the briefed airspeeds, power settings, altitudes, headings, and turn points. If task saturation occurs, cease attempts to maintain trail, concentrate on flying the instrument departure, and then notify the flight lead. The flight lead will then notify ATC.

4.3.2.3. Each aircraft or element will follow the No Radar Contact procedures until the aircraft or element immediately in trail has radar contact and called "tied."

4.3.2.4. Use a minimum of 20 seconds takeoff spacing.

**4.3.3. No Radar Contact.**

4.3.3.1. The flight lead will call initiating all turns. Subsequent aircraft must delay turns to maintain the desired spacing .

4.3.3.2. Each aircraft and element will maintain 20 seconds or 2-3 mile spacing using all available aircraft systems and NAVAIDs to monitor position.

4.3.3.3. During climbs and descents, each aircraft or element will call passing each 5,000 foot altitude increment with altitude and heading (or heading passing) until join-up, level-off, or the following aircraft or element calls "tied."

4.3.3.4. Each aircraft and element will call initiating any altitude or heading changes. Acknowledgments are not required; however, it is imperative that preceding aircraft or elements monitor the radio transmissions and progress of the succeeding aircraft and elements, and immediately correct deviations from the planned route.

4.3.3.5. Each aircraft and element will maintain at least 1,000 feet vertical separation from the preceding aircraft or element until establishing radar or visual contact except in instances where departure instructions specifically preclude compliance. Reduce vertical separation to 500 feet if necessary to comply with MSA restrictions.

4.3.3.6. In the event a visual join-up cannot be accomplished on top or at level-off, the flight lead will request altitude separation for each succeeding aircraft or element to meet the requirements of the above paragraph.

**4.3.4. Radar Contact.**

4.3.4.1. Each aircraft and element will call "tied" when radar contact is established with the preceding aircraft.

4.3.4.2. Once all aircraft are tied, no further radio calls are required unless radar contact is lost.

4.3.4.3. In flights of three or more aircraft, use all available aircraft systems (i.e. radar, TACAN, AAI, FDL, etc.) to ensure that trail is maintained on the correct aircraft.

**4.3.5. En route Trail.** Flight leads must brief airspeeds, power settings, and configurations.

**4.3.6. Trail Recovery.**

4.3.6.1. Trail recoveries are only authorized at home station and designated deployed locations. Appropriate ATC agencies must approve and local operating procedures must address trail recovery procedures. As a minimum, procedures must address each recovery profile, missed approach, climb-out, desired and maximum spacing requirements, lost contact, and lost communications.

4.3.6.2. Limit trail recovery to a maximum of four aircraft.

4.3.6.3. Trail recoveries are authorized when weather at the base of intended landing is at or above the highest PWC in the flight or approach minimums, whichever is higher.

4.3.6.4. Prior to taking spacing the flight lead must do the following:

4.3.6.4.1. Coordinate the trail recovery with ATC prior to taking spacing.

- 4.3.6.4.2. Ensure that all wingmen have "good NAVAIDS" and an A/A radar.
- 4.3.6.4.3. Accomplish the spacing maneuver in VMC to the max extent possible.
- 4.3.6.5. Once established on a segment of a published approach, each aircraft must comply with all published altitudes and restrictions while maintaining in-trail separation.
- 4.3.6.6. Unless local procedures establish defined reference points for airspeed and configuration changes, the flight lead must direct changes by radio. At flight lead's call all aircraft must simultaneously comply with the directed change.
- 4.3.6.7. All aircraft must report the FAF or glide slope intercept.
- 4.3.6.8. **Lost Contact.** If contact is lost with the preceding aircraft, the following will be accomplished:
  - 4.3.6.8.1. The pilot will transmit, "Callsign (C/S), lost contact."
  - 4.3.6.8.2. The preceding aircraft will respond with altitude, airspeed, and heading.
  - 4.3.6.8.3. If contact is lost while established on a segment of a published approach, flight members may continue the approach, but must confirm separation via navigation aids.
  - 4.3.6.8.4. If separation cannot be confirmed, execute missed approach or climb-out as instructed by ATC.

#### **4.4. Formation Split-Up.**

- 4.4.1. Accomplish formation split-ups in VMC to the max extent possible.
- 4.4.2. If IMC, accomplish the split-up in straight and level flight.
- 4.4.3. Prior to a split-up in IMC, the flight lead must transmit attitude, airspeed, altitude, and altimeter setting which will be acknowledged by wingmen. Wingmen must confirm good NAVAIDS.

#### **4.5. Formation Penetration.**

- 4.5.1. Restrict formation penetrations to two aircraft when the weather at the base of intended landing is less than overhead traffic pattern minimums.
- 4.5.2. If a formation landing is intended, position the wingman on the appropriate wing prior to weather penetration.

**4.6. IMC Lead Change.** During IMC formation flights, do not change leads below 1,500 feet AGL unless on RADAR downwind.

#### **4.7. Approach Procedures.**

- 4.7.1. Aircrew will not fly any published instrument approach procedure (e.g. DoD, Jeppesen, ICAO) that requires airspeeds less than those specified in the TO.
- 4.7.2. The F-15E is Approach Category E. Use Approach Category D minimums at an emergency or divert airfield where no Category E minimums are published, provided:
  - 4.7.2.1. A straight-in approach is flown.
  - 4.7.2.2. For the final approach segment, the aircraft is flown at 165 KCAS or less.

4.7.2.3. For the missed approach segment, the aircraft is flown at 255 knots true airspeed (KTAS) or less. In those cases where a high density altitude may cause 255 KTAS to equal a KCAS below the speeds specified in TO 1F-15E-1, Cat D approaches shall not be flown.

## Chapter 5

### AIR-TO-AIR WEAPONS EMPLOYMENT

**5.1. References.** AFI 11-214 contains A/A procedures and restrictions, to include operations with live ordnance applicable to all aircraft. This chapter contains procedures and restrictions specific to F-15E operations.

#### **5.2. Simulated Gun Employment.**

5.2.1. Simulated A/A gun employment is defined as use of Master Arm and trigger actuation during a practice gun attack against airborne targets.

5.2.2. Always confirm the status of the gun system prior to flight IAW TO 1F-15E-34-1-1-CL-1.

5.2.3. Simulated A/A gun employment may be performed with a loaded gun provided the gun is safed and a trigger check is accomplished. Point the aircraft away from other aircraft and inhabited areas during any trigger check.

5.2.4. Never perform simulated A/A gun employment with a hot gun (one that is not safed IAW TO 1F-15E-34-1-1-CL-1). Never perform a trigger check with a hot gun, regardless of Master Arm switch position.

#### **5.3. Maneuvering Limitations.**

5.3.1. Minimum airspeed during LOWAT maneuvering is 350 KCAS.

5.3.2. When configured with three external tanks, aircraft will operate under the LIMITED maneuvering category.

5.3.3. When configured with external wing tanks only (e.g. no centerline fuel tank), UNLIMITED maneuvering is allowed once the externals are empty (flight manual restrictions still apply).

5.3.4. Negative-G guns jinks are prohibited.

5.3.5. When acting as a restricted maneuvering target for low altitude intercepts, the minimum airspeed is 300 KCAS.

5.3.6. A/A tactical maneuvering (ACBT and unlimited or limited maneuvering intercepts) is prohibited when wing fuel imbalance results in a 30 unit restriction IAW TO 1F-15E-1 Ch 5 and Ch 6. When the imbalance is corrected to within TO limits, the briefed mission can be continued.

## Chapter 6

### AIR-TO-SURFACE WEAPONS EMPLOYMENT

**6.1. References.** AFI 11-214 contains A/G procedures and restrictions applicable to all aircraft. This chapter contains procedures and restrictions specific to F-15E operations.

**6.2. Simulated Attacks against Off-Range or Manned Targets.** May be conducted, to include use of Master Arm and A/G Master Mode, when carrying practice ordnance under the following restrictions:

6.2.1. No live or carted heavyweight inert A/G ordnance, or live A/A missiles are loaded.

6.2.2. The A/G training mode is used on the Programmable Armament Control Set (PACS).

6.2.3. Stations loaded with carted practice ordnance are not selected on the training PACS.

6.2.4. The combat laser may be used only in approved areas.

**6.2.5. Simulated Strafe.**

6.2.5.1. Simulated strafe is defined as the combined use of Master Arm and trigger actuation during a practice gun attack against ground targets.

6.2.5.2. Simulated strafe is permitted with a safed gun, loaded or unloaded, provided a trigger check is previously accomplished.

6.2.5.3. Do not perform simulated strafe (as defined in [para 6.2.5.1](#)) with a hot gun (loaded or empty).

**6.3. Pop-Up Attacks.** Abort pop-up attacks if airspeed decreases below 350 KCAS (300 KCAS above 10,000 feet AGL).

**6.4. TF System Delivery Procedures.**

6.4.1. Maximum angle of bank during night recovery maneuvers (from loft or climbing safe escape) is 135 degrees.

6.4.2. When performing weapons deliveries on a range using only TF procedures (e.g. NVGs are not used) all maneuvering in the bombing pattern below MSA will be inside TF limits.

**6.4.3. TF Loft Deliveries.**

6.4.3.1. TF loft deliveries are instrument maneuvers that exceed numerous TF limits. Aircrew will reference AFTTP 3-3.F-15E Chapter 8 for a comprehensive list of delivery and recovery procedures and considerations.

6.4.3.2. The TF loft escape corridor is defined as a 10NM wide corridor centered on planned flight path, starting at the planned roll out point and extending for 8NM along the egress heading. Aircrew will calculate and annotate both an RIA and MSA for every planned escape corridor.

6.4.3.3. Prior to TF loft deliveries both aircrew will verify accuracy of their standby ADI against an EADI and verbalize inter-cockpit "ADI up".

6.4.3.4. If the TF system fails during recovery, maintain the appropriate minimum altitude (RAA, MSA, or NVG minimum) until the TF system recovers.

6.4.3.5. If at any time during the TF loft delivery or recovery airspeed drops below 300 KCAS, abort the maneuver and recover to level flight. Direct primary emphasis towards aircraft attitude, altitude, and regaining airspeed.

## **6.5. Night and IMC Surface Attack Range Procedures.**

6.5.1. For night range weapons deliveries, the weather must allow the Range Control Officer (RCO) (for a class A range), or a flight member or range personnel (for a class B or C range) to clear the target area and spot or score the ordnance impact.

6.5.2. Multiple weapons deliveries may be accomplished at night and/or during IMC if range patterns and procedures that ensure positive aircraft separation are established and briefed.

6.5.2.1. TF altitude and maneuvering restrictions apply throughout the pattern for TF deliveries. If the downwind is flown at MSA or above do not begin a TF descent to the planned delivery altitude until in a position to remain within TF limits.

6.5.2.2. Minimum pattern altitude for non-TF deliveries is MSA or above, range restrictions permitting, unless complying with [para 3.34](#) (NVG Procedures).

6.5.3. For IMC range deliveries through or above the weather comply with the applicable Range Orders and the following restrictions:

6.5.3.1. A fully functional Present Position Keeping Source (PPKS) must be selected for delivery. Use of EGI PPKS requires a GPS accuracy of 50' or better and a star to indicate blended solution.

6.5.3.2. Ballistic Ordnance.

6.5.3.2.1. Use of MN or INS PPKS requires a system altitude update within five minutes prior to release.

6.5.3.2.2. A target direct and minimum of one target offset High Resolution Map (HRM) patch maps (1.3 NM or better) are required for radar target designation.

6.5.3.2.3. Nav target designation will only be used with EGI PPKS. Verify target coordinates against published range coordinates to ensure on-range impact.

6.5.3.3. Inertially Aided Munitions (IAM).

6.5.3.3.1. Verify Smart Weapons Page target coordinates against published range coordinates.

6.5.3.3.2. Verify weapon navigation solution quality is at least MARGINAL 1 or better and no warning messages or weapon DGRD or FAIL cues are on the Smart Weapons Page.

6.5.3.3.3. Release in the IN-ZONE LAR or at the planned DGR if no LAR exists.

## Chapter 7

### ABNORMAL OPERATING PROCEDURES

#### 7.1. General. These procedures do not supersede TO guidance.

7.1.1. Do not accept an aircraft for flight with a malfunction addressed in the Emergency Procedures and Abnormal Operations section of the TO until it has been corrected.

7.1.2. Do not use a malfunctioning system unless it is required for safe recovery of the aircraft.

7.1.3. Do not continue in-flight troubleshooting of a malfunction after completing TO emergency procedures and the aircraft may be safely recovered.

#### 7.1.4. Fuel Dumping.

7.1.4.1. Only conduct fuel dumping to reduce aircraft gross weight for safety of flight.

7.1.4.2. When circumstances permit, dump above 10,000 feet AGL over unpopulated areas.

7.1.4.3. Ensure the dump switch is returned to normal before landing.

7.1.4.4. After landing, make an appropriate entry in the AFTO Forms 781.

7.1.5. Do not taxi aircraft with malfunctions that effect the nosewheel steering or brake system.

#### 7.1.6. Flight Control Malfunctions.

7.1.6.1. For actual or perceived flight control malfunctions, terminate maneuvering and take appropriate action.

7.1.6.2. If the flight control problem was due to crew member or passenger stick or rudder interference, the pilot will take appropriate action to ensure no further flight control interference occurs.

#### 7.2. Ground Aborts.

7.2.1. Delayed aircraft may join the flight at a briefed rendezvous point or may fly a briefed alternate single ship mission.

7.2.2. If accomplishing a join-up to spread, route, or fingertip, cease tactical maneuvering until the delayed aircraft is joined and all flight members are ready to continue.

7.2.3. Delayed flight members may join a fight in progress if pre-briefed by the flight lead.

#### 7.3. Takeoff Aborts.

7.3.1. If aborting the takeoff, clear to the appropriate side of the runway as expeditiously as possible based on position within the element. If this is not feasible because of possible cable engagement, clear straight ahead.

7.3.2. As soon as practical, give call sign and state intentions on appropriate frequency or frequencies. A "Cable, Cable, Cable" radio call indicates intent for a departure-end arrestment.

7.3.3. Lower the tailhook if there is any doubt about the ability to stop on the runway.

7.3.4. When applying the brakes above 120 KCAS during a takeoff abort or hot brakes are suspected declare a ground emergency, taxi the aircraft to the designated hot brake area and follow hot brake procedures. See TO 1F-15E-1 Section 3 for list of brake overheat considerations.

7.3.5. Subsequent aircraft will hold position, abort, or takeoff as appropriate to maintain adequate clearance.

#### **7.4. Air Aborts.**

7.4.1. If an abort occurs after takeoff, all aircraft will maintain their original ATC call sign.

7.4.2. Chase emergency air aborts to the field of intended landing. The flight lead will determine if a chase is required for non-emergency aborts.

7.4.3. Abort the mission and land out of a straight-in approach, regardless of apparent damage or subsequent normal operation, for any of the following:

7.4.3.1. Birdstrike or Foreign Object Damage (FOD).

7.4.3.2. Flight control system anomalies (not including flight control system lights that reset IAW TO procedures).

7.4.3.3. Engine flameout, stagnation, or shutdown.

7.4.4. If an aircraft experiences an over-G, use the following procedures:

7.4.4.1. Immediately terminate maneuvering and call up the OWS matrix to analyze the displayed parameters.

7.4.4.2. If level "1" (one) is displayed in any column of the matrix except Mass Items (MIT), perform a BD check with emphasis on the overall condition of the aircraft. If no abnormalities are noted, the flight lead may continue the briefed mission. If a subsequent level "1" or greater over-G occurs, terminate the mission, perform a BD check, RTB, and fly a straight-in approach.

7.4.4.3. If level "1" (one) is displayed in the MIT column, or level "2" (two) or greater is displayed in any column of the matrix, terminate the mission, perform a BD check, RTB, and fly a straight-in approach.

7.4.4.4. After landing, document all over-Gs in the AFTO Form 781.

#### **7.5. Radio Failure.**

7.5.1. **General.** In addition to this volume, individual aircraft experiencing radio failure will comply with procedures outlined in FLIP, AFI 11-202V3, Host Nation, and local directives. Aircraft experiencing any difficulty or emergency in addition to NORDO will proceed as required by the situation.

7.5.2. **Formation.**

7.5.2.1. **Close or Route.**

7.5.2.1.1. Flight members who experience total radio failure while in close or route formation will maneuver within formation parameters to attract the attention of another flight member and give the appropriate visual signals.

7.5.2.1.2. Terminate the mission as soon as practical and lead the NORDO aircraft to the base of intended landing or a divert base.

7.5.2.1.3. Perform a formation approach to a drop-off on final unless safety considerations dictate otherwise.

#### 7.5.2.2. **Other Than Close or Route.**

7.5.2.2.1. If flying other than close or route formation when radio failure occurs, the NORDO aircraft should attempt to rejoin to a route position at approximately 500 feet on another flight member.

7.5.2.2.2. The NORDO aircraft is responsible for maintaining clearances from other flight members until his presence is acknowledged by a wing rock, signifying clearance to join.

7.5.2.2.3. Once joined, the NORDO aircraft will give the appropriate visual signals.

7.5.2.2.4. If pre-briefed, the NORDO aircraft may proceed to a rendezvous point and hold.

7.5.2.2.5. NORDO aircraft will proceed to the base of intended landing or a divert base upon reaching the minimum fuel required for a NORDO recovery (not below BINGO) regardless of rejoin status.

#### 7.5.3. **Surface Attack NORDO Procedures.**

7.5.3.1. Aircrew will reference AFTTP 3-3.F-15E, Chapter 5, for a comprehensive list of Surface Attack NORDO procedures for safe flight management.

7.5.3.2. **Jettison of Unexpended Ordnance.** If radio failure occurs and circumstances preclude landing with unexpended ordnance, accomplish a safe jettison of the ordnance provided the following conditions are met:

7.5.3.2.1. The NORDO aircraft joins on another flight member that has radio contact with the remainder of the flight and the RCO (on a manned range).

7.5.3.2.2. Stores jettison visual signals specified in AFI 11-205 (hold fist at top of canopy and make several pumping motions) are relayed to the NORDO aircraft to initiate jettison.

#### 7.5.4. **NORDO Recovery.**

##### 7.5.4.1. **Go-around.**

7.5.4.1.1. The chase aircraft will go-around, pass the NORDO aircraft, and rock his wings.

7.5.4.1.2. The NORDO aircraft will go-around if in a safe position to do so.

7.5.4.1.3. If the NORDO aircraft is in formation as a wingman, the lead will initiate a gentle turn into the wingman and begin the go-around.

