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Flying Operations

C-146A OPERATIONS PROCEDURES

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This manual implements Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*, Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and AFI 11-202, Vol 3, *General Flight Rules*. This Air Force Manual (AFMAN) establishes procedures for the operation of C-146A aircraft employed by Air Force Special Operations Command (AFSOC) to accomplish their worldwide operational and training missions. Instructions contained herein apply to AFSOC C-146A aircraft. It provides the most acceptable policies and procedures for most circumstances, but does not replace sound judgment. This manual does not apply to the Air National Guard (ANG). This publication does apply to Air Force Reserve (AFR) units. This manual requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Title 37 United States Code 301a *Incentive Pay*, Public Law 92-570, *Appropriations Act of 1973*, Public Law 93-294, *Aviation Career Incentive* 1974, Department of Defense Directive 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report, February 5, 1976, with Changes 1 and 2*, and Executive Order 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers.* The applicable System of Records Notice F011 AF XO A, Aviation Resource Management System (ARMS) is available at: **http://dpclo.defense.gov/Privacy/SORNs.aspx**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in

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SUMMARY OF CHANGES

This document has been substantially revised and must be thoroughly reviewed. Reformed guidance includes changes to: Command and control (C2) coordination, mission planning, in-flight operations and crew responsibilities, takeoff and landing guidance, landing zone operations, Aircraft Rescue and Firefighting (ARFF) requirements, advisory calls, and material security.

Chapter 1

ROLES AND RESPONSIBILITIES

1.1. General. This volume provides guidelines and restrictions for AFSOC C-146A aircraft. It is a compilation of information from aircraft flight manuals, flight information publications (FLIP), and other AF directives, and is an original source document for many areas. This volume supersedes all guidance in Air Force tactics, techniques, and procedures (AFTTP). It is written for normal and contingency operations to reduce procedural changes at the onset of contingencies. Training procedures are included. Headquarters (HQ) AFSOC Standardization/Evaluation (HQ AFSOC/A3V) has overall responsibility for the administration of this volume.

1.2. Applicability. This AFMAN is applicable to all individuals operating the C-146A. References to units, personnel, and aircraft in this manual include all forces operating the C-146A unless specifically exempted by this manual.

1.3. Key Definitions.

1.3.1. "Must" "Will" and "Shall" indicate a mandatory requirement.

1.3.2. "Should" indicates a recommended procedure.

1.3.3. "May" indicates an acceptable or suggested means of accomplishment.

1.3.4. "*WARNING*" indicates operating procedures, techniques, etc., which will result in personal injury or loss of life if not carefully followed.

1.3.5. "*CAUTION*" indicates operating procedures, techniques, etc., which will result in damage to equipment if not carefully followed.

1.3.6. "Note" indicates operating procedures, techniques, etc., which are essential to emphasize.

1.3.7. See **Attachment 1**, Glossary of References and Supporting Information for additional terms, definitions, and references.

1.4. Deviations and Waivers. Do not deviate from the guidance in this AFMAN except when the situation demands immediate action to ensure safety.

1.4.1. Although this publication provides guidance for aircraft operations under most circumstances, it is not a substitute for sound judgment. When it is necessary to protect the crew and aircraft from a situation not covered by this manual and immediate action is required, the pilot in command (PIC) has ultimate authority and responsibility for the course of action to be taken. Report all deviations or exceptions to this manual without a waiver through channels to HQ AFSOC/A3. **(T-2).**

1.4.2. Unless otherwise indicated, HQ AFSOC/A3 is the waiver authority for operational procedure requirements contained in this manual. HQ AFSOC/A3 may delegate this authority to the Commander Air Force Special Operations Forces (COMAFSOF) for operationally assigned Special Operations Forces (SOF). Request waivers to this manual through proper command and control channels. **(T-2)**.