#### 7.5.4.2. Approach End Arrestment.

7.5.4.2.1. The NORDO aircraft will signal intent for an approach-end cable engagement to the chase aircraft by extending the tailhook.

7.5.4.2.2. The pilot of a non-escorted NORDO aircraft intending to make an approach-end cable engagement will fly a straight-in approach flashing the landing light on final to signal the tower.

**7.6. Severe Weather Penetration.** If unavoidable, flight leads should split up the flight and obtain separate clearances prior to severe weather penetration.

**7.7. Lost Wingman Procedures.** In any lost wingman situation, immediate separation of aircraft is essential.

7.7.1. **General Procedures.** Upon losing sight of the flight/element lead or if unable to maintain formation the wingman will simultaneously:

7.7.1.1. Transition to instruments.

7.7.1.2. Execute the applicable lost wingman procedures.

7.7.1.3. Inform lead by transmitting "C/S, lost wingman."

7.7.1.4. Flight/Element lead must acknowledge the lost wingman's radio call and, when appropriate, transmit attitude, heading, altitude, airspeed, and other parameters necessary for safe separation.

7.7.1.5. When able, obtain a separate clearance.

7.7.1.6. Observe all published terrain clearance limits.

7.7.1.7. If a wingman becomes separated and any aircraft experiences radio failure, the aircraft with the operational radio will obtain a separate clearance for both aircraft.

7.7.1.7.1. The NORDO aircraft will squawk code 7600 while proceeding with the last known clearance.

7.7.1.7.2. If an emergency situation arises along with radio failure, the NORDO aircraft will turn the IFF to EMERGENCY for the remainder of the flight.

7.7.1.8. After executing lost wingman procedures, wingman will not attempt to rejoin with the flight until the flight lead clears the wingman to do so.

7.7.1.9. Only practice lost wingman procedures in VMC.

7.7.2. **Two and Three-Ship Procedures** (*NOTE:* For three-ship echelon, refer to four-ship procedures.):

7.7.2.1. **Wings-Level Flight (Climbing, Descending, or Straight and Level).** Turn away using 15 degrees of bank for 15 seconds, then resume original heading.

7.7.2.2. Turns.

7.7.2.2.1. Outside the Turn. Reverse the direction of turn using 15 degrees of bank for 15 seconds. Continue straight ahead to ensure separation prior to resuming the turn.

7.7.2.2.2. Inside the Turn. Momentarily reduce power to ensure nose-tail separation and direct the flight lead to roll out of the turn. Maintain the original turn. The lead may only resume the turn when separation is ensured.

7.7.2.3. Final Approach. Momentarily turn away from lead to ensure clearance and execute the published missed approach procedure.

7.7.2.4. Missed Approach. Momentarily turn away from lead to ensure clearance and continue the published or assigned missed approach procedure while climbing to 500 feet above missed approach altitude.

7.7.3. **Three-Ship Echelon and Four-Ship Procedures.** Number 2 and 3 follow the procedures outlined above. Number 4's initial action assumes that number 3 has also gone lost wingman:

7.7.3.1. **Wings-Level Flight (Climbing, Descending, or Straight and Level).** Turn away using 30 degrees of bank for 30 seconds, then resume the original heading.

7.7.3.2. **Turns.**

7.7.3.2.1. Outside the Turn. Reverse direction of turn using 30 degrees of bank for 30 seconds to ensure separation from lead and number 3.

7.7.3.2.2. Inside the Turn. Momentarily reduce power to ensure nose-tail separation and increase bank angle by 15 degrees. Direct the flight lead to roll out. The flight lead will only resume the turn when separation is ensured.

7.7.4. Fighter – tanker lost wingman procedures are governed by ATP-56(B), *Air-to-Air Refueling*.

**7.8. Spatial Disorientation (SD).** Conditions which prevent a clear visual horizon or increase pilot tasking are conducive to SD. To prevent SD, the pilot must increase his instrument cross-check rate. If SD symptoms are encountered:

7.8.1. **Single Ship.**

7.8.1.1. Concentrate on flying basic instruments with frequent reference to the EADI or standby ADI if no EADI is available.

7.8.1.2. Minimize use of the HUD.

7.8.1.3. Consider turning on the autopilot or transferring control to the other crewmember.

7.8.1.4. If symptoms persist and conditions permit, fly straight and level until symptoms abate.

7.8.1.5. If necessary, declare an emergency and advise ATC.

7.8.1.6. It is possible for SD to proceed to the point where the aircrew is unable to see or interpret the flight instruments. In this situation, aircraft control may be impossible. If this occurs, the aircrew should consider ejecting.

7.8.2. **Flight/Element Lead.**

7.8.2.1. Advise the Wingmen of the disorientation and comply with procedures in [paragraph 7.8.1](#).

7.8.2.2. Use the Wingmen to confirm attitude and provide verbal feedback.

7.8.2.3. If symptoms persist, terminate the mission and recover the flight by the simplest and safest means possible.

### 7.8.3. **Wingman.**

7.8.3.1. Advise lead of the disorientation.

7.8.3.2. Lead will advise wingman of aircraft attitude, altitude, heading, and airspeed.

7.8.3.3. If symptoms persist and conditions permit, lead will establish straight and level flight for 30-60 seconds.

7.8.3.4. If the above procedures are not effective flight lead should consider passing the lead to the wingman, provided the flight lead will be able to maintain situational awareness from a chase position.

7.8.3.4.1. Change leads while in straight and level flight.

7.8.3.4.2. Once assuming the lead, maintain straight and level flight for at least 60 seconds if practical.

7.8.3.5. If necessary, terminate the tactical mission and recover by the simplest and safest means possible.

### 7.8.4. **Greater Than Two-Ship Formation.**

7.8.4.1. Lead should separate the flight into elements to more effectively handle a wingman with persistent SD symptoms.

7.8.4.2. Accomplish split-up IAW [para 4.4](#) (Formation Split-up).

7.8.4.3. Plan to keep the element with the SD pilot straight and level while the other element separates.

## 7.9. **Armament System Malfunctions.**

7.9.1. **General.** Aircrew will not attempt to expend ordnance with a known weapons release malfunction.

### 7.9.2. **Inadvertent Release or Firing.**

7.9.2.1. Note switch positions at the time of inadvertent release or firing and provide to armament and safety personnel. Record the impact point if known.

7.9.2.2. Safe the armament switches and do not attempt further release or firing in any mode. Treat remaining ordnance as hung and follow hung ordnance procedures during RTB.

7.9.2.3. If remaining stores present a recovery hazard, jettison them in a suitable area on a single pass, if practical.

7.9.3. **Failure to Release, Failure to Fire, or Hung Ordnance.** Note switch positions and PACS settings. If ordnance delivery failed with proper setup, proceed as follows:

#### 7.9.3.1. **Live Bombs.**

7.9.3.1.1. Attempt to release store(s) using an alternate delivery mode.

7.9.3.1.2. If unsuccessful, attempt to jettison store(s) using selective jettison procedures.

7.9.3.1.3. Lastly, consider attempting to selectively jettison the pylon if ordnance is unsecured or security cannot be determined.

7.9.3.1.4. All release and fuze settings should be noted, then safe the system.

7.9.3.1.5. If bombs remain on the aircraft, follow the Hung Ordnance and Weapons Malfunction Recovery procedures.

#### 7.9.3.2. **Practice or Inert Bombs.**

7.9.3.2.1. Re-check switch positions and make an additional attempt to expend.

7.9.3.2.2. If no release occurs, select an alternate delivery mode in an attempt to expend.

7.9.3.2.3. If the secondary release mode fails, bombs from other stations and dispensers may be released providing the aircraft remains within symmetrical load limits. Upon RTB, follow the Hung Ordnance and Weapons Malfunction Recovery procedures.

#### 7.9.4. **Missile Malfunctions.**

7.9.4.1. When abnormal missile launch or erratic missile flight is noted after launch, visually inspect the launching aircraft to determine if any damage has occurred.

7.9.4.2. A missile that fires but fails to depart the aircraft is a hangfire. If this occurs, the missile should be closely observed and safety checked by a chase pilot.

7.9.4.3. A missile that fails to fire when all appropriate switches were selected is a misfire.

7.9.4.4. For either a hangfire or misfire safe the Master Arm switch and follow the Hung Ordnance and Weapons Malfunction Recovery procedures.

#### 7.9.5. **Gun Malfunctions.**

7.9.5.1. For a hung or jammed gun immediately cease the delivery and safe the system.

7.9.5.2. Do NOT attempt to use the gun again or further damage could result.

7.9.5.3. If the HUD gun cross is on after selecting Master Arm Safe or the gun cannot be verified safe, upon landing recover to a designated Hot Gun area.

7.9.5.4. Follow the Hung Ordnance and Weapons Malfunction Recovery procedures.

#### 7.9.6. Hung Ordnance and Weapons Malfunction Recovery.

7.9.6.1. If practical, obtain a chase aircraft and visually inspect the aircraft for damage.

7.9.6.2. Declare an emergency when carrying hung or malfunctioning live ordnance, to include 20mm HEI.

7.9.6.3. Declaration of an emergency for hung practice or inert ordnance, 20mm TP, or live unexpended ordnance is IAW local directives and aircrew discretion.

7.9.6.4. Avoid populated areas and trail formations.

7.9.6.5. Land from a straight-in approach.

#### **7.10. Post Arresting Gear Engagement Procedures.**

7.10.1. Do not shut down the engine(s) unless directed by the ground crew, there is a fire, or safety dictates.

7.10.2. Raise the tailhook only on the ground crew's signal.

7.10.3. Do not taxi until directed.

#### **7.11. In-flight Practice of Emergency Procedures.**

7.11.1. A Simulated Emergency Procedure is defined as any procedure that produces an effect which closely parallels an actual emergency, such as retarding the throttle to simulate a flamed out engine.

7.11.2. Only practice aborted takeoffs in the simulator, Cockpit Procedures Trainer (CPT), or, if the trainer is unavailable, a static aircraft.

7.11.3. Simulated in-flight loss of both engines is prohibited.

7.11.4. Practice in-flight engine shutdown is prohibited.

7.11.5. Emergency Landing Patterns (also refer to AFI 11-202V3).

7.11.5.1. **Field Requirements.** Practice of emergency landing patterns at active airfields is authorized provided that crash rescue and ATC facilities are available and in operation.

7.11.5.2. **Supervisory Requirements.** IQT pilots prior to the initial instrument/qualification evaluation require an IP on board the aircraft or in chase. After the initial instrument/qualification evaluation, supervision will be an IP/IWSO on board the aircraft or in chase. MQT pilots require a SOF in place and an IP or flight lead monitoring from the traffic pattern.

7.11.5.3. **Pattern Procedures.**

7.11.5.3.1. Include the type of practice emergency pattern in the gear down call.

7.11.5.3.2. Practice Single-Engine Go-Arounds.

7.11.5.3.2.1. Initiate practice single-engine go-arounds in sufficient time to ensure the aircraft does not descend below 300 feet AGL.

7.11.5.3.2.2. Simulated single-engine approaches may descend below 300 feet AGL provided the approach terminates in a full stop landing or the go-around from a low approach or touch and go landing is performed with both engines.

**7.12. Search and Rescue (SAR) Procedures.** If an aircraft crashes, immediately attempt to locate possible survivors and initiate rescue efforts. Expect that the aircrew may initially suffer from shock or have delayed reactions due to ejection injuries. The following procedures are not exhaustive and should be adjusted to meet each unique search and rescue situation.

7.12.1. Knock off maneuvering.

7.12.2. Establish an On-Scene Commander (usually the wingman of the aircraft that is down).

7.12.3. Notify ATC or Ground Controlled Intercept (GCI) of the emergency situation. Squawk 7700 if requested by control agency.

7.12.4. Communicate the emergency situation, aircraft involved, and flight intentions immediately to applicable control agencies. Use GUARD (UHF and/or VHF) if necessary.

7.12.5. Mark the last known position of survivors (and the crash site if practical) using any means available (e.g. TACAN, EGI/INS, ATC/GCI, visual references).

7.12.6. Remain above the highest ejection altitude, if known, or the highest observed parachute until determining the position of all possible survivors.

7.12.7. Deconflict other aircraft assisting in SAR by altitude to preclude midair collision. Establish high and low CAPs as necessary to facilitate communications.

7.12.8. Revise BINGO fuels or recovery bases as required to maintain maximum SARCAP coverage. Do not overfly the adjusted BINGO fuel.

7.12.9. Relinquish SAR operation to designated rescue forces upon their arrival.

7.12.10. Follow local or briefed procedures.

**7.13. Lateral Asymmetry.** Reference TO 1F-15E-1, Chapter 5, for restrictions associated with lateral asymmetries.

7.13.1. When a fuel imbalance develops that exceeds TO 1F-15E-1 limits for maneuvering above 30 units AOA, terminate maneuvering and investigate.

7.13.2. If the imbalance was caused by a slow feeding CFT, external, or internal wing tank, restrict flight operations to instrument procedures, deployment missions, level/climbing weapons deliveries, or restricted maneuvering intercepts, until the imbalance is corrected.

7.13.3. If the fuel imbalance cannot be corrected, terminate the mission. However, the events listed in [para 7.13.2](#) may be flown to reduce gross weight.

**7.14. Engine Malfunctions.** Report all engine anomalies during maintenance debrief.

## Chapter 8

### LOCAL OPERATING PROCEDURES

**8.1. General.** This chapter is reserved for unit local operating procedures. IAW AFI 33-360, the paragraph method is the only authorized way to supplement an AFI and added material must be arranged according to the basic publication. Units composed of dissimilar aircraft may publish guidance in a single, stand-alone local operating instruction (OI) instead of supplementing this AFI. Added or stand-alone procedures will not be less restrictive than those contained elsewhere in this volume. This chapter is not intended to be a single source document for procedures contained in other directives or regulations. Avoid unnecessary repetition of guidance provided in other established directives; however, reference to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures. This chapter is authorized to be issued to each F-15E crewmember. Units may supplement the following paragraphs for local operating guidance:

#### 8.1.1. Section A. Introduction.

##### 8.1.1.1. (Added-SEYMOURJOHNSONAFB) GENERAL:

8.1.1.1.1. (Added-SEYMOURJOHNSONAFB) This chapter provides standard procedures to be used by all F-15E aircrew operating from Seymour Johnson AFB, NC. Aircrews should refer to SJAFBI 11-250, *Airfield Operations* and the 4 OG Aircrew Aid for local ATC procedures, illustrations of the local area, working area descriptions, and divert information. This supplement is directive in nature; however, if more restrictive guidance is published (AFI change, FCIF, Read File, Squadron OI) the more restrictive guidance will be applied. This chapter applies, as appropriate, to other units operating from SJAFB. Commanders and supervisors will ensure compliance with AFI 11-2F-15EV3 to include this supplement. 4th Operations Group Commander (4 OG/CC) approval is required for deviations from this chapter. Use AF Form 847, *Recommendation for Change of Publication*, to submit recommended changes. 4th Operations Group Stan/Eval Division (4 OG/OGV) will evaluate and publish changes to this supplement with 4 OG/CC concurrence. 4 FW deployed units will comply with this chapter and deployed local procedures. If Chapter 8 procedures are inappropriate for deployed operations, the deployed commander will ensure deployed procedures are established.

##### 8.1.1.2. (Added-SEYMOURJOHNSONAFB) COMMAND AND CONTROL:

8.1.1.2.1. (Added-SEYMOURJOHNSONAFB) All 4 FW flying operations will be approved by the 4 OG/CC. This includes cross-country, ferry, operational check flights, and functional check flights.

8.1.1.2.2. (Added-SEYMOURJOHNSONAFB) In the event that ePEX fails or crashes, flying units will advise the SOF, Airfield Management and Command Post of all aircrew, tail number, and mission changes as they occur.

8.1.1.2.3. (Added-SEYMOURJOHNSONAFB) The SOF has the authority to recall or divert flights.

8.1.1.2.4. **(Added-SEYMOURJOHNSONAFB)** 4 OG/CC approval is required to take cameras in the cockpit.

8.1.2. Section B. General Policy.

8.1.2.1. **(Added-SEYMOURJOHNSONAFB)** These operating procedures are designed to increase combat capability, adhere to peacetime restrictions, and minimize inherent risks.

8.1.3. Section C. Ground Operations.

8.1.3.1. **(Added-SEYMOURJOHNSONAFB)** FLIGHT PLANS:

8.1.3.1.1. **(Added-SEYMOURJOHNSONAFB)** File flight plans through squadron operations desk or by DD Form 175/1801, Military Flight Plan/DOD International Flight Plan, with the stereo flight plan name in the remark section by hotline/fax (722-4097/4100) prior to briefing. Flying squadrons must retain the original DD Form 175/1801 on file for 90 days. Local canned, stereo and split recovery coded flight plans are listed in the 4 OG Aircrew Aid. IAW SJAFBI 11-250 all flight plans (stereo/cross country) will be submitted at least one hour prior to departure.

8.1.3.1.1.1. **(Added-SEYMOURJOHNSONAFB)** Prior to taxi, the flight lead will call Seymour Clearance Delivery and, if appropriate, specify the requested stereo. Clearance Delivery will verify the stated request and issue the IFR clearance and a squawk for the flight. Clearance Delivery will advise aircrew to contact squadron operations to re-file if the requested flight plan is unavailable or different from the available flight plan. If Clearance Delivery does not have a clearance at taxi time, the aircrew will contact Ground for taxi instructions and expect to receive an advisory call on Ground when the IFR clearance is available.

8.1.3.1.2. **(Added-SEYMOURJOHNSONAFB)** VFR departures are available as a last resort if an IFR flight plan is not available and the flight needs to depart. Coordinate with Tower and the SOF for a VFR departure and expect a local squawk.

8.1.3.1.3. **(Added-SEYMOURJOHNSONAFB)** Split Recoveries: Flights may depart as a four/two-ship and recover as two/single-ships (or other combination). To fly split recoveries, file an "R" flight plan(s) for each separately returning flight or aircraft. Example, LION 11 flight of four files a Beach 4 and LION 13 files a Beach 4R for a separate recovery. To obtain individual IFR clearances, depart the working area with at least 2 minutes (8 miles minimum) separation.

8.1.3.1.4. **(Added-SEYMOURJOHNSONAFB)** MARSAs Procedures: When applying MARSAs at Seymour Johnson, aircrews must file separate flight plans with "MARSAs" in the remarks section of the flight plan (i.e. LION11 MARSAs SPAD11). MARSAs operations will be limited to a maximum of 8 aircraft.

8.1.3.1.4.1. **(Added-SEYMOURJOHNSONAFB)** When requesting taxi instructions, advise tower of intentions to depart MARSAs (i.e. GROUND LION11 MARSAs SPAD11 TAXI WITH CLEARANCE AND ATIS CODE). Each flight lead will receive a discrete beacon code from clearance delivery. The last aircraft in the MARSAs formation will squawk a subset of second flight lead.

8.1.3.1.4.2. **(Added-SEYMOURJOHNSONAFB)** Prior to exiting Special Use Airspace, the flight lead will advise ATC of intentions to apply MARSA and provide all call signs. On initial contact with Seymour Johnson Approach, advise ATC of MARSA condition and state intentions for recovery.

8.1.3.1.5. **(Added-SEYMOURJOHNSONAFB)** Flights separating after air refueling to accomplish different missions will file a separate flight plan for each aircraft/element. Flights flying VR routes prior to air refueling must file a DD-175/1801, with a detailed route of flight in order to avoid confusion with Washington Center.

8.1.3.1.6. **(Added-SEYMOURJOHNSONAFB)** Flights requesting Phelps MOA will annotate this in the remarks section of their DD-175/1801 or file the appropriate stereo flight plan.

8.1.3.2. **(Added-SEYMOURJOHNSONAFB)** FLIGHT BRIEFINGS:

8.1.3.2.1. **(Added-SEYMOURJOHNSONAFB)** Flight briefings will be conducted IAW AFI 11-2F-15EV3 and will be completed in sufficient time to allow, as a minimum, 15 minutes prior to step for crew briefing, personal time, and life support.

8.1.3.2.2. **(Added-SEYMOURJOHNSONAFB)** For surge operations, flight leads will brief a single primary mission (i.e. SAT, ACT, SA, SAN, AGM, etc.). Missions flown during the surge may include the primary mission or any of the suitable alternate missions listed in paragraph 8.1.3.3.

8.1.3.2.3. **(Added-SEYMOURJOHNSONAFB)** All end of tour (EOT) flights will be pre-briefed to, and approved by the squadron Operations Officer.

8.1.3.3. **(Added-SEYMOURJOHNSONAFB)** APPROVED ALTERNATE MISSIONS:

8.1.3.3.1. **(Added-SEYMOURJOHNSONAFB)** The Operations Supervisor (Ops Sup/Top 3) grants approval to fly missions as pre-planned single or three ships by signing the daily flying schedule with the single/three ship missions annotated. Fallout formation options will be briefed and, if fallout occurs before takeoff, coordinate with the Ops Sup. All A/A missions may be flown as intercept, BFM or AHC missions. ACT and ACM missions may be flown as ACM and BFM missions, respectively. Single ship surface attack missions will be conducted IAW AFI 11-214, *Air Operations Rules and Procedures*, with the following addition: SAT missions may fly intercepts or SA as a backup. SA and SAN missions may fly basic intercept missions as alternate profiles.

8.1.3.4. **(Added-SEYMOURJOHNSONAFB)** LOCAL WEATHER PROCEDURES:

8.1.3.4.1. **(Added-SEYMOURJOHNSONAFB)** Airborne aircrew will inform the SOF of weather changes affecting local flying.

8.1.3.4.2. **(Added-SEYMOURJOHNSONAFB)** The SOF will designate one base as a "divert" base. The "divert" is informational only and denotes a field with forecast weather and facilities capable of safely accepting F-15E's; it does not affect recovery field fuels. This information will be passed through the command post to the flying squadrons. If the divert base is other than Cherry Point MCAS, the divert

base will be listed on ATIS. When local forecast weather requires an alternate airfield be designated, the SOF will designate an "alternate" base. The "alternate" base will always be listed on ATIS. In the event ATIS is out, aircrew will contact the SOF for alternate/divert/overhead pattern status.

8.1.3.4.2.1. **(Added-SEYMOURJOHNSONAFB)** TACAN Out Recoveries: When the TACAN is out of service, making all instrument approaches "Radar Required", an alternate will be declared for IFR purposes. If the field is VFR and the SOF determines that a VFR recovery is possible, ATIS will carry the following verbiage: "4th Fighter Wing Alternate Cherry Point (*or appropriate alternate*). VFR recovery fuel authorized". Aircrew may then return with VFR fuel.

8.1.3.4.3. **(Added-SEYMOURJOHNSONAFB)** Lightning within 5 (LW5) Aircrew Actions.

8.1.3.4.3.1. **(Added-SEYMOURJOHNSONAFB)** The 26 OWS will issue a weather watch for the potential of lightning activity within 5NM of Seymour Johnson. Aircrews can expect this watch to begin 30 minutes before the forecaster expects lightning within 5NM, or when thunderstorms are expected to move or develop within 10NM of the base.

8.1.3.4.3.1.1. **(Added-SEYMOURJOHNSONAFB)** When actual lightning is observed within 10NM of the base, base weather will issue a weather advisory.

8.1.3.4.3.1.2. **(Added-SEYMOURJOHNSONAFB)** When actual lightning is observed within 5NM of the base, base weather will issue a weather warning. Maintenance personnel will not work on the flight line under these conditions except for "MISSION ESSENTIAL" situations. Aircrew actions are predicated on the phase of the mission in which they are involved. Aircrew must keep in mind the associated risk to human life associated with aircraft de-arm/shutdown when actual lighting is within 5 nm of the base.

8.1.3.4.3.2. **(Added-SEYMOURJOHNSONAFB)** Aircrew Procedures are outlined in the 4 OG Aircrew Aid. In general, utilize the following procedures:

8.1.3.4.3.2.1. **(Added-SEYMOURJOHNSONAFB)** In chocks prior to start: Evacuate the aircraft and seek shelter.

8.1.3.4.3.2.2. **(Added-SEYMOURJOHNSONAFB)** In chocks after start: Shutdown, evacuate the aircraft and seek shelter.

8.1.3.4.3.2.3. **(Added-SEYMOURJOHNSONAFB)** Taxiing to Arming: Contact SOF for further guidance and expect to either continue taxiing, return to EOR (primary – follow "Arming" guidance), or return to the parking ramp (secondary – follow "Enroute to parking ramp" guidance).

8.1.3.4.3.2.4. **(Added-SEYMOURJOHNSONAFB)** Arming: You will not be armed. If already armed, contact SOF for guidance prior to takeoff. The SOF must get 4 OG/CC approval to launch aircraft with LW10. If armed and the SOF directs you to de-arm and taxi back to the chocks, the aircrew and

EOR crew will follow the procedures outlined under “De-arming.” If not armed and the SOF directs you to taxi back to the chocks, aircrew will follow guidance under “Enroute to the parking ramp.”

8.1.3.4.3.2.5. **(Added-SEYMOURJOHNSONAFB)** In-flight: Contact the SOF for further guidance. Recover with additional fuel. If aircraft are already RTB when LW5 is declared and fuel for holding is unavailable – do not delay the decision to depart for the primary divert or next suitable divert as conditions dictate. If fuel allows, aircraft shall hold until LW5 is lifted or aircraft reach divert fuel. Aircrew will consider distance from both the alternate and SJAFB when selecting a hold location. If LW5 has not been lifted and aircraft need to land at Seymour Johnson, SOF shall obtain 4 OG/CC approval for the approach and landing. The SOF must get 4 OG/CC approval to land aircraft with LW10.

8.1.3.4.3.2.6. **(Added-SEYMOURJOHNSONAFB)** De-arming: Contact SOF upon reaching De-arm. The SOF will direct crews to either “De-arm” or “Hold in De-arm.” Leave the tail hook up. The 4 OG/CC and 4 MXG/CC will make the ORM decision for aircraft to be pinned, pinned and shutdown, or shutdown without pinning.

8.1.3.4.3.2.6.1. **(Added-SEYMOURJOHNSONAFB)** If told to “De-arm:” De-arm crews will de-arm aircraft using visual signals (no comm cord). Do not lower the tail hook. Crews will then taxi back to the chocks and follow guidance in “Enroute to parking ramp.” NOTE: If the De-arm Supervisor feels that, in his/her judgment, the lightning is a hazard/risk to the de-arm crew, the aircraft will not be de-armed and crews should follow the “Hold in De-arm” procedures.

8.1.3.4.3.2.6.2. **(Added-SEYMOURJOHNSONAFB)** If told to “Hold in De-arm:” The 4 OG/CC or 4 MXG/CC (through the SOF or the De-arm Supervisor) feels the risk to human life is significant. Aircrew should remain in EOR with engines running until LW5 dissipates and it is safe to de-arm. Anytime aircraft status changes due to an emergency or upon reaching 1000 pounds total fuel, contact the SOF and extend the speed brake.

8.1.3.4.3.2.7. **(Added-SEYMOURJOHNSONAFB)** Enroute to the parking ramp: If the 4 OG/CC or 4 MXG/CC feels that the lightning is a hazard/risk to the crew chief, the aircraft will not be shut down until weather conditions improve. Expect to taxi into parking without a marshaller.

8.1.3.4.4. **(Added-SEYMOURJOHNSONAFB)** Fighter Index of Thermal Stress (FITS) condition will be declared by the SOF and notification will be made through the Command Post (CP). Aircrew will respond to the FITS condition IAW AFI 11-202V3 ACCSUP1 Attachment 4, and the 4 OG Aircrew Aid.

8.1.3.4.5. **(Added-SEYMOURJOHNSONAFB)** Civil Twilight will be IAW AFI 11-202V3. Aircraft may use the overhead pattern during civil twilight at the SOF’s discretion.

**8.1.3.5. (Added-SEYMOURJOHNSONAFB) LIFE SUPPORT:**

8.1.3.5.1. **(Added-SEYMOURJOHNSONAFB)** Hat/Pam MOA is considered overwater for the purposes of anti-exposure suit guidance. BT-9/11 are considered overland ranges for the purposes of anti-exposure suit guidance. 4 OSS/OSW will provide temperature, wind and wave data for the Warning areas and temperature data for Hat/Pam on the daily Mission Execution Forecast (MEF).

8.1.3.5.2. **(Added-SEYMOURJOHNSONAFB)** Aircrews may transit areas at medium altitude that are either closed due to winds and waves or require anti-exposure suits enroute to areas that are unrestricted. Transiting an area means no tactical maneuvering in that area, i.e. no ACBT engagements or threat reactions. Example: Over-flying coastal portions of W-122 that are below 60°F water temperature to get to warmer areas that don't require anti-exposure suits.

8.1.3.5.3. **(Added-SEYMOURJOHNSONAFB)** Wear of the survival vest on peacetime sorties is at the discretion of individual aircrews.

**8.1.3.6. (Added-SEYMOURJOHNSONAFB) PREFLIGHT:**

8.1.3.6.1. **(Added-SEYMOURJOHNSONAFB)** At least one crewmember will check the flight line area in front of the aircraft up to the ramp taxi line for FOD prior to entering the cockpit.

8.1.3.6.2. **(Added-SEYMOURJOHNSONAFB)** The gun will be safed for air-to-air training sorties. Use of the ARMT OVERRIDE switch is not authorized.

8.1.3.6.3. **(Added-SEYMOURJOHNSONAFB)** For training sorties, set seat radio beacon to AUTO.

**8.1.3.7. (Added-SEYMOURJOHNSONAFB) START:**

8.1.3.7.1. **(Added-SEYMOURJOHNSONAFB)** Flight leads will inform the squadron of any flight changes (i.e., tail number, fallout, takeoff time, range time, etc.).

8.1.3.7.2. **(Added-SEYMOURJOHNSONAFB)** A fire bottle will be positioned near the aircraft and manned anytime an engine start is attempted.

**8.1.3.8. (Added-SEYMOURJOHNSONAFB) IFF PROCEDURES:**

8.1.3.8.1. **(Added-SEYMOURJOHNSONAFB)** Do not squawk or interrogate mode 4B prior to Zulu day changeover.

8.1.3.8.2. **(Added-SEYMOURJOHNSONAFB)** When departing or arriving “non-standard,” the last aircraft squawks the subset of the assigned Mode 3 (i.e. assigned Mode 3-4315, last aircraft squawk Mode 3-4300 and Mode C).

8.1.3.8.2.1. **(Added-SEYMOURJOHNSONAFB)** When the lead aircraft is assigned a squawk beginning with 00, the last aircraft in the non-standard formation will squawk Mode 3-0300.

**8.1.3.9. (Added-SEYMOURJOHNSONAFB) TAXI/MARSHAL/ARMING PROCEDURES (Ref. SJAFBI 11-250):**

8.1.3.9.1. **(Added-SEYMOURJOHNSONAFB)** Inform Ground Control of any required controlled takeoff time. Tower personnel will coordinate to have the aircraft in position by the controlled takeoff time.

8.1.3.9.2. **(Added-SEYMOURJOHNSONAFB)** Maximum taxi speed in congested areas is 15 knots, and in non-congested areas is 25 knots. Congested areas are defined as the F-15E ramp, TA ramp, KC-135 ramp, and any other area where numerous men and equipment are operating in close proximity to aircraft. Remain vigilant for AGE and vehicles and if in doubt of wingtip clearance contact the SOF/OPS for equipment removal. Aircraft departing and entering shelters will remain on the yellow line and be marshaled by a crew chief, unless taxiing to park during LW5 procedures.

8.1.3.9.3. **(Added-SEYMOURJOHNSONAFB)** The lead aircraft will take the arming slot farthest from the runway with subsequent aircraft taking the remaining positions toward the runway. Provide sufficient space for aircraft to taxi in front of and behind arming flights. Subsequent flights are not required to save a slot for joining wingmen.

8.1.3.9.4. **(Added-SEYMOURJOHNSONAFB)** If an engine is shut down for maintenance, place the ramp switch in emergency and ensure the engine master switch is off after the engine has been shutdown. Aircraft with an engine shut down in EOR will have a fire bottle and guard posted prior to restart.

8.1.3.9.5. **(Added-SEYMOURJOHNSONAFB)** RWY 08 Arming Area Overflow Procedures:

8.1.3.9.5.1. **(Added-SEYMOURJOHNSONAFB)** If the SOF or affected flight leads observe an overflow or back log of aircraft in the RWY 08 arming area, he/she can direct/utilize the alert apron to wait for redball completion, assuming that an alert aircraft is not present.

8.1.3.9.5.2. **(Added-SEYMOURJOHNSONAFB)** The SOF will contact AM Ops to determine the alert apron status, to include FOD swept status and if any special missions will be using the area.

8.1.3.9.5.3. **(Added-SEYMOURJOHNSONAFB)** The SOF will ascertain which flight(s) are working redballs. The SOF can then direct the Tower Watch Supervisor to have flight members of the affected redball flight taxi to the alert apron to hold. Before taxiing aircraft from arming to the alert apron, the SOF and ground control will ensure aircraft on taxiway Alpha are not a factor.

8.1.3.9.5.4. **(Added-SEYMOURJOHNSONAFB)** Flights relocating to the alert apron will not block the entrance. Flights will skip the 1<sup>st</sup> set of bubbles, usually full of AGE, and proceed to the 2<sup>nd</sup> and 3<sup>rd</sup> set. Aircraft will pull into the bubbles and turn around towards the exit point to minimize jet blast concerns.

8.1.3.9.5.5. **(Added-SEYMOURJOHNSONAFB)** Once the status of the redball aircraft is known, the flight will either depart or continue to wait for the GAB aircraft to spare out and restart. Flights departing should call in sequence and ensure that flight members in the alert apron can taxi up to the runway area.

8.1.3.10. **(Added-SEYMOURJOHNSONAFB)** AFTER LANDING/DEARMING/AIRCRAFT PARKING:

8.1.3.10.1. **(Added-SEYMOURJOHNSONAFB)** Automatically monitor Ground Control frequency after turning off the runway. The lead aircraft will take the de-arm slot farthest from the runway with subsequent aircraft taking the remaining positions toward the runway. Do not hold slots open for wingmen to de-arm. Aircraft will normally exit the de-arm area toward the runway, keeping engine exhaust away from other aircraft and dearming crews. The aircraft may be turned away from the runway if no other aircraft are present and ground personnel are clear.

8.1.3.10.2. **(Added-SEYMOURJOHNSONAFB)** During engine shutdown, the nose gear pin will be installed using the following procedures: The crew chief will signal for left engine shutdown, the left engine will be shut down by the aircrew, the nose gear pin will be installed by the crew chief, the crew chief will signal for the right engine shutdown and the right engine will then be shut down by the aircrew. If required for aircraft maintenance and coordinated with the crew chief, the right engine may be shut down first.

8.1.3.10.2.1. **(Added-SEYMOURJOHNSONAFB)** This procedure will not be used by cross country/off station flights without trained Transient Alert personnel. If there is a question about the training/capability of the personnel recovering the aircraft, insert the nose gear pin once both motors are shut down.

8.1.3.10.3. **(Added-SEYMOURJOHNSONAFB)** If hot pit refueling, engine shutdown will be accomplished in de-arm. Delay shutting down the left engine until signaled by the ground crew. Once hot pit refueling is complete, engine restart will be accomplished in either the hot pit restart area or the arming area.

8.1.3.10.4. **(Added-SEYMOURJOHNSONAFB)** Follow procedures in the -1 Checklist and 4th Fighter Wing Exercise Aircrew Guide for combat turnarounds, hot pit refueling, or other exercise events. If it is unsafe to taxi into or out of the fuel pits due to darkness, low visibility, cluttered ramp, etc., hot pit refueling will not be conducted. Aircrew will not hot pit refuel with any fuel abnormality.

8.1.3.11. **(Added-SEYMOURJOHNSONAFB)** RADIO PROCEDURES:

8.1.3.11.1. **(Added-SEYMOURJOHNSONAFB)** VFR traffic pattern communication procedures are in the 4 OG Aircrew Aid.

8.1.3.11.2. **(Added-SEYMOURJOHNSONAFB)** HAVE QUICK II nets are assigned by wing scheduling on the daily flying schedule in PEX under "HQ". Assignment of net 0.1 is net 300.125 and so forth. Nets 0.4 and 1.4 will not be scheduled due to interference with local area approach frequencies; however, they may be used as spare nets if all the others are in use. Net 1.2 conflicts with Beaufort approach and shouldn't be used in W-177.