1.4.3. Waivers. Waiver authority for the contents of this document is AF/A3T, with the exception of T-0 compliance terms and operational procedure requirements. In accordance

with AFI 11-202, Vol 2 *Aircrew Standardization/Evaluation Program*, the Major Command (MAJCOM)/A3 is the waiver authority for individual aircrew requirements on a case-by-case basis, but the MAJCOM/A3 may not approve blanket or group (two or more aircrew) waivers. Waiver requests should be submitted through MAJCOM Standardization and Evaluation (A3V) channels to the A3 director. As applicable, MAJCOM/A3 will forward requests to AF/A3T, with an info copy to AF/A3TS

1.5. Supplements. Supplements or Local Procedures will not duplicate or be less restrictive than the provisions of this manual or any other publication without prior authorization from HQ AFSOC/A3V. Forward supplements to HQ AFSOC/A3V for approval before publication. File supplements according to Air Force Instruction (AFI) 33-360, *Publications and Forms Management*. **(T-2)**.

1.5.1. Units may supplement this manual. The purpose of the unit supplement is to document the process by which units implement the requirements of this manual. Post the unit supplement behind the basic manual and MAJCOM supplement.

1.5.2. Local Procedures Coordination Process. Units will send one copy of **Chapter 10** (Local Procedures) supplements to HQ AFSOC/A3V for validation. **(T-2)**.

1.6. Development of New Equipment and Procedures. Units are encouraged to suggest new equipment, methods, tactics and procedures for training and worldwide operational missions. Coordinate these requirements through AFSOC/A3T.

1.7. Format. In order to adequately provide guidance for C-146A operations without restricting the overall mission, general operating procedures and administrative guidelines are presented in **Chapters 1** through **9**; local operating procedures or guidelines in **Chapter 10**; and operational forms and reports in **Chapter 11**. There is no substitute for sound judgment and the absence of guidance in this AFMAN does not constitute approval for operations that fall outside the realm of safe and sound decisions.

Chapter 2

COMMAND AND CONTROL (C2)

2.1. General. The AFSOC C2 system is based on the principles of centralized monitoring and decentralized command, control and execution. The result is a C2 mechanism which keeps the AFSOC/CC informed of the current status of AFSOC forces while enabling the wing/CC (Wg/CC), group commander (Gp/CC), or squadron/CC (Sq/CC) to exercise control over the day-to-day operations.

2.2. Operational Control (OPCON). AFSOC, as the service component to United States Special Operations Command (USSOCOM), exercises OPCON of continental United States (CONUS) based forces. When deployed, the Geographic Combatant Commanders generally exercise OPCON of the theater special operations command (TSOC) to which AFSOC assets are assigned. **Exception:** In practice, responsibility for planning and executing AFSOC missions is routinely delegated to the Wg/CC or Gp/CC. The Wg/CC or Gp/CC, in turn, exercises control of non-close-hold missions through command post supporting wing or group. In the event that assigned forces undergo a change in operation control (CHOP), responsibility for mission monitoring passes from the wing or group C2 facility to the gaining command. Changeover will be accomplished in accordance with the pertinent operational plan (OPLAN), operational order (OPORD), deployment order (DEPORD), or execution order (EXORD). **Note:** For certain close-hold activities, security considerations may compel the Wing or Group Commander to shift mission monitoring responsibilities from the command post to another wing, group, or theater agency. The Wg/CC or Group/CC will ensure procedures are established for the responsible agency to monitor mission progress and advise the HQ AFSOC/A3 or COMAFSOF as appropriate. **(T-2)**.

2.3. Mission Monitoring. AFSOC Wing (or equivalent) command posts are the focal point for all assigned, non-CHOPed, not-close-hold aircraft flight and mission monitoring. Command post accomplishes this via the Air Mobility Command (AMC) C2 system, direct reporting from aircrew and communication from other command posts. Key components of the AMC C2 system are the Airlift Implementation and Monitoring System (AIMS), the Global Decision Support System (GDSS), and various AMC C2 facilities at theater and other wing locations. Wings input AIMS data for all upcoming missions except local missions not scheduled to land outside the local flying area or close-hold missions. When aircraft are deployed in support of operations and exercises, the Command Post obtains additional information from Situation Reports (SITREP) and Deployed Status Reports (DSR). The wing command posts keep the AFSOC Operations Center informed on all non-CHOPed aircraft moving to, from, or between off-station locations. The following mission monitoring procedures primarily apply to missions that are not close-hold in nature and have not been CHOPed to another C2 agency:

2.3.1. Wing (or equivalent) command posts track continental CONUS movements of their aircraft and directly input mission information into the GDSS. These actions keep the MAJCOM/CC informed of the status and location of CONUS forces.