8.1.4. Section D. Flying Operations.

8.1.4.1. **(Added-SEYMOURJOHNSONAFB)** AIRFIELD DESCRIPTION/LOCAL FLYING AREA:

8.1.4.2. **(Added-SEYMOURJOHNSONAFB)** TAKEOFF:

8.1.4.2.1. **(Added-SEYMOURJOHNSONAFB)** Runway 26 is preferred for live ordnance configured aircraft if the tail wind component does not exceed 15 knots.

8.1.4.2.2. **(Added-SEYMOURJOHNSONAFB)** Tower will issue a directive to hold for wake turbulence following a “heavy” aircraft on initial takeoff roll, low approach, or touch and go. ATC cannot grant approval to waive wake turbulence delay for “heavy” aircraft.

8.1.4.2.3. **(Added-SEYMOURJOHNSONAFB)** 4 OG/CC approval is required for operations when Min Go exceeds Max Abort. Adjusted Max Abort for Cable Engagement (AMA) will be used only in this case.

8.1.4.2.4. **(Added-SEYMOURJOHNSONAFB)** To reduce FOD potential, accomplish rolling take-offs to the maximum extent possible. Static and formation takeoffs will not be used unless required for currency/proficiency or syllabus training. On the initial call to tower, state “formation takeoff” or “static takeoff” as appropriate. Rolling takeoffs will be assumed.

8.1.4.3. **(Added-SEYMOURJOHNSONAFB)** DEPARTURE:

8.1.4.3.1. **(Added-SEYMOURJOHNSONAFB)** When requested, non-standard departures up to 2nm between aircraft are approved unless otherwise stated by tower.

8.1.4.3.2. **(Added-SEYMOURJOHNSONAFB)** If necessary, request deletion of the 1000 ft hold down altitude with tower.

8.1.4.3.3. **(Added-SEYMOURJOHNSONAFB)** For noise abatement purposes during Runway 08 operations do not turn out of traffic until past Highway 70. Cross Highway 70 above 1000 feet MSL.

8.1.4.4. **(Added-SEYMOURJOHNSONAFB)** FLYING TRAINING AREA PROCEDURES:

8.1.4.4.1. **(Added-SEYMOURJOHNSONAFB)** Training area depictions and restrictions are in the 4 OG Aircrew Aid. Airspace denials and conflicts will be reported through squadron Ops Sup to wing scheduling (722-2129).

8.1.4.4.2. **(Added-SEYMOURJOHNSONAFB)** FENCE/Trigger Checks: When performing FENCE and Trigger checks, aircrew will:

8.1.4.4.2.1. **(Added-SEYMOURJOHNSONAFB)** For overwater airspace, wait until established “feet wet” before initiating FENCE/Trigger checks.

8.1.4.4.2.2. **(Added-SEYMOURJOHNSONAFB)** For overland areas and MOAs, ensure aircraft are over an unpopulated area prior to initiating FENCE/Trigger checks.

8.1.4.4.3. **(Added-SEYMOURJOHNSONAFB)** Supersonic: All supersonic flights will be conducted in authorized airspace. In the warning areas supersonic is allowed above 10,000 feet and at least 15nm from the shoreline. Any unplanned supersonic flight that occurs in unauthorized airspace will be documented as required by AFI 13-201, *Air Force Airspace Management*.

8.1.4.4.4. **(Added-SEYMOURJOHNSONAFB)** Echo MOA (REF. SJAFBI 11-250):

8.1.4.4.4.1. **(Added-SEYMOURJOHNSONAFB)** For Runway 08 departures, make a north turn out of traffic to enter the MOA, unless directed otherwise by ATC.

8.1.4.4.4.2. **(Added-SEYMOURJOHNSONAFB)** If the ECHO MOA is needed for PVUs or similar events only, request the MOA from 7,000 to 10,000' MSL. Unscheduled requests for ECHO MOA operations above 10,000' should anticipate at least a 15 minute delay due to coordination with Washington Center. Calling the SOF or RAPCON (through the Ops Sup) to facilitate coordination with Center may minimize the delays associated with unscheduled requests.

8.1.4.4.5. **(Added-SEYMOURJOHNSONAFB)** W-122: Aircraft operating in W-122 will contact Giant Killer before entering and exiting.

8.1.4.4.5.1. **(Added-SEYMOURJOHNSONAFB)** Per FACS FACVACAPESINST 3120.1J, use a 29.92 altimeter setting when conducting operations above 5,000 AGL. Use local altimeter, assigned by Giant Killer, when training will include operations below 5,000 AGL.

8.1.4.4.5.2. **(Added-SEYMOURJOHNSONAFB)** Maintain VMC to maximum extent possible. Radar monitoring is required when IMC unless the flight lead coordinates for exclusive use of that airspace. Giant Killer's hours of operation are 0700L to 2300L Monday through Friday, and as pre-coordinated on Saturday. All other times of operation will be by NOTAM. Monitor/use the Giant Killer common area frequencies: Areas 1-7, 310.1; Areas 8-14, 382.1; Areas 15-22, 337.225; unless assigned a GCI frequency.

8.1.4.4.5.3. **(Added-SEYMOURJOHNSONAFB)** Before using flares at night, have the Ops Sup pass the location, time of flare use, and SOF phone number (722-4176) to the Coast Guard Rescue Coordination Centers (DSN 564-3700/Commercial 757-398-6231) and VACAPES (DSN 434-1320/1230). Additionally, Ops Sups will inform the SOF the intent to dispense flares at night.

8.1.4.4.6. **(Added-SEYMOURJOHNSONAFB)** PHELSP MOA: Phelps MOA use will comply with guidance found in the 4 OG Aircrew Aid and the current Letter of Agreement with Washington Center. Flight leads will work with squadron and OSS scheduling to ensure they are scheduled for Phelps MOA in addition to being scheduled for Air Force Dare (AFD). The Phelps MOA can only be scheduled in conjunction with AFD range time.

8.1.4.4.6.1. **(Added-SEYMOURJOHNSONAFB)** If not filed on a stereo flight plan, "Phelps MOA" and a delay time must be listed in the remarks section of the DD Form 175/1801.

8.1.4.4.6.2. **(Added-SEYMOURJOHNSONAFB)** Do not schedule Phelps MOA unless you plan on utilizing the airspace. If Phelps MOA will be used, the flight lead will be required to check in with Washington Center on local channel 7 to activate the MOA in addition to checking in with the Range Control Officer

(RCO). Flights electing to hold while awaiting ATC clearance to use the MOA can hold inside the MOA using appropriate VFR altitudes and airspeeds.

8.1.4.4.6.3. **(Added-SEYMOURJOHNSONAFB)** Once the MOA is activated, monitor the appropriate range frequency while on the range. With the MOA activated, the flight can maneuver in both R-5314 and Phelps MOA airspace.

8.1.4.4.6.4. **(Added-SEYMOURJOHNSONAFB)** Prior to leaving the MOA, whether VFR or IFR, notify Washington Center to close the MOA either on channel 7 or by confirming through the RCO.

8.1.4.5. **(Added-SEYMOURJOHNSONAFB)** LOCAL AREA HAZARDS:

8.1.4.5.1. **(Added-SEYMOURJOHNSONAFB)** KINSTON: Kinston is a class D airspace and aircrew will avoid this area by 5 statute miles and 2600' MSL. Aircraft will not operate in this area unless specifically authorized by the controlling agency or under RAPCON control.

8.1.4.5.2. **(Added-SEYMOURJOHNSONAFB)** Hyde airport at (approximately 8nm southwest of the AF Dare County Range complex) poses a midair collision potential for aircraft at low altitude on AF Dare and VR-084. Use caution to remain within the confines of R-5314 while using AF Dare and pay particular attention to clear for VFR traffic in the radar/pattern. Use caution for traffic from Edenton airport when entering R-5314 from the northwest.

8.1.4.5.3. **(Added-SEYMOURJOHNSONAFB)** The following obstructions are of concern in the local area:

8.1.4.5.3.1. **(Added-SEYMOURJOHNSONAFB)** Three 20 foot deep water drainage ditches approximately 300 feet south of and parallel to the middle 3000 feet of runway 08/26. The ditches are in the VFR stores jettison area and pose a severe hazard in the event of a directional control problem causing runway departures to the south of the runway.

8.1.4.5.3.2. **(Added-SEYMOURJOHNSONAFB)** Two grain elevators located approximately 3nm on final and 2100 feet right of extended runway centerline for runway 26. The maximum reported elevation is 408 feet.

8.1.4.6. **(Added-SEYMOURJOHNSONAFB)** LOW ALTITUDE FLYING:

8.1.4.6.1. **(Added-SEYMOURJOHNSONAFB)** Flight Lead Responsibilities. Procedures for low altitude training routes outlined in FLIP Area Planning Section 1B (AP/1B) apply. Additionally:

8.1.4.6.1.1. **(Added-SEYMOURJOHNSONAFB)** Contact the route scheduling activity to schedule the route, obtain information about conflicting traffic or other restrictions not published in FLIP.

8.1.4.6.1.2. **(Added-SEYMOURJOHNSONAFB)** Do not fly any low levels that do not have a current annual survey. This includes, but is not limited to, the following low levels: VR-1040, VR-1041, VR-1043, VR-1046, and VR-1722

8.1.4.6.1.3. **(Added-SEYMOURJOHNSONAFB)** Check and comply with bird avoidance restrictions.

8.1.4.6.1.4. **(Added-SEYMOURJOHNSONAFB)** Check in with flight service on local channel 12 (255.4) to inform them of the route, entry and exit points, times, number of aircraft, and ground speed. This call can be made in the blind if necessary. Monitor 255.4 in the low level structure (VR routes).

8.1.4.6.2. **(Added-SEYMOURJOHNSONAFB)** Combat descents are authorized only in Special Use Airspace (MOAs, Warning Areas, Restricted Areas, etc.). Combat descents are NOT authorized when entering local low levels not associated with special use airspace.

8.1.4.6.3. **(Added-SEYMOURJOHNSONAFB)** BASH Procedures: Reference 4 OG Aircrew Aid and the SJAFB Bird Aircraft Strike Hazard (BASH) Plan located on the 4 FW Flight Safety website.

8.1.4.6.3.1. **(Added-SEYMOURJOHNSONAFB)** For all low level missions, bird strike procedures will be addressed in detail during crew coordination briefings. Items that will be specifically briefed are:

8.1.4.6.3.1.1. **(Added-SEYMOURJOHNSONAFB)** Method of confirming who has control of the aircraft.

8.1.4.6.3.1.2. **(Added-SEYMOURJOHNSONAFB)** Importance of climbing out of the low altitude structure immediately.

8.1.4.6.3.1.3. **(Added-SEYMOURJOHNSONAFB)** Landing/ejecting with the aircraft commander disabled.

8.1.4.6.3.1.4. **(Added-SEYMOURJOHNSONAFB)** Visor use at low altitude.

8.1.4.6.3.1.5. **(Added-SEYMOURJOHNSONAFB)** Intercom out procedures.

8.1.4.6.3.1.6. **(Added-SEYMOURJOHNSONAFB)** Canopy loss or damage.

8.1.4.6.3.1.7. **(Added-SEYMOURJOHNSONAFB)** Known bird activity areas.

8.1.4.6.3.1.8. **(Added-SEYMOURJOHNSONAFB)** Divert options.

8.1.4.6.3.2. **(Added-SEYMOURJOHNSONAFB)** Flight leads will advise the 4 OG SOF and range controller, if appropriate, of the altitude and area of any abnormal or heavy bird activity.

8.1.4.7. **(Added-SEYMOURJOHNSONAFB)** TFR AND NIGHT OPERATIONS:

8.1.4.7.1. **(Added-SEYMOURJOHNSONAFB)** Minimum essential systems listing (MESL) for TFR training includes items mentioned in AFI 11-2F-15EV3 and the 4 OG Aircrew Aid.

8.1.4.8. **(Added-SEYMOURJOHNSONAFB)** NVG Reduced/Lights-Out Training (Ref AFI 11-214 & 11-202V3ACCSUP1):

8.1.4.8.1. **(Added-SEYMOURJOHNSONAFB)** NVGs will be worn by all aircrew during Reduced / Lights-Out operations.

8.1.4.8.2. **(Added-SEYMOURJOHNSONAFB)** All aircrew must be CMR/BMC or have an instructor in the aircraft. FTU syllabus sorties will not conduct Reduced / Lights-Out operations.

8.1.4.8.3. **(Added-SEYMOURJOHNSONAFB)** Flights will advise the appropriate airspace controlling agencies prior to commencing reduced lighting activities to ensure passing of advisories to non-participating aircraft.

8.1.4.8.4. **(Added-SEYMOURJOHNSONAFB)** Reduced / Lights-Out procedures will be halted and all aircraft will set normal lighting for a "Knock-It-Off" or "Terminate" until the next "Fights on."

8.1.4.8.5. **(Added-SEYMOURJOHNSONAFB)** R-5314 Reduced / Lights-Out operations may be conducted with the following provisions:

8.1.4.8.5.1. **(Added-SEYMOURJOHNSONAFB)** Both Air Force and Navy Dare are scheduled for exclusive use, or aircrew verbally confirm that Navy Dare is "Cold" and will remain "Cold" when entering R-5314.

8.1.4.8.5.2. **(Added-SEYMOURJOHNSONAFB)** Aircrew will coordinate Reduced / Lights-Out requests through the Air Force Dare RCO prior to takeoff. Air Force Dare RCOs will pass approval of reduced lighting to aircraft upon initial check in to the range. Aircrew will also notify participating JTACs prior to conducting Reduced / Lights-Out training. If the JTAC cannot be contacted prior to step, Air Force Dare RCO may coordinate and pass JTAC approval upon initial check in.

8.1.4.8.5.3. **(Added-SEYMOURJOHNSONAFB)** Prior to passing approval for Reduced / Lights-Out training, the Air Force Dare RCO will:

8.1.4.8.5.3.1. **(Added-SEYMOURJOHNSONAFB)** Notify the Navy Dare RCO that aircraft will be conducting Reduced / Lights-Out training.

8.1.4.8.5.3.2. **(Added-SEYMOURJOHNSONAFB)** Confirm that Navy Dare is cold and will remain cold for the duration of the training sortie. The Navy Dare RCO will notify the Air Force Dare RCO if Navy Dare becomes hot during Reduced / Lights-Out training on Air Force Dare. If this occurs, the Air Force Dare RCO will pass a "Terminate reduced lighting, Navy Dare is hot" call to the aircraft on the range. All aircraft will acknowledge, resume normal lighting, and exit Navy Dare airspace.

8.1.4.8.5.4. **(Added-SEYMOURJOHNSONAFB)** Reduced / Lights-Out will not be used in the Phelps MOA.

8.1.4.8.5.5. **(Added-SEYMOURJOHNSONAFB)** Aircrew will plan and brief an NVG failure / Knock It Off altitude deconfliction plan IAW AFI 11-214 and resume normal lighting upon acknowledgement of the KIO.

8.1.4.8.5.5.1. **(Added-SEYMOURJOHNSONAFB)** In addition to AFI 11-214 and AFI 11-2F-15EV3 weather restrictions, weather on Air Force Dare

must be at least 500' above the highest NVG failure / Knock It Off deconfliction altitude. If the weather decreases below this altitude at any time, all aircraft will resume normal lighting.

8.1.4.8.5.6. **(Added-SEYMOURJOHNSONAFB)** Aircraft will resume normal lighting prior to departing the Air Force Dare airspace and report "Lights on" to the Air Force Dare RCO. The Air Force Dare RCO will notify the Navy Dare RCO that the range has resumed normal lighting.

8.1.4.8.6. **(Added-SEYMOURJOHNSONAFB)** Air-to-Air intercept training using Reduced / Lights-Out operations is authorized under the following restrictions:

8.1.4.8.6.1. **(Added-SEYMOURJOHNSONAFB)** Flights have coordinated with VACAPES for exclusive use of the scheduled Warning areas. A letter of agreement between the 4 FW and VACAPES exists, which allows exclusive air operations (EAO) in W-122 as listed in the schedule. Advise Giant Killer entering the area of EAO with your mission number.

8.1.4.8.6.2. **(Added-SEYMOURJOHNSONAFB)** Flights will apply IMC deconfliction rules.

8.1.4.9. **(Added-SEYMOURJOHNSONAFB)** RECOVERY PROCEDURES: (Ref. SJAFBI 11-250)

8.1.4.9.1. **(Added-SEYMOURJOHNSONAFB)** Night operations after 2230L will be based on operational needs and requires 4 OG/CC approval. Kinston (ISO) tower closes at 2200L but pilot controlled lighting is available for emergency use on UHF 338.0 or VHF 120.6.

8.1.4.9.2. **(Added-SEYMOURJOHNSONAFB)** Traffic Pattern BASH procedures are outlined in the 4 FW BASH Plan and 4 OG Aircrew Aid.

8.1.4.9.3. **(Added-SEYMOURJOHNSONAFB)** VFR Recoveries: Follow the procedures in the 4 OG Aircrew Aid. All aircraft will remain with a controlling agency under VFR flight following to the maximum extent possible.

8.1.4.9.3.1. **(Added-SEYMOURJOHNSONAFB)** Maximum formation size recovering to initial is four aircraft.

8.1.4.9.4. **(Added-SEYMOURJOHNSONAFB)** Kinston/Stallings Field Pattern Procedures: Kinston will only be used for syllabus training, checkrides, or emergency divert. Except in an emergency, use only Runway 05, due to powerlines off the northeast end of runway. Use caution for the 50' AGL powerlines, which are located 1,600 feet off the departure end of Runway 05. If recovering to SJAFB (VFR or IFR), contact Seymour Arrival for traffic calls and sequencing upon departing Kinston.

8.1.4.9.5. **(Added-SEYMOURJOHNSONAFB)** Radar Pattern Climbout/Departure procedures (Ref. SJAFBI 11-250):

8.1.4.9.5.1. **(Added-SEYMOURJOHNSONAFB)** For noise abatement, all aircraft will climb to a minimum of 1000 feet AGL prior to initiating turns/climbout procedures for instrument patterns.

8.1.4.9.5.2. **(Added-SEYMOURJOHNSONAFB)** The radar pattern will be flown at 250 KCAS.

8.1.4.9.6. **(Added-SEYMOURJOHNSONAFB)** Radar Trail Recovery Procedures: The following procedures are applicable to radar trail recoveries flown at Seymour Johnson AFB only.

8.1.4.9.6.1. **(Added-SEYMOURJOHNSONAFB)** These procedures supplement AFI 11-2F-15EV3 Chapter 4 and SJAFBI 11-250. Flights recovering radar trail are a single formation for ATC purposes and will stay in formation unless specified.

8.1.4.9.6.2. **(Added-SEYMOURJOHNSONAFB)** Spacing between each aircraft will be 1.5 to 2.5 NM. Desired spacing is 2.0 NM.

8.1.4.9.6.3. **(Added-SEYMOURJOHNSONAFB)** Intermediate aircraft will maintain altitudes between the lead and trail aircraft.

8.1.4.9.6.4. **(Added-SEYMOURJOHNSONAFB)** Trail recovery profiles are (in order of preference): Instrument Approach Procedure flown established in trail, vectors to final established in trail, or the preceding procedures flown and a spacing maneuver executed. Do not utilize S-turning on final to gain spacing behind the lead aircraft. Spacing will be achieved utilizing briefed airspeeds and ranges from the field to ensure all aircraft are established and stabilized in the formation to safely recover the aircraft. At anytime if the spacing is in question, the wingman will either 1) on IFR approach, execute the missed approach procedure or 2) if VFR, break out of the pattern IAW local procedures to ensure spacing and notify the ATC controller.

8.1.4.9.6.5. **(Added-SEYMOURJOHNSONAFB)** RADAR VECTORS: If spacing was not established prior to the enroute descent, flight leads should direct drag maneuvers for each flight member in sufficient time to ensure required spacing is obtained prior to turning final. (NOTE: ATC must be advised prior to commencing radar trail (drag) or any nonstandard formation).

8.1.4.9.6.6. **(Added-SEYMOURJOHNSONAFB)** BREAKOUT/GO-AROUND/CLOSED/UNSAFE RUNWAY: Aircrews on a radar trail recovery instructed to breakout, go around, or when denied landing clearance will maintain 2nm radar trail while executing the ATC directed maneuver. Once the ATC directed maneuver is complete the flight lead, if desired, may request individual control for flight split-ups otherwise ATC will control the radar trail formation as a flight.

8.1.4.9.6.7. **(Added-SEYMOURJOHNSONAFB)** LOST CONTACT: Procedures are IAW AFI 11-2F-15EV3 Chapter 4.

8.1.4.9.7. **(Added-SEYMOURJOHNSONAFB)** All aircraft should avoid flying over the base housing area, alert apron, and the munitions storage area, unless directed by ATC.

8.1.4.9.8. **(Added-SEYMOURJOHNSONAFB)** Practice No-Flap full stops are prohibited.

8.1.4.9.9. **(Added-SEYMOURJOHNSONAFB)** Touch and go landings at SJAFB as well as other locations should be limited to the minimum number required for mission accomplishment.

8.1.4.10. **(Added-SEYMOURJOHNSONAFB)** FUEL REQUIREMENTS & BINGO FUELS:

8.1.4.10.1. **(Added-SEYMOURJOHNSONAFB)** Bingo fuels given in the 4 OG Aircrew Aid are suggested bingos and are to be used as a guide only. Flight leads are responsible for adjusting bingo fuel based on weather, alternate, location in airspace, suitability of divers, wingman WX category, etc.

8.1.4.10.1.1. **(Added-SEYMOURJOHNSONAFB)** Aircrew will declare “Emergency Fuel” when they will land with less than 1200 pounds. NOTE: Declaring “Minimum Fuel” tells ATC that the aircraft cannot accept any “undue delay”, but may not result in receiving traffic priority. If fuel is such that traffic priority is required, declare “Emergency Fuel.”

8.1.4.10.1.2. **(Added-SEYMOURJOHNSONAFB)** Add 1,000 pounds to bingo fuel during night VFR operations.

8.1.4.11. **(Added-SEYMOURJOHNSONAFB)** DIVERT INSTRUCTIONS:

8.1.4.11.1. **(Added-SEYMOURJOHNSONAFB)** Aircrew will consider distance to alternate/divert base, as well as SJAFB when choosing hold location if awaiting airfield/runway opening for cable engagement/birds/etc.

8.1.4.12. **(Added-SEYMOURJOHNSONAFB)** AIRCRAFT FATIGUE AND OPERATIONAL RISK MANAGEMENT (ORM):

8.1.4.12.1. **(Added-SEYMOURJOHNSONAFB)** To mitigate unnecessary fatigue on aircraft, Seymour Johnson aircrew will:

8.1.4.12.1.1. **(Added-SEYMOURJOHNSONAFB)** Limit maneuvering during administrative portions (enroute, CAP, overhead patterns, etc) of flight to moderate Gs (<4Gs). In general, limit administrative maneuvering to 2Gs and 22 AOA.

8.1.4.12.1.2. **(Added-SEYMOURJOHNSONAFB)** Minimize high G, low altitude events such as pop patterns and closed patterns to RAP, proficiency, or upgrade training requirements.

8.1.4.12.1.3. **(Added-SEYMOURJOHNSONAFB)** Sound tactics and flight safety will never be sacrificed for this precautionary measure.

8.1.4.12.2. **(Added-SEYMOURJOHNSONAFB)** Aircrew will accomplish an ORM assessment for every sortie, utilizing 4 OG standard ORM worksheets. Flight leads will ensure worksheets are completed for their flight and Ops Sups will review prior to step.

8.1.4.13. **(Added-SEYMOURJOHNSONAFB)** NATIONAL AIRBORNE OPERATIONS CENTER (NAOC) PROCEDURES:

8.1.4.13.1. **(Added-SEYMOURJOHNSONAFB)** NAOC aircraft will stage out of the NAOC alert facility.

8.1.4.13.2. **(Added-SEYMOURJOHNSONAFB)** In the event of a NAOC launch, ground control, Lion SOF and the tower will be directive to taxiing aircraft. All aircrews in the hammerhead for Runway 08 (arming/dearming) will signal the crew chief to halt arm/dearm procedures and will taxi clear of the arming area in a safe and expeditious manner, and hold on Taxiway A. NAOC aircraft have priority over all aircraft, to include those holding short for takeoff on Runway 08. If the tailwind component forces a Runway 26 departure, the NAOC aircraft will back taxi down the runway.

8.1.4.13.3. **(Added-SEYMOURJOHNSONAFB)** Once the E-4 has launched, aircraft will return to the arming area via the parallel.

8.1.4.13.4. **(Added-SEYMOURJOHNSONAFB)** Any aircraft holding for hot brakes will pull up as far as possible into the hot brake area and follow the standard hot brake procedures.

#### 8.1.4.14. **(Added-SEYMOURJOHNSONAFB)** AERIAL EVENT PROCEDURES

8.1.4.14.1. **(Added-SEYMOURJOHNSONAFB)** CROSS-COUNTRY PROCEDURES FOR AIRCREWS: (Ref. 4 OG Aircrew Aid, AFI 11-202V3 ACCSUP1, ACCI 11-261, 4 OG Off-station Sortie Policy Letter)

8.1.4.14.1.1. **(Added-SEYMOURJOHNSONAFB)** Cross-country and aircraft delivery/pickup operations will be tasked or requested through the appropriate flying squadron. Squadrons will use SJAFB Form 7, F-15E Cross Country Mission and Itinerary Request, which can be found on the 4 OSS Fighter Scheduling webpage.

8.1.4.14.1.2. **(Added-SEYMOURJOHNSONAFB)** Destination bases will be chosen based on the availability of maintenance support. Bases of intended landing should have the following:

8.1.4.14.1.2.1. **(Added-SEYMOURJOHNSONAFB)** A runway length of at least 8000 ft.

8.1.4.14.1.2.2. **(Added-SEYMOURJOHNSONAFB)** Load bearing hard surface capable of handling the F-15E.

8.1.4.14.1.2.3. **(Added-SEYMOURJOHNSONAFB)** A compatible arresting system.

8.1.4.14.1.2.4. **(Added-SEYMOURJOHNSONAFB)** Compatible published approach.

8.1.4.14.1.2.5. **(Added-SEYMOURJOHNSONAFB)** Compatible servicing equipment/procedures.

8.1.4.14.1.2.6. **(Added-SEYMOURJOHNSONAFB)** Capability to obtain JOAP samples IAW AFI 21-101. The procedures are outlined in 4 OG Aircrew Aid.

8.1.4.14.1.2.7. **(Added-SEYMOURJOHNSONAFB)** A location with DOD, Defense Fuel Supply Center (DFSC) or Canadian into-plane contract (identified in FLIP, or list available at AM Ops).

8.1.4.14.1.3. **(Added-SEYMOURJOHNSONAFB)** Every attempt should be made to select airfields such that every other airfield of intended landing is an F-15 assigned base. This is to facilitate on-site corrective action in the event of unexpected F-15 specific maintenance issues.

8.1.4.14.1.4. **(Added-SEYMOURJOHNSONAFB)** Aircrews will not RON at bases where transient alert does not provide preflight/basic post flight inspections. Through flight inspections are not required at intermediate stops provided: no major maintenance is required, only normal servicing of fluids, air, etc., is accomplished and the same aircrew flies the aircraft or briefs the oncoming aircrew face to face.

8.1.4.14.1.5. **(Added-SEYMOURJOHNSONAFB)** Aircraft transiting other bases will have the intakes inspected IAW 4 OG Aircrew Aid.

8.1.4.14.1.6. **(Added-SEYMOURJOHNSONAFB)** All sorties not landing at or departing from Seymour Johnson AFB will be IAW ACCI 11-261, *Cross-Country Flight Operations*, the 4 OG Off-station Sortie Policy Letter (on 4 OSS/OSOS webpage), and 4 OG Aircrew Aid procedures. SQ/CCs will ensure appropriate approval has been granted for the requested events. Aircrew qualifications will be entered on the SJAFB Form 7.

8.1.4.14.1.7. **(Added-SEYMOURJOHNSONAFB)** Squadron Ops Sups will ensure cross-country aircrew have reviewed all aspects of weather, maintenance, crew rest, mission events, and airfield restrictions prior to departing on off-station flights.

8.1.4.14.1.8. **(Added-SEYMOURJOHNSONAFB)** Cross-country flights will normally be planned and flown with a minimum of two aircraft. Cross-countries scheduled as single ships will be contingent upon mission requirements, aircrew qualifications, and 4 OG/CC approval.

8.1.4.14.1.9. **(Added-SEYMOURJOHNSONAFB)** Single-ship low levels are authorized IAW AFI 11-214.

8.1.4.14.1.10. **(Added-SEYMOURJOHNSONAFB)** Prior to takeoff, ensure DD Form 2026, Oil Analysis Request, with the reverse side (Transient Oil Analysis Record) is completed and inserted into the aircraft forms.

8.1.4.14.1.11. **(Added-SEYMOURJOHNSONAFB)** AFI 23-202, *Buying Petroleum Products, and Other Supplies and Services Off-Station*, normally requires all Air Force aircraft to refuel at military installations. In this case, present the Jet Fuel Identaplate, DD Form 1896 (AIRCARD), collect the receipt (DD Form 1898), and ensure documentation reflects the actual amount of fuel received. If the vendor insists on completing an invoice, write on the invoice - "DUPLICATE-DD FORM 1898 ACCOMPLISHED". Record the fuel on AF Form 664 and attach the receipt. When refueling at a Canadian location, furnish

data from the AF Form 315 (in the forms) for vendor's invoice, but do not use AF Form 315. Pay with AIRCARD, collect receipt, enter refueling information into the AF Form 664 and attach receipt. When mission requirements require refueling at other than military installations, fuel must be obtained from INTO-PLANE contracts, foreign government air forces, or commercial suppliers, in that order. Aircraft commanders and/or crew members will obtain complete and legible customer copies of all non-Air Force issue of fuel documents and return these documents to their home station. Appropriate forms will be completed during maintenance debrief. When 4 FW aircraft are refueled at non-Air Force installations, the aircrew will obtain the customer copy of the non-Air Force refueling document, and place it in the fuel receipt envelope in the AFTO Form 781, *AFORMS Aircrew/Mission Flight Data Document*. Aircrews will ensure that the 781H, block 13, is signed-off and the refueling location annotated. Aircraft commanders are responsible for ensuring that INTO-PLANE contract fuel is used before NON-INTO PLANE contract fuel. The IFR/VFR supplements identify all airfields with INTO-PLANE contractors. The legend under "FUEL" states: fuel available through military base supply, INTO-PLANE contract and/or reciprocal agreement is listed first. Military fuel entry is followed by (MIL). Where contract fuel is available, the name of the refueling agent is shown. Aircrew will use (based on availability) military fuel, INTO-PLANE fuel, and NON-INTO PLANE fuel in that order.

8.1.4.14.1.12. **(Added-SEYMOURJOHNSONAFB)** When traveling off-station, all 4 OG aircrew will coordinate with local Base Operations to meet all security requirements, to include parking of the aircraft as well as storage of any classified material, IAW SJAFB FW OI 31-1.

8.1.4.14.1.13. **(Added-SEYMOURJOHNSONAFB)** All aircrews are expected to read AFI 11-209, *Air Force Aerial Events* (F-15E DEMO Team will also read AFI 11-246V1, *Air Force Aircraft Demonstrations (A-10, F-15, F-16)*) when involved in an air show or static display at a civilian airfield.

8.1.4.14.2. **(Added-SEYMOURJOHNSONAFB)** RETREAT CEREMONY FLY OVER PROCEDURES:

8.1.4.14.2.1. **(Added-SEYMOURJOHNSONAFB)** The OG/CC will identify which squadron will perform a retreat fly over when required. Wing Scheduling will ensure any MAJCOM approval for flyovers is completed. The FS/DO will designate the specific flight to perform the fly over as part of its departure to or RTB from the working areas.

8.1.4.14.2.2. **(Added-SEYMOURJOHNSONAFB)** Flight leads will plan on flying over the flagpole (N3521.49/W07757.75) at exactly 16:30:30L. The music for retreat will begin at 1630L and the F-15Es are to fly over during the music. Coordinate with the SOF on taxi out to confirm a fly over will take place. Minimum weather is 2500/5. Fly an extended initial to the active runway and at 5-10nm out, lean slightly north to fly over the flagpole. Approaching the field boundary descend to 1000' AGL/300C in close formation and after the fly over approaching the far field boundary climb out for a re-entry or the recovery

coordinated with approach. Exercise caution for other civil/military VFR traffic and towers NW of town.

8.1.4.14.2.3. **(Added-SEYMOURJOHNSONAFB)** The SOF is the ground liaison for the fly over and should confirm with the security police (722-1201) and the honor guard (722-7019) that a retreat ceremony will take place. Let the above agencies and the 4 FW/CCP (Wing Protocol) (722-0013) know ASAP if the fly over flight will not make it (troop formation will be in place at the flag pole waiting for the fly over of fighters to start the music for “retreat”). The SOF will ensure a game plan is in place to handle recoveries and allow the fly over to take place smoothly. All changes and cancellations regarding the fly over should be passed to Lion SOF (722-4176).

8.1.4.14.2.4. **(Added-SEYMOURJOHNSONAFB)** In the event the desired run-in heading is non-standard, Wing scheduling will inform Lion SOF and Base Operations of the change in run-in. Base Operations will issue a NOTAM closing Seymour Johnson Class D airspace for 10 minutes on either side of the ceremony. Lion SOF will work with the Tower Supervisor and RAPCON to clear local airspace to facilitate the desired run-in. Flights will contact SOF for the fly over game plan. Additionally, flights will remain within 5 NM of GSB or in the normal VFR pattern to minimize traffic conflicts; descent to 1000’ should occur once inside the boundaries of Seymour Johnson AFB. If run-in is from the north, give particular attention to noise abatement over the town of , towers NW of the field, and traffic into and out of Goldsboro Wayne airport. If run-in is from the south, avoid over flying . In any case, begin a climb to pattern or assigned altitude following over flight of the flagpole and prior to 2 DME, and turn to re-enter or recover with approach.

#### 8.1.4.14.3. **(Added-SEYMOURJOHNSONAFB)** F-15E DEMONSTRATION PRACTICE PROCEDURES

8.1.4.14.3.1. **(Added-SEYMOURJOHNSONAFB)** Refer to the 4 OG Aircrew Aid, F-15E DEMO Practice Procedures. The F-15E DEMO Team normally schedules two 1 hour practice sessions on a practice day. These blocks will be de-conflicted to the maximum extent possible from wing flying. The first block will normally begin 60 minutes prior to the Wing’s first T/O. The second block, if needed, will likely be during the normal fly window. The DEMO aircraft will strive to takeoff at the beginning of the window. The practice routine lasts approximately 15 minutes. The following procedures apply:

8.1.4.14.3.1.1. **(Added-SEYMOURJOHNSONAFB)** Base Operations will issue a NOTAM for the closure of Seymour Johnson AFB during the 1 hour demo practice window. This NOTAM will be issued 48 hours in advance.

8.1.4.14.3.1.2. **(Added-SEYMOURJOHNSONAFB)** All 4 OG aircraft are allowed to start engines, taxi, arm, takeoff, recover, de-arm, and taxi to park during this 1 hour block as long as the DEMO aircraft is not airborne. While the DEMO is airborne, 4 OG aircraft are allowed to start engines, arm and de-arm. All aircrew should keep situational awareness on the DEMO aircraft. The DEMO aircraft will arm in the ramp area, taxi to the active runway and

execute an immediate takeoff. ATC requires a 5 minute buffer between the last aircraft departure and the DEMO aircraft. Emergency aircraft will take priority for landing. Flight leads must plan fuel accordingly for the DEMO slot to avoid diverting and/or an emergency fuel situation. Once airborne, the DEMO profile will take approximately 15 minutes. Once the profile is complete and the DEMO aircraft is in the pitch-up for land, the airfield/airspace will reopen for departures and recoveries.

8.1.4.14.3.1.3. **(Added-SEYMOURJOHNSONAFB)** The SOF will be the primary link between the DEMO aircraft and the rest of the 4 OG aircraft, AM Ops, and Command Post.

8.1.4.14.3.1.3.1. **(Added-SEYMOURJOHNSONAFB)** T/O – 40 minutes: The DEMO captain will call the SOF 40 minutes prior to T/O. The SOF will inform the Tower Supervisor of the DEMO step and 40 prior to T/O.

8.1.4.14.3.1.3.2. **(Added-SEYMOURJOHNSONAFB)** The SOF will call AM Ops and Command Post to give a 40 minute prior to T/O call.

8.1.4.14.3.1.3.3. **(Added-SEYMOURJOHNSONAFB)** AM Ops will call POL, CE (mowers), and MOC. AM Ops will then take a vehicle to sweep the aerobatics container.