2.3.2. Information on outside continental United States (OCONUS) movement of AFSOC aircraft (CONUS or theater-based) comes to the AFSOC Command Center via GDSS and telephone/fax/e-mail notification directly from the host unit command posts.

2.3.3. CONUS-based crews operating within the CONUS must keep their home station command posts apprised of all actual takeoff and landing times, projected takeoff times, and other related information.

2.3.4. Unclassified missions at bases without an AMC C2 facility. The mission commander (MC) or PIC will report, as soon as possible, actual takeoff and landing times, maintenance status, projected takeoff times, and other pertinent data to their wing command post. **(T-2).** Methods of communicating this information include aircraft mission communication systems, high frequency (HF) phone patch, Defense Switched Network (DSN), e-mail, fax, and commercial telephone. CONUS-based crews operating within the CONUS must also ensure that their home station command posts receive real-time reports on aircraft movements. **(T-2)**.

2.3.5. Close-hold or Sensitive Missions. These missions may operate without AIMS setups. Reference the note preceding this paragraph.

2.4. Mission Commander (MC). A MC will be designated when more than one aircraft or crew are deployed away from home station for training, exercises, or other operations **(T-2)**. Designated MCs must have attended the Special Operations Air Warfare Center (SOAWC) Mission Commanders Course **(T-3)**. The MC will be a mission ready aircraft commander (AC) and should not be used as a primary crew member. **(T-3)**. In cases where it is necessary for the MC to fly, ensure a senior unit member or designated representative is delegated to fulfill MC duties. The MC's responsibilities include, but are not limited to:

2.4.1. Briefing crews on local operating procedures.

2.4.2. Coordinating with air traffic control (ATC), combat control teams (CCT), special tactics squadron (STS) teams, range control, users, and other agencies that may have an impact on the mission.

2.4.3. Ensuring landing zones (LZ) have current surveys (when necessary).

2.4.4. Ensuring personnel have ample and adequate billeting, eating, and transportation arrangements.

2.4.5. Ensuring maintenance personnel know of aircraft and fuel requirements.

2.4.6. Submitting timely reports on aircraft movements and mission SITREP.

2.5. Pilot in Command Responsibility and Authority. AF Form 4327A, *Crew Flight Authorization (FA),* designates a PIC for all flights. The PIC is:

2.5.1. In command of all persons aboard the aircraft.

2.5.2. Responsible for the welfare of their crew, mission essential personnel (MEP), passengers, and the safe accomplishment of the mission.

2.5.3. Vested with the authority necessary to manage the crew and accomplish the mission.

2.5.4. The final mission authority and will make decisions not specifically assigned to a higher authority.

2.5.5. The final authority for accepting a waiver affecting the crew or mission.

2.5.6. Charged with keeping the applicable commander informed of mission progress and difficulties.

2.5.7. Responsible for the timely reporting of aircraft movements in the absence of a MC.

2.6. Mission Clearance Decision. The final decision to delay a mission may be made either by the agency with OPCON or the PIC when, in the opinion of either, conditions are not safe to start or continue a mission. Final responsibility for the safe conduct of the mission rests with the PIC. If the PIC refuses a mission, it will not depart until the conditions have been corrected or improved so that the mission can operate safely. Another PIC and aircrew will not be alerted to take the same mission under the same conditions. **(T-2)**.

2.6.1. Diverting or rerouting a mission should be authorized by the commander with OPCON, except in an emergency or when required by en route or terminal weather conditions or facilities. In the event of an emergency or weather-related divert or reroute, the MC or PIC must notify the controlling authority as soon as possible. **(T-2)**.

2.6.2. The controlling agency directing the diversion or rerouting will ensure destination requirements or facilities are adequate for the aircraft and aircrew. **(T-2)**.

2.6.3. The PIC will notify the controlling agency of any aircraft or aircrew limitations that may preclude diverting or rerouting the mission. **(T-2)**.

2.6.4. When directing an aircraft to an alternate airfield, the controlling agency will ensure the PIC is provided existing and forecasted weather for the alternate. **(T-2)**. If