8.1.4.14.3.1.3.4. **(Added-SEYMOURJOHNSONAFB)** T/O – 25 minutes: DEMO aircraft will start engines. DEMO will call the SOF with any issues causing a delay.

8.1.4.14.3.1.3.5. **(Added-SEYMOURJOHNSONAFB)** T/O – 15 minutes: will make a call on Guard for airspace/runway closure in 15 minutes. If flight leads have any questions they should contact the SOF. This will allow flight leads to form a plan of action. If the DEMO is delayed, those flights ready to taxi should consider doing so. Flights ready to T/O should depart. Flights on RTB, in conjunction with the SOF, should decide whether they will need to hold or if enough time exists to safely recover to SJAFB.

8.1.4.14.3.1.3.6. **(Added-SEYMOURJOHNSONAFB)** T/O – 10 minutes: The DEMO aircraft will taxi. The SOF will call Command Post and give a 10 minutes prior to T/O call. Command Post will disseminate this information to MOC and other base agencies and remove all personnel from the aerobatics container. Security Forces will close the perimeter road to all traffic. At 5 minutes prior to T/O the last 4 OG aircraft must depart in order to ensure de-confliction from the 5nm ring.

8.1.4.14.3.1.3.7. **(Added-SEYMOURJOHNSONAFB)** The DEMO aircraft will normally taxi directly to the active runway.

8.1.4.14.3.1.3.8. **(Added-SEYMOURJOHNSONAFB)** If the active runway is 08, the DEMO aircraft will T/O from RWY 26 if the RWY 26 tailwind is less than 20 knots.

8.1.4.14.3.1.3.9. **(Added-SEYMOURJOHNSONAFB)** T/O – 1 minute: will make a call on Guard that runway operations are suspended. Once the

DEMO aircraft takes off, nothing is allowed inside the aerobatic container. Aircraft outside this area are allowed to start engines, perform normal ground checks, and refuel if in the hot-pit area.

8.1.4.14.3.1.3.10. **(Added-SEYMOURJOHNSONAFB)** Once the profile is complete, will make a call on guard that runway operations are resumed. In addition, the SOF will call AM Ops and Command Post to disseminate this information.

8.1.4.14.3.2. **(Added-SEYMOURJOHNSONAFB)** The waived airspace is a 5nm radius ring around the GSB TACAN up to 15,000'. The aerobatic container is a 6000' x 3000' rectangular airspace that is required to remain sterile with regard to ground operations and flying operations during DEMO flying. The waived airspace is required to remain sterile from flying operations during DEMO flying. Aircraft in the Echo MOA must remain outside 10nm from the GSB TACAN.

8.1.4.14.3.3. **(Added-SEYMOURJOHNSONAFB)** If the DEMO team does not use the first 1 hour block, then the Team will notify the SOF. The SOF will call AM Ops and Command Post who will relay this information to the Ops Sups. This information will be available at step time and also on ATIS. If both blocks are cancelled, the SOF will inform the Command Post, AM Ops, and the Tower Supervisor.

8.1.4.14.3.4. **(Added-SEYMOURJOHNSONAFB)** If the DEMO practice will affect RTB operations, the SOF will dictate all flights carry 2000 pounds extra gas above VFR or IFR Aircrew Aid Bingo fuel. If requires an alternate, the DEMO Team can still perform the low/flat show option. This information will be available at step time and also on ATIS.

8.1.4.14.3.5. **(Added-SEYMOURJOHNSONAFB)** Emergencies will have priority for landing. If the emergency aircraft needs to recover while the DEMO is airborne and practicing, expect to call the DEMO aircraft and the profile will be terminated. The aircraft chasing the will clear off to hold at LaGrange/Mt. Olive after chasing the to land. After the lands, if the DEMO aircraft has enough fuel it will continue to practice. If the DEMO aircraft is low on fuel it will full stop when runway operations are resumed. Tower will notify aircraft that the DEMO is terminated and to expect to recover when runway operations are resumed.

8.1.4.14.3.6. **(Added-SEYMOURJOHNSONAFB)** If aircraft recovering to Seymour during a practice DO NOT have enough fuel to hold and then land with normal recovery fuel, these aircraft will notify the SOF immediately. The SOF will then notify the Tower Supervisor to contact the DEMO aircraft and terminate the practice profile. Once the flight of interest has landed, the DEMO will continue or land based on fuel. Ops Sups will report to the SOF the reasons why the flight did not have sufficient fuel to hold during the DEMO profile.

8.1.4.14.3.7. **(Added-SEYMOURJOHNSONAFB)** Aircraft will attempt to hold at LaGrange/Mt. Olive (VFR) with altitude de-confliction or at

EEGEL/PHNTM (IFR). If VFR aircraft require holding at a higher altitude, coordinate with arrival or as necessary.

#### 8.1.5. Section E. Weapons Employment.

##### 8.1.5.1. (Added-SEYMOURJOHNSONAFB) AIR-TO-SURFACE RANGES:

8.1.5.1.1. (Added-SEYMOURJOHNSONAFB) Performance of the “Level Turning Maneuver” is only authorized when physically over land with a discernible horizon.

8.1.5.1.2. (Added-SEYMOURJOHNSONAFB) BT-11 is not considered an over-water range.

8.1.5.1.3. (Added-SEYMOURJOHNSONAFB) Level delivery minimum altitude is 500 feet AGL. During egress aircrews will operate at or above their LOWAT category minimums. Deliveries must occur within the vertical and lateral confines of the restricted areas. Delivery parameters and patterns are in the 4 OG Aircrew Aid. On initial contact with AF Dare ask for the status of Navy Dare, if the ranger doesn't make an advisory. On AFD, do not overfly the main tower or the MUTES site. The east and west flank towers are unmanned unless the RCO says otherwise.

8.1.5.1.4. (Added-SEYMOURJOHNSONAFB) In the case of an off-range release, the crew will notify the range control officer and/or the 4 FW Command Post.

8.1.5.1.5. (Added-SEYMOURJOHNSONAFB) Reference the 4 FW BASH plan and the 4 OG Aircrew Aid for range BASH considerations/procedures.

8.1.5.1.6. (Added-SEYMOURJOHNSONAFB) Formal flight evaluations have priority over other 4 FW range sorties. Scheduled flights will hold at or proceed with their alternate mission. Flights in which the evaluation is being conducted will depart the range when the flight evaluator determines that the evaluation requirements have been satisfied.

8.1.5.1.7. (Added-SEYMOURJOHNSONAFB) Obtain clearance from the RCO before firing the combat laser. Stop firing the combat laser before it stops pointing at the authorized target.

##### 8.1.5.2. (Added-SEYMOURJOHNSONAFB) AIR COMBAT TRAINING:

8.1.5.2.1. (Added-SEYMOURJOHNSONAFB) Dissimilar formation procedures will be in accordance with AFI 11-2F-15EV3 and AFI 11-214. The following items will be briefed for all preplanned dissimilar formations.

8.1.5.2.1.1. (Added-SEYMOURJOHNSONAFB) Fingertip and route positions.

8.1.5.2.1.2. (Added-SEYMOURJOHNSONAFB) VFR traffic patterns.

8.1.5.2.1.3. (Added-SEYMOURJOHNSONAFB) Emergency contingencies to include escort procedures and airspeeds.

8.1.5.2.1.4. (Added-SEYMOURJOHNSONAFB) In-flight signals.

8.1.5.2.1.5. (Added-SEYMOURJOHNSONAFB) Safe separation

responsibilities (flight vs. single-ship).

8.1.5.2.2. **(Added-SEYMOURJOHNSONAFB)** Flights conducting intercept training at will be scheduled for the airspace, remain VMC, and remain within SUA confines at all times. Flights will advise Navy Dare of intercept operations when entering R-5314.

8.1.5.2.2.1. **(Added-SEYMOURJOHNSONAFB)** Aircraft may conduct intercepts while the range is in use by an air-to-ground flight with flight lead coordination.

8.1.5.2.2.2. **(Added-SEYMOURJOHNSONAFB)** Flights will not overfly Navy Dare Range (R-5314D, E, F) without prior coordination.

8.1.5.2.3. **(Added-SEYMOURJOHNSONAFB)** IMC intercepts are not authorized.

8.1.5.2.4. **(Added-SEYMOURJOHNSONAFB)** For FTU student sorties, the minimum altitude (floor) for UNLIMITED maneuvering will be the greater of 1000' above the SUA floor or 5,000' AGL.

8.1.5.3. **(Added-SEYMOURJOHNSONAFB)** TRAINING PACS PROCEDURES:

8.1.5.3.1. **(Added-SEYMOURJOHNSONAFB)** Aircrew will comply with restrictions in AFI 11-214, AFI 11-2F-15EV3 Chapter 5 and Chapter 6, and T.O. 1F-15E-34-1-1/-2 for any training PACS operation.

8.1.5.3.2. **(Added-SEYMOURJOHNSONAFB)** Stations 2/8 are considered separate stations from stations 2A/B and 8A/B.

8.1.5.3.3. **(Added-SEYMOURJOHNSONAFB)** Always place the master arm switch to SAFE prior to exiting A/A or A/G training PACS.

8.1.5.3.4. **(Added-SEYMOURJOHNSONAFB)** A/A TRAINING PACS: Use the A/A Training PACS with the following restrictions:

8.1.5.3.4.1. **(Added-SEYMOURJOHNSONAFB)** If live ordnance is loaded, or the gun is hot, the master arm switch will remain SAFE for any air to air training.

8.1.5.3.4.2. **(Added-SEYMOURJOHNSONAFB)** No A/G stores on the same station as the training PACS A/A missiles.

8.1.5.3.4.3. **(Added-SEYMOURJOHNSONAFB)** In the A/G combat PACS, select a program that does not have any actual A/G ordnance selected. Example: Program 4 with no stores selected – remain in program 4 (training and combat) until established on the range.

8.1.5.3.5. **(Added-SEYMOURJOHNSONAFB)** A/G TRAINING PACS: Utilize A/G training PACS, including the use of Master Arm - ARM, with the following additional restrictions. Procedures are the same whether on or off-range, unless otherwise noted.

8.1.5.3.5.1. **(Added-SEYMOURJOHNSONAFB)** Master Arm SAFE when off-range with a hot gun.

8.1.5.3.5.2. **(Added-SEYMOURJOHNSONAFB)** No fuel tanks on the same

station as the training PACS weapons.

8.1.5.3.5.3. **(Added-SEYMOURJOHNSONAFB)** Deselect (unbox) any stores in A/G combat PACS programs. Ensure TRNG shows in the lower right corner of the HUD prior to pickling.

8.1.5.3.5.4. **(Added-SEYMOURJOHNSONAFB)** Select off-range targets so that an inadvertent release of expendable ordnance will not endanger life. Acceptable off-range targets while carrying unexpended BDU-33s include unoccupied bridges, roads, railroads or runways. Buildings are not acceptable off-range targets while carrying unexpended BDU-33s. If all A/G ordnance is expended and verified by the ranger (through receipt of bomb score for each weapon expended) or a battle damage check, off-range populated targets may be selected.

#### 8.1.6. Section F. Abnormal Procedures.

##### 8.1.6.1. **(Added-SEYMOURJOHNSONAFB)** IN-FLIGHT EMERGENCIES:

8.1.6.1.1. **(Added-SEYMOURJOHNSONAFB)** The decision to declare an emergency is based on aircrew judgment, experience and checklist guidance. Aircrew may delay declaring an emergency until initial contact with Seymour Approach providing they have contacted the SOF and the situation warrants delaying the declaration of an emergency. Make conservative decisions and remember there are no repercussions for declaring an emergency in any situation that requires early recovery.

8.1.6.1.2. **(Added-SEYMOURJOHNSONAFB)** After declaring an emergency, the SOF will be contacted as soon as conditions permit. If not in the local area, any ACC SOF will provide assistance and can contact Seymour Johnson AFB for technical advice.

8.1.6.1.3. **(Added-SEYMOURJOHNSONAFB)** The Aircraft Commander is in charge of the emergency until the aircraft is stopped at the appropriate location, dictated by the nature of the emergency; i.e. straight ahead on the runway/taxiway, EOR, hot brake area, in the cable, etc. The Fire Chief or his designated representative will then take charge of the emergency until it is terminated. If recovery operations (ground handling) are required, the Crash Recovery supervisor (individual wearing an orange vest with white reflective stripes) will then be in charge of the ground operations.

8.1.6.1.3.1. **(Added-SEYMOURJOHNSONAFB)** When clearing the runway, taxi into the EOR spot closest to the runway and await On-Scene Commander instructions. Follow marshaller guidance and expect that emergency responders will approach the jet when it is safe to do so. If contact with the On-Scene Commander is desired or required, contact him on channel 10.

8.1.6.1.4. **(Added-SEYMOURJOHNSONAFB)** For a stores over-g (i.e., a SUU-20 over-g) initiate a “knock-it-off”, perform a battle damage check and treat as if a “severity code” 1, non-MIT over-g. If no abnormalities are observed, continue with

mission. If some abnormal condition is observed, RTB (no emergency, chase ship required) to a straight-in full stop.

8.1.6.2. **(Added-SEYMOURJOHNSONAFB)** SAR/RESCAP PROCEDURES:

8.1.6.2.1. **(Added-SEYMOURJOHNSONAFB)** Aircrews observing or assisting aircraft in distress should contact the controlling agency or any FAA facility on the agency's assigned frequency or guard if necessary and report the position of the downed crew. Assume on-scene command of rescue operations.

8.1.6.2.2. **(Added-SEYMOURJOHNSONAFB)** When time and conditions permit, contact Lion SOF or Command Post. If outside the local flying area, contact the nearest ACC SOF. The SOF will notify the Command Post to initiate SAR actions.

8.1.6.2.3. **(Added-SEYMOURJOHNSONAFB)** RESCAP aircrews should note any distinguishing geographic features that would expedite rescue operations. INS/EGI coordinates and/or TACAN bearing/DME are important for initial contact with rescue forces.

8.1.6.2.4. **(Added-SEYMOURJOHNSONAFB)** RESCAP aircrews should attempt to establish and maintain communications with the downed aircrew (use Guard or 282.8).

8.1.6.2.5. **(Added-SEYMOURJOHNSONAFB)** RESCAP aircraft should conserve fuel to remain on station as long as possible or until relieved by another aircraft. Fuel must be monitored to ensure a safe landing at the primary recovery base or an alternate with standard fuel remaining.

8.1.6.2.6. **(Added-SEYMOURJOHNSONAFB)** Rescue facilities are located as follows: Elizabeth City (C-130, HH-60) - Thirty minute alert / Cherry Point MCAS (HH-46) - Thirty minute alert (5 minute alert during Cherry Point fighter flying hours) / All coast guard ships and other vessels within radio contact.

8.1.6.3. **(Added-SEYMOURJOHNSONAFB)** LOST COMM/NORDO PROCEDURES: (Ref. Flight Information Handbook)

8.1.6.3.1. **(Added-SEYMOURJOHNSONAFB)** Follow aircrew procedures IAW FLIP Flight Information Handbook.

8.1.6.3.2. **(Added-SEYMOURJOHNSONAFB)** When RAPCON identifies a NORDO IFF squawk; they will attempt to transmit instructions on Ch. 10 and UHF Guard in addition to all common frequencies. If recovering NORDO in VMC, tower will attempt to transmit instructions on Channel 10 and UHF Guard in addition to all common frequencies.

8.1.6.4. **(Added-SEYMOURJOHNSONAFB)** HUNG/UNSAFE ORDNANCE PROCEDURES: (Ref. 4 OG Aircrew Aid and SJAFBI 11-250)

8.1.6.4.1. **(Added-SEYMOURJOHNSONAFB)** Aircrews will advise the SOF when returning with hung ordnance.

8.1.6.5. **(Added-SEYMOURJOHNSONAFB)** JETTISON AREAS AND PROCEDURES:

8.1.6.5.1. **(Added-SEYMOURJOHNSONAFB)** External Tanks and Inert Stores: Stores jettison procedures and preferred areas are found in the 4 OG Aircrew Aid and SJAFBI 11-250.

8.1.6.5.2. **(Added-SEYMOURJOHNSONAFB)** Live Ordnance: For local missions, planners will coordinate for a jettison area when live-ordnance drops are planned. is the primary authorized area for the controlled jettison of live ordnance. If unable to use Fort Bragg, BT-9 may be used as an emergency back-up. The specific area and procedures will be briefed prior to live drop missions.

8.1.6.5.3. **(Added-SEYMOURJOHNSONAFB)** Jettison procedures will be briefed on all live/inert drop missions. The following procedures will be used and recorded when attempting to release hung or unexpended ordnance, (time and fuel permitting): another pass using normal release procedures; if CDIP was attempted, cycle to AUTO and try again; attempt release using RCP pickle button; Manual FF or Manual RET; Selective A/G Jettison.

8.1.6.6. **(Added-SEYMOURJOHNSONAFB)** CHASE PROCEDURES:

8.1.6.6.1. **(Added-SEYMOURJOHNSONAFB)** Chase position is defined in Chapter 3. When practical, the chase aircraft will be positioned on the south side of the runway in a position to adequately observe the emergency aircraft and fly no lower than 300 feet AGL. IPs/SEFEs chasing overhead patterns will remain on the outside of the final turn and be positioned on the north side of the runway on final.

8.1.6.7. **(Added-SEYMOURJOHNSONAFB)** HOT BRAKE PROCEDURES (Ref. SJAFBI 11-250):

8.1.6.7.1. **(Added-SEYMOURJOHNSONAFB)** Declare a ground emergency and notify the SOF for potential hot brakes anytime the aircrew, EOR crew, or crew chief suspect hot brakes. Fire Rescue are the only personnel who can chock the aircraft during a suspected hot brakes situation. Aircrew should initiate a ground emergency as soon as they suspect hot brakes to minimize the time that the wheel brakes are used while un-chocked.

8.1.6.7.2. **(Added-SEYMOURJOHNSONAFB)** Refer to the -1CL, suspend arming/dearming operations, remain clear of other aircraft, taxi to the closest hot brake area, position the aircraft into the wind, and await further instruction from the Fire Chief.

8.1.6.7.2.1. **(Added-SEYMOURJOHNSONAFB)** Aircrew will coordinate with the SOF for which hot brake area to use. Aircrew and the SOF should assess the situation taking into account current wind conditions, fire truck accessibility to the hot brake area, and turning room available in determining the proper direction to turn the aircraft.

8.1.6.7.3. **(Added-SEYMOURJOHNSONAFB)** After the aircraft with potential hot brakes arrives and stops at the appropriate hot brake area, the Fire Chief will take control of the emergency. A Fire Rescue crew will approach the aircraft, chock it, determine if hot brakes are suspected, and if hot brakes are suspected assume surveillance position no closer than 300 feet away from the aircraft for thirty minutes

cooling time while they monitor the situation. Once thirty minutes has passed, they will allow crash recovery to approach the aircraft to see if the brakes have sufficiently cooled. If the brakes are cooled, the aircraft will be released to taxi. If the brakes are not cool, the fire chief will start an additional fifteen minute timer and the aircraft will not be released.

**8.1.6.8. (Added-SEYMOURJOHNSONAFB) MALFUNCTIONS WHICH PROHIBIT TAXI:**

**8.1.6.8.1. (Added-SEYMOURJOHNSONAFB)** In addition to Chapter 7 restrictions, aircrew will not taxi if they landed with unsafe gear indications (Safe = three down/locked with downside hydraulic pressure), or ordnance malfunctions that cannot be corrected in DEARM (Example: unsafe gun, hung ordnance that cannot be pinned).

**8.1.6.9. (Added-SEYMOURJOHNSONAFB) GUN MALFUNCTION PROCEDURES:**

**8.1.6.9.1. (Added-SEYMOURJOHNSONAFB)** Gun Malfunction procedures are listed in the 4 OG Aircrew Aid and SJAFBI 11-250.

**8.1.6.10. (Added-SEYMOURJOHNSONAFB) BARRIER CERTIFICATIONS:**

**8.1.6.10.1. (Added-SEYMOURJOHNSONAFB)** Aircrews will be tasked to assist with periodic barrier certifications both at SJAFB and at other bases. Tasked aircrews will be MR or have an instructor in the jet. Contact the SOF before takeoff and after landing to coordinate the engagement.

**8.1.6.10.2. (Added-SEYMOURJOHNSONAFB)** Local barrier certifications. Contact barrier maintenance at 722-5132 prior to certification. Runway end lights, manhole covers, and FOD present hazards in the overrun.

**8.1.6.10.2.1. (Added-SEYMOURJOHNSONAFB)** Engagement will occur after landing with 2,000-10,000 lbs fuel remaining (40,000-50,000 lbs gross wt). Anticipate a 30-minute delay in EOR.

**8.1.6.10.2.2. (Added-SEYMOURJOHNSONAFB)** When cleared by tower, taxi onto the runway and accomplish the -1CL steps for a cable engagement.

**8.1.6.10.2.3. (Added-SEYMOURJOHNSONAFB)** When asked to certify the overrun cable, be particularly vigilant for FOD in the overrun. When cleared, taxi onto the overrun and execute a 180-degree turn to face down the runway. All overrun certifications will take place towards the runway.

**8.1.6.10.2.4. (Added-SEYMOURJOHNSONAFB)** Target speeds: BAK-12: 40,000 lbs 75-95kts, 50,000 lbs 65-85kts.

**8.1.6.10.3. (Added-SEYMOURJOHNSONAFB)** Off-station barrier engagements. Contact the 4 OG/CC with details of barrier certification requirements and game plan prior to departure. Ensure inspection of the overrun (if required for taxi to certification) is accomplished. Aircrew must survey any lights, hatches or other possible obstructions on the runway/overrun. Ensure path to barrier engagement is clear of any possible hazards to the hook.

8.1.7. Attachments (Illustrations).

**8.2. Applicable Procedures.** If applicable, include procedures for the following in the appropriate section above:

8.2.1. Command and Control.

8.2.2. Fuel Requirements and Bingo Fuels.

8.2.3. Diversion Instructions.

8.2.4. Jettison Areas, Procedures, and Parameters (IFR/VFR).

8.2.5. Controlled Bailout Areas.

8.2.6. Local Weather Procedures.

8.2.7. Unit Standards.

8.2.8. Approved Alternate Missions.

8.2.9. Cross-Country Procedures.

8.2.10. SAR and On-Scene Commander Procedures.

8.2.11. Bird/Wildlife Aircraft Strike Hazard (BASH) program guidance IAW AFI 91-202, *The US Air Force Mishap Prevention Program* and AFPAM 91-212, *Bird Aircraft Strike Hazard (BASH) Management Techniques*.

8.2.12. Environmental Restrictions to Flight Operations (winds, sea state, temperature, etc.) applicable to unit operating locations.

**8.3. Distributing Guidance.** When published, units will forward copies of the local guidance to MAJCOM and appropriate subordinate agencies, who will review and return comments back to the unit(s). Distribution of local guidance may begin before the review process is complete unless otherwise specified by MAJCOM or appropriate subordinate agency. If a procedure is deemed applicable to all F-15E units, it will be incorporated into the basic AFI volume.

#### **8.4. Adopted Forms.**

AF Form 847, *Recommendation for Change of Publication*

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*

AFTO FORM 781 A, *Maintenance Discrepancy and Work Document*

DANIEL J. DARNELL, Lt Gen, USAF  
DCS, Operations, Plans and Requirements

**(SEYMOURJOHNSONAFB)**

PATRICK J. DOHERTY, Col, USAF  
Commander

## ATTACHMENT 1

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

**References**

Allied Tactical Publication (ATP)-56(B), *Air-to-Air Refueling*, 1 Apr 2007

AF Records Disposition Schedule

AFI 11-2F-15EV1, *F-15E--Aircrew Training*, 9 Jan 2007

AFI 11-202V3, *General Flight Rules*, 5 Apr 2006

AFI 11-205, *Aircraft Cockpit and Formation Flight Signals*, 19 May 1994

AFI 11-209, *Aerial Event Policy and Procedures*, 4 May 2006

AFI 11-214, *Air Operations Rules and Procedures*, 22 Dec 2005

AFI 11-218, *Aircraft Operations and Movement on the Ground*, 11 May 2005

AFI 33-360, *Publications and Forms Management*, 18 May 2006

AFI 91-202, *The US Air Force Mishap Prevention Program*, 1 Aug 1998

AFMAN 11-217V1, *Instrument Flight Procedures*, 3 Jan 2005

AFMAN 33-363 *Management of Records*, 01 Mar 2008

AFPAM 91-212, *Bird Aircraft Strike Hazard (BASH) Management Techniques*, 1 Feb 2004

AFPD 11-2, *Aircraft Rules and Procedures*, 14 Jan 2005

AFPD 11-4, *Aviation Service*, 1 Sep 2004

AFTTP 3-1.F-15E, *Tactical Employment—F-15E (Secret)*, 23 Apr 2005

AFTTP 3-3.F15E, *Combat Aircraft Fundamentals--F-15E*, 18 Mar 2008

FAR Part 95, *IFR Altitudes*

FLIP, *Flight Information Publication*

TO 1F-15E-1, *Flight Manual--F-15E*, 15 Jul 2002

TO 1F-15E-1-1, *Flight Manual Performance Data USAF Series F-15E Aircraft*, 15 Jan 1994

TO 1F-15E-1CL-1, *Flight Crew Checklist USAF Series F-15E Aircraft*, 15 Sep 1999

TO 1F-15E-34-1-CL-1, *Flight Crew NonNuclear Weapon Delivery Checklist*, 15 Jul 2002

**Abbreviations and Acronyms**

**AAI**—Air-to-Air Interrogator

**AB**—After Burner

**ACBT**—Air Combat Training

**ACDE**—Aircrew Chemical Defense Equipment

**ACMI**—Air Combat Maneuvering Instrumentation

**ADI**—Attitude Direction Indicator  
**AERPS**—Aircrew Eye and Respiratory Protection System  
**AFI**—Air Force Instruction  
**AFTTP**—Air Force Tactics, Techniques, and Procedures  
**AGL**—Above Ground Level  
**AHC**—Aircraft Handling Characteristics  
**ALC**—Air Logistics Center  
**AOA**—Angle of Attack  
**ASR**—Airport Surveillance radar  
**ATC**—Air Traffic Control  
**ATDPS**—Automatic Thrust Departure Prevention System  
**AWACS**—Airborne Warning and Control System  
**BMC**—Basic Mission Capable  
**CAP**—Combat Air Patrol  
**CG**—Center of Gravity  
**CHUM**—Chart Update Manual  
**CMR**—Combat Mission Ready  
**COMAFFOR**—Commander, Air Force Forces  
**CONUS**—Continental United States  
**CPT**—Cockpit Procedures Trainer  
**C/S**—Callsign  
**CSAR**—Combat Search and Rescue  
**CT**—Continuation Training  
**DEEC**—Digital Electronic Engine Control  
**DGR**—Designated Ground Range  
**DGRD**—Degraded  
**DH**—Decision Height  
**DoD**—Department of Defense  
**DRU**—Direct Reporting Unit  
**EADI**—Electronic Attitude Director Indicator  
**ECM**—Electronic Counter Measures  
**EGI**—Embedded GPS INS

**EMCON**—Emissions Condition  
**EOR**—End of Runway  
**EP**—Emergency Procedure  
**FOA**—Field Operating Agency  
**FAF**—Final Approach Fix  
**FCIF**—Flight Crew Information File  
**FCP**—Front Cockpit  
**FDL**—Fighter Data Link  
**FE**—Flight Examiner  
**FENCE**—Firepower, Emitters, Navigation, Communications, and Electronic Countermeasures  
**FLIP**—Flight Information Publications  
**FMP**—Flight Manual Program  
**FOD**—Foreign Object Damage  
**FTU**—Formal Training Unit  
**FW**—Fighter Wing  
**FTIT**—Fan Turbine Inlet Temperature  
**G**—Gravitational Load Factor  
**GCI**—Ground Controlled Intercept  
**GPS**—Global Positioning System  
**HRM**—High Resolution Map  
**HUD**—Heads Up Display  
**IAM**—Inertially Aided Munition  
**IAW**—In Accordance With  
**IDEEC**—Improved Digital Electronic Engine Control  
**IFF**—Identification Friend or Foe  
**IFR**—Instrument Flight Rules  
**IMC**—Instrument Meteorological Conditions  
**IP**—Instructor Pilot  
**IQT**—Initial Qualification Training  
**IR**—Infrared or IFR Route  
**JFS**—Jet Fuel Starter  
**JOAP**—Joint Oil Analysis Program

**KCAS**—Knots Calibrated Airspeed  
**KIO**—Knock-It-Off  
**KM**—Kilometer  
**KTAS**—Knots True Airspeed  
**LANTIRN**—Low Altitude Navigation and Targeting Infrared for Night  
**LAR**—Launch Acceptability Region  
**LAWS**—Low Altitude Warning System  
**LOWAT**—Low Altitude Training  
**LVS**—Left Vertical Stab  
**MAJCOM**—Major Command  
**MDA**—Minimum Descent Altitude  
**MIT**—Mass Item  
**MOA**—Military Operating Area  
**MPS**—Mission Planning Systems  
**MQT**—Mission Qualification Training  
**MSA**—Minimum Safe Altitude  
**MSL**—Mean Sea Level  
**MTR**—Military Training Route  
**N/A**—Not Applicable  
**NAF**—Numbered Air Force  
**NAV/FLIR**—Navigation Forward Looking Infrared  
**NLT**—Not Later Than  
**NM**—Nautical Miles  
**NORDO**—No Radio  
**NWLO**—Nose Wheel Lift Off  
**NVG**—Night Vision Goggles  
**OGV**—Operations Group Stan/Eval  
**OPR**—Office of Primary Responsibility  
**OSC**—On-Scene Commander  
**OT&E**—Operational Test and Evaluation  
**OWS**—Overload Warning System  
**PACS**—Programmable Armament Control Set

**PAPI**—Precision Approach Path Indicator

**PAR**—Precision Approach Radar

**PBG**—Pressure Breathing

**PFR**—Primary Flight Reference

**PGM**—Precision Guided Munition

**PIC**—Pilot in Command

**PLASI**—Precision Landing Slope Indicator

**PPKS**—Present Position Keeping Source

**PWC**—Pilot Weather Category

**RAA**—Route Abort Altitude

**RALT**—Radar Altimeter

**RCO**—Range Control Officer

**RCP**—Rear Cockpit

**RCR**—Runway Condition Reading

**RDS**—Records Disposition Schedule

**RIA**—Recovery Initiation Altitude

**RNAV**—Area Navigation

**RPI**—Runway Point of Intercept

**RSC**—Runway Surface Condition

**RTB**—Return to Base

**RVS**—Right Vertical Stab

**RWR**—Radar Warning Receiver

**SAC**—Sectional Aeronautical Chart

**SAR**—Search and Rescue

**SCP**—Set Clearance Plane

**SD**—Spatial Disorientation

**SIF**—Selective Identification Feature

**SUA**—Special Use Airspace

**TACAN**—Tactical Air Navigation

**TAS**—True Airspeed

**TOLD**—Takeoff and Landing Data

**TF**—Terrain Following

**TFR**—Terrain Following Radar

**TO**—Technical Order

**TOT**—Time On Target

**VASI**—Visual Approach Slope Indicator

**VFR**—Visual Flight Rules

**VMC**—Visual Meteorological Conditions

**VR**—Visual Route

**WSEP**—Weapon Systems Evaluation Program

**WSO**—Weapon Systems Officer

## ATTACHMENT 2

### CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, AND HIGH YIELD EXPLOSIVE (CBRNE) OPERATIONS

**A2.1. General Information.** Potential adversary use of CBRNE weapons against a friendly airfield presents a serious threat to flying operations. Although the most effective way for aircrews to avoid this threat is to be airborne before these weapons are detonated or dispersed and then land at a field that has not been contaminated, all personnel must be prepared to operate from a field that has come under CBRNE attack.

**A2.2. Mission Preparation.** Be aware of the status of the CBRNE environment at the planned launch and recovery airfields, potential divert bases, and throughout the area in which the sortie may fly. Know the current and forecast surface wind direction and on the MOPP level in effect for relevant sectors of the airfield. Don appropriate aircrew chemical defense equipment (ACDE) or Ground Crew Ensemble (GCE) to match the appropriate MOPP level (reference AFMAN 10-100) and carry individual protective equipment (IPE) as required.

**A2.3. Stepping to Fly and Aircraft Preflight.** This may entail donning ACDE or transitioning from GCE to ACDE. Take precautions to protect aircrew from injury and or contamination while in transit from the squadron facility to the aircraft. If possible, transport aircrew in a vehicle that provides overhead cover (enclosed vehicle). If aircrew travel on foot is unavoidable, choose a route that takes maximum advantage of available overhead cover (sun shades, buildings, etc.) to avoid agents that may be settling from the air. If extra aircrew members are available for preflight duties, consider assigning them to do so wearing GCE. This will allow the aircrew actually flying to minimize exposure.

**A2.3.1. Alarm Red (or Theater Equivalent) Prior to Engine Start.** If Alarm Red occurs during the step or preflight process, take cover and don appropriate MOPP. This may require use of the ground crew mask. A hardened aircraft shelter (HAS) provides optimum protection, if available. Use caution if entering a HAS that contains aircraft or equipment. Close doors after entry. If a HAS or other overhead cover is not immediately available, accept the best rapidly reachable cover.

**A2.4. Engine Start to Takeoff.** If a HAS is available, use it to minimize exposure time by accomplishing aircraft arming and EOR procedures inside the HAS (if local procedures permit) and by delaying taxi time as long as possible prior to takeoff.

**A2.4.1. Aircraft Launch to Survive.** Units will develop local procedures to provide this option to the commander. In general, aircraft may launch-to-survive any time after engine start if they have sufficient fuel and safe, expeditious access to a runway. This option may only be practical for aircraft that are near the end of runway (EOR) prior to takeoff or that have just landed.

**A2.4.2. Alarm Red (or Theater Equivalent) Prior to Taxi.** If in a HAS, the normal procedure is to shut down. Ensure ground personnel are aware of the alarm warning, as engine noise may preclude effectiveness of normal alert notification procedures. Use hand signals if necessary to be sure that ground personnel assume proper MOPP and close HAS doors. If not in a HAS, procedures may include launch to survive.

**A2.4.3. Alarm Red (or Theater Equivalent) After Taxi.** Units typically establish procedures for this contingency depending on whether additional protection is available along the taxi route. For instance, if empty HAS are available, taxiing aircraft may be directed to shelter there. Ideally, ground crew sheltering in such a HAS would be available to assist in normal engine shutdown procedures and to close HAS doors. If protection is not available, the best option may be launch to survive. Maintain contact with Command and Control (C2) entities (Wing Operations Center, Maintenance Operations Center, Supervisor of Flying, etc.) to ensure unity of effort in the overall plan.

## **A2.5. Takeoff to Landing.**

**A2.5.1. Contamination.** If Chemical Warfare (CW) agent contamination occurs prior to takeoff, flying the aircraft will dissipate the agent to some degree. The greatest dissipation will occur during flights at lower altitudes and longer airborne times. Because the agent may have entered wheel wells, flaps, etc., consider flying in landing configuration to increase airflow to these areas. However, merely flying the aircraft is unlikely to achieve complete decontamination.

**A2.5.2. Preparing to Land.** Aircrew should remain aware of the status of primary and alternate landing locations. Do not attempt to land during Alarm Red situations unless there is no other option. Follow C2 directions and either hold or divert. If mission needs prevent divert, hold until the Alarm Red (or theater equivalent) has cleared or become an Alarm Black. Prior to landing, gain awareness of contaminated sectors of the airfield and of current/forecast surface winds. Use this information in conjunction with C2 direction to plan a route from landing to engine shutdown. The liquid deposition phase following a CW airburst attack can extend up to 1 hour. If landing during Alarm Black, expect a contaminated environment and MOPP 4.

**A2.6. Landing to Engine Shutdown.** Take advantage of any protection available, minimizing taxi time and distance. Maintain contact with C2 in order to remain aware of unexploded ordnance and/or damage to airfield movement surfaces. If a HAS is available and local procedures permit, accomplish aircraft de-arm and EOR procedures there. If Alarm Red (or Theater Equivalent) occurs between landing and engine shutdown, considerations are similar to those in [para A2.4](#).

**A2.7. After Engine Shutdown.** Don appropriate MOPP. If circumstances permit, accomplish normal post-flight inspection procedures. If the aircraft is not contaminated, close the canopy. If there is any suspicion of personnel contamination, aircrew will process through an aircrew contamination control area (ACCA). Accomplish maintenance debriefings under cover to the maximum extent possible.

**ATTACHMENT 3**  
**GENERAL BRIEFING GUIDE**

**A3.1. Mission Data:**

- A3.1.1. Time Hack
- A3.1.2. Classification
- A3.1.3. EP/Threat of the Day
- A3.1.4. Mission Objective(s)
- A3.1.5. Mission Overview
- A3.1.6. Mission Data Card/Takeoff and Landing Data
- A3.1.7. Weather/Sunrise/Sunset/Moon Illumination
- A3.1.8. Transmissivity/Absolute Humidity/Thermal Crossover
- A3.1.9. NOTAMs/Bird Strike Potential
- A3.1.10. Personal Equipment
- A3.1.11. FCIF/Pubs/Maps

**A3.2. Ground Procedures:**

- A3.2.1. Pre-Flight:
  - A3.2.1.1. Aircraft.
  - A3.2.1.2. Armament.
- A3.2.2. Check-In.
- A3.2.3. Taxi/Marshaling/Arming.
- A3.2.4. Spare/Red Ball Procedures.

**A3.3. Takeoff:**

- A3.3.1. Runway Lineup.
- A3.3.2. Formation Takeoff/Takeoff Interval.
- A3.3.3. Abort.
- A3.3.4. Jettison Procedures.
- A3.3.5. Low Altitude Ejection.
- A3.3.6. Landing Immediately After Takeoff.

**A3.4. Departure/En Route:**

- A3.4.1. Routing.
- A3.4.2. Trail Departure.
- A3.4.3. Join-Up/Formation.

A3.4.4. NVG Donning (Night).

A3.4.5. Systems/Ops Checks.

A3.4.6. TFR Checks (Night).

**A3.5. Recovery:**

A3.5.1. Rejoin.

A3.5.2. BD Check.

A3.5.3. Type Recovery.

A3.5.4. Flight Break-Up (if applicable).

A3.5.5. Pattern and Landing.

A3.5.6. After Landing/De-Arm.

A3.5.7. Emergency/Alternate Airfields.

**A3.6. Special Subjects.**

**ATTACHMENT 4****SPECIAL SUBJECT BRIEFING GUIDE (AS APPLICABLE)****A4.1. ROE, Special Operating Instructions.****A4.2. Instructor Responsibilities.****A4.3. Chase Procedures.****A4.4. IFF/Mode S Procedures.****A4.5. Midair Collision Avoidance.**

A4.5.1. Radar/Visual Search Responsibilities.

A4.5.2. Departure/Enroute/Recovery High Density Traffic Areas.

A4.5.3. Deconfliction plan.

A4.5.3.1. From Other Military Aircraft.

A4.5.3.2. From Civilian Aircraft.

**A4.6. Flight Member Roles and Responsibilities.**

A4.6.1. Formation and Deconfliction Contracts.

A4.6.2. Sensor Management/Prioritization.

A4.6.3. Tactical Employment Priorities.

**A4.7. Dissimilar Formations.****A4.8. Terrain Avoidance.**

A4.8.1. Departure/En Route/Recovery.

A4.8.2. Use of RALT/MSL Floor Settings.

**A4.9. Bird Strike Procedures, Use of Visor(s).****A4.10. Hazards Associated with Human Factors (e. g. Channelized Attention, Task Saturation/Prioritization, and Complacency).****A4.11. G-Awareness:**

A4.11.1. G-Suit connection/G-tolerance/G-Awareness Turn.

A4.11.2. Use of AGSM.

**A4.12. Visual Illusions, Perceptions.****A4.13. Spatial Disorientation, Unusual Attitudes.****A4.14. Lost Wingman.****A4.15. Radio Inoperative (NORDO).****A4.16. SARCAP and On-Scene Commander Procedures.****A4.17. Recall Procedures.**

**A4.18. SIIs.**

**A4.19. Training Rules.**

**A4.20. Operational Risk Management (ORM).**

A4.20.1. ORM assessment, hazards to this flight.

A4.20.2. Factors mitigating risk.

A4.20.3. When to reassess.

**ATTACHMENT 5**  
**ADVANCED HANDLING BRIEFING GUIDE**

**A5.1. Airwork.**

A5.1.1. Airspace Restrictions.

A5.1.2. Area Orientation.

A5.1.3. Planned Maneuvers.

A5.1.4. Maneuvering Limitations.

A5.1.4.1. Airspeed and "G".

A5.1.4.2. Recognition/Prevention/Recovery From Out of Control.

A5.1.4.3. Maneuvering at Heavyweight/High AOA/Asymmetrical Configuration.

A5.1.4.4. Effects of Center of Gravity (CG) Throughout the Flight.

**ATTACHMENT 6**  
**AIR REFUELING BRIEFING GUIDE**

**A6.1. General.**

- A6.1.1. Tanker Call Sign(s)/Receiver assignments.
- A6.1.2. AR Track(s).
  - A6.1.2.1. Altitude.
  - A6.1.2.2. Airspeed.
  - A6.1.2.3. Airspace Restrictions.
- A6.1.3. ARIPs, ARCPs, ARCTs.
- A6.1.4. Radio Frequencies, A/A TACAN, IFF codes.

**A6.2. Buddy Procedures.**

- A6.2.1. Departure.
- A6.2.2. Join-Up.

**A6.3. En Route.**

- A6.3.1. Route of Flight.
- A6.3.2. Formation.
- A6.3.3. Ops Checks.

**A6.4. Rendezvous.**

- A6.4.1. Type Rendezvous.
- A6.4.2. Holding Procedures, Formation.
- A6.4.3. Tanker Identification - TACAN/Radar/AAI/Visual.
- A6.4.4. Radar Procedures, Techniques.
- A6.4.5. Wingman, Deputy Lead Responsibilities.
- A6.4.6. Receiver Formation, Join-Up Procedures.
- A6.4.7. Rendezvous Overrun.

**A6.5. Refueling.**

- A6.5.1. Checklist Procedures.
- A6.5.2. Radio Calls.
- A6.5.3. Refueling Order.
- A6.5.4. Radio Silent Procedures.
  - A6.5.4.1. EMCON.
  - A6.5.4.2. Visual Signals.

A6.5.5. Fuel Off-Load.

A6.5.6. Bingo Fuel (Abort Points, Abort Bases).

A6.5.7. Drop-Off Procedures.

A6.5.8. Wake Turbulence.

**A6.6. Reform and Exit.**

A6.6.1. Formation.

A6.6.2. Clearance.

**A6.7. Emergency Procedures.**

A6.7.1. Breakaway Procedures.

A6.7.2. Systems Malfunctions.

A6.7.3. Damaged Receptacle.

**A6.8. IMC/Night Considerations.**

A6.8.1. Lost Wingman Procedures.

A6.8.2. Aircraft Lighting.

A6.8.3. NVG use.

## ATTACHMENT 7

## AIR COMBAT TRAINING (ACBT) AND INTERCEPT BRIEFING GUIDE

**A7.1. General/Adversary Coordination/GCI Coordination.**

- A7.1.1. Call Signs.
- A7.1.2. Number and Type Aircraft.
- A7.1.3. Scenario.
  - A7.1.3.1. Objective(s).
  - A7.1.3.2. Type Threat Simulated, Cuffs (If Any).
  - A7.1.3.3. CAP Points/Target Locations.
  - A7.1.3.4. Safe Areas, FEBA, Ground Threats.
  - A7.1.3.5. VID/EID/BVR Criteria.
- A7.1.4. Mission Contingencies.
  - A7.1.4.1. Single Radar Scope, No GCI.
  - A7.1.4.2. Single Frequency.
  - A7.1.4.3. Area Weather, Alternate Mission.
  - A7.1.4.4. Minimum Participants (Primary, Alternate Missions).
- A7.1.5. Area Information.
  - A7.1.5.1. Controlling Agency (GCI/AWACS/ACMI).
    - A7.1.5.1.1. GCI/Flight.
    - A7.1.5.1.2. Comm Requirements.
    - A7.1.5.1.3. Type, Level of Control.
    - A7.1.5.1.4. Datalink Setup, Procedures.
  - A7.1.5.2. Airspace Restrictions.
  - A7.1.5.3. CAP Points/Target locations.
  - A7.1.5.4. Frequencies.
  - A7.1.5.5. Squawks.
  - A7.1.5.6. Block Altitudes, Min Altitudes, Flight Parameters.
  - A7.1.5.7. Transmissions.
    - A7.1.5.7.1. KIO.
    - A7.1.5.7.2. Shots/Kills.
    - A7.1.5.7.3. Fuel/Altitude Awareness.
- A7.1.6. Rendezvous/Recovery Procedures.

A7.1.6.1. Dissimilar Formation.

A7.1.7. Weapons Employment.

A7.1.7.1. Simulated Ordnance (Type, Quantity).

A7.1.7.2. Shot/Kill Criteria.

A7.1.7.3. Kill Removal.

A7.1.7.4. Shot/Kill Passage.

A7.1.8. Training Rules.

A7.1.9. Emergency Procedures.

A7.1.9.1. Recovery.

A7.1.9.2. Escort Procedures.

A7.1.10. Debrief (Time, Place).

**A7.2. Flight, Element Tactics.**

A7.2.1. Avionics Set-up.

A7.2.1.1. Radar.

A7.2.1.2. INS.

A7.2.1.3. IFF.

A7.2.1.4. Air-to-Air TACAN.

A7.2.2. CAP Phase.

A7.2.2.1. Type Holding.

A7.2.2.2. Formation, Altitude, Airspeed.

A7.2.2.3. Search Responsibilities.

A7.2.2.4. Commit.

A7.2.2.4.1. Criteria/Range.

A7.2.2.4.2. Procedures.

A7.2.3. Ingress/Intercept Phase.

A7.2.3.1. Formation, Altitude, Airspeed.

A7.2.3.2. Detection.

A7.2.3.2.1. Search Responsibilities (Radar, Visual).

A7.2.3.2.2. Radar Sorting.

A7.2.3.3. Targeting Plan.

A7.2.3.4. Intercept Type, Planned Tactics.

A7.2.3.4.1. Plan.

- A7.2.3.4.2. Mutual Support Requirements.
- A7.2.3.4.3. ID Requirements, Procedures.
- A7.2.3.4.4. Minimum Altitudes, Airspeeds.
- A7.2.3.4.5. Vertical/Horizontal Conversions, Turning Room.
- A7.2.3.5. Night/IMC Intercepts.
  - A7.2.3.5.1. Electronic Counter Measures (ECM), Chaff, Evasion Restrictions.
  - A7.2.3.5.2. Radar Requirements.
  - A7.2.3.5.3. Altitude Separation Requirements.
- A7.2.4. Engagement Phase.
  - A7.2.4.1. Plan.
  - A7.2.4.2. Clearance for Wingman to Engage.
    - A7.2.4.2.1. Offensive.
    - A7.2.4.2.2. Defensive
  - A7.2.4.3. Alternate Plan (Degraded Situation).
- A7.2.5. Egress, Separation Phase.
  - A7.2.5.1. Disengagement Plan (Why/When/How).
    - A7.2.5.1.1. Loss of Mutual Support.
    - A7.2.5.1.2. Fuel.
    - A7.2.5.1.3. Ordnance.
  - A7.2.5.2. Egress Formation/Responsibilities.
- A7.2.6. Contingencies.
  - A7.2.6.1. Single Contact.
  - A7.2.6.2. Short Range Commit.
  - A7.2.6.3. Single Ship (Loss of Mutual Support).
  - A7.2.6.4. Safe Escape/Rendezvous Point.
- A7.2.7. Live Missile, Hot Gun Safety Procedures.
- A7.2.8. Additional Considerations.
  - A7.2.8.1. Threat Reaction.
  - A7.2.8.2. Degraded Systems.
  - A7.2.8.3. Tactical Lead Changes.
  - A7.2.8.4. Bandit Options.
  - A7.2.8.5. VTR/DVRS procedures.

A7.2.8.6. Codewords.

A7.2.8.7. Environmental Considerations.

A7.2.9. Alternate Mission.

A7.2.9.1. Type Mission (refer to appropriate mission briefing guide).

A7.2.9.2. Mission Objectives.

**ATTACHMENT 8**  
**AERIAL GUNNERY BRIEFING GUIDE**

**A8.1. General.**

- A8.1.1. Formation
- A8.1.2. Area Information.
  - A8.1.2.1. Controlling Agency.
  - A8.1.2.2. Airspace Restrictions.
  - A8.1.2.3. Frequencies.
- A8.1.3. Switch Positions.
- A8.1.4. Arming Procedures.
- A8.1.5. Intercept, Set-Up.
- A8.1.6. Shooter Sequence.
- A8.1.7. Position Changes.
- A8.1.8. Chase Procedures.
- A8.1.9. Timing.

**A8.2. Employment.**

- A8.2.1. Firing Parameters.
  - A8.2.1.1. Minimum Range.
  - A8.2.1.2. Closure.
  - A8.2.1.3. Angle-Off.
  - A8.2.1.4. Error Analysis.
- A8.2.2. Contingencies.
  - A8.2.2.1. Avionics Malfunctions.
  - A8.2.2.2. Gun Malfunctions.
  - A8.2.2.3. Range Estimation Without Radar.
- A8.2.3. Safety Considerations.
  - A8.2.3.1. Target Fixation.
  - A8.2.3.2. Debris Avoidance.
  - A8.2.3.3. Fouls.

**ATTACHMENT 9****LOW-LEVEL NAVIGATION BRIEFING GUIDE****A9.1. General.**

A9.1.1. Route, Clearance, Restrictions.

A9.1.2. Flight Responsibilities.

A9.1.2.1. Navigation.

A9.1.2.2. Radar/Visual Search.

A9.1.3. Entry, Spacing, Holding, Initial Altitude (MSA).

**A9.2. Route Procedures.**

A9.2.1. FENCE Checks.

A9.2.2. Tactical Formation/Turns.

A9.2.3. Low-Level Navigation.

A9.2.3.1. Use of INS/EGI/DMS.

A9.2.3.2. Radar Procedures, Techniques, Predictions.

A9.2.3.3. Visual Procedures, Techniques, IR Predictions.

A9.2.3.4. System Updates, Calibrations.

A9.2.3.5. Time Control, Fuel Control.

A9.2.3.6. Terrain Following/Avoidance, Wingman Considerations.

A9.2.3.7. Leg Altitudes, Set Clearance Plane (TF), Obstacles (MSL/AGL).

A9.2.4. Threat Reactions.

A9.2.4.1. RWR, ECM, Chaff, Flares.

A9.2.4.2. Engagement Criteria.

A9.2.4.3. Flight Path Deconfliction.

A9.2.4.4. Termination.

**A9.3. Emergencies.**

A9.3.1. Aircraft Malfunctions.

A9.3.2. Route Abort Procedures (RAA/MSA), ATC Frequencies, Airspace Considerations.

**ATTACHMENT 10****AIR-TO-SURFACE WEAPONS EMPLOYMENT BRIEFING GUIDE (RANGE MISSION)****A10.1. Range Information.**

A10.1.1. Target and Range Description.

A10.1.2. Restrictions.

A10.1.3. Range Entry, Holding.

A10.1.4. Radio Procedures.

A10.1.5. Formation.

A10.1.6. Sequence of Events.

A10.1.7. Pattern Procedures.

A10.1.8. Aircraft fallout plan.

A10.1.9. Rejoin on range for late takeoffs.

**A10.2. Employment Procedures, Techniques.**

A10.2.1. Avionics Setup, Switch Positions.

A10.2.1.1. Weapons Switchology, Delivery Mode.

A10.2.1.2. Radar Switchology.

A10.2.1.3. Special Weapons Switchology.

A10.2.2. System Deliveries.

A10.2.2.1. Ground track, Altitude, Airspeed.

A10.2.2.2. Delivery Spacing.

A10.2.2.3. Radar, Optical Depiction (OAP/TGT).

A10.2.2.4. Radar, Optical Tuning and Search Techniques.

A10.2.2.5. Pickle, Release Point.

A10.2.2.6. Safe Escape, Safe Separation Procedure.

A10.2.2.7. Backup Deliveries.

A10.2.3. Pop-Up to Dive Delivery.

A10.2.3.1. Entry Airspeed, Altitude.

A10.2.3.2. Pop Point, Pull-Up Angle, Power Setting.

A10.2.3.3. Target Acquisition.

A10.2.3.4. Pull Down, Apex Altitudes.

A10.2.3.5. Pattern Spacing and Corrections.

A10.2.4. Dive Delivery.

A10.2.4.1. Roll-In Position.

A10.2.4.2. Techniques (Pitch/Bank/Power).

A10.2.4.3. Roll-Out, Wind Effect.

A10.2.5. Dive Final.

A10.2.5.1. Aim-Off Distance.

A10.2.5.2. Dive Angle.

A10.2.5.3. Airspeed.

A10.2.5.4. HUD Depiction.

A10.2.5.5. Sight Picture, Corrections, Aim-Point.

A10.2.5.6. Release Parameters.

A10.2.5.7. Release Indications.

A10.2.5.8. Safe Escape, Safe Separation Procedure.

**A10.3. Special Procedures.**

A10.3.1. Live Ordnance Considerations.

A10.3.1.1. Fuse Arming, Safe Escape, Safe Separation.

A10.3.1.2. Frag Avoidance.

A10.3.2. Laser Operations.

**A10.4. Night Procedures.**

A10.4.1. Aircraft Lighting.

A10.4.2. Radio Calls.

A10.4.3. Target ID, Range Lighting.

A10.4.4. Night Spacing Techniques.

A10.4.5. Instrument Cross-check, Disorientation.

**A10.5. Over Water Range Operations.**

A10.5.1. Employment Techniques.

A10.5.1.1. Depth Perception, Reduced Visual Cues.

A10.5.1.2. Distance/Altitude Estimation.

A10.5.1.3. Pop-Up Positioning.

A10.5.1.3.1. Timing.

A10.5.1.3.2. Visual and System References to Establish Pull-Up Point.

A10.5.2. Special Considerations.

A10.5.2.1. Adjusted Minimum Altitudes.

A10.5.2.2. Training Rules, Special Operating Procedures.

**A10.6. Range Departure Procedures.**

A10.6.1. Armament Safety Checks.

A10.6.2. Rejoin.

A10.6.3. Battle Damage/Bomb Check.

A10.6.4. Jettison Procedures, Parameters.

A10.6.5. Hung/Unexpended Ordnance.

A10.6.6. Inadvertent Release.

A10.6.7. Gun Unsafe/Jam.

**ATTACHMENT 11****AIR-TO-SURFACE WEAPONS EMPLOYMENT BRIEFING GUIDE (SURFACE  
ATTACK TACTICS)****A11.1. General Mission Data.**

A11.1.1. Intelligence, Threat Scenario.

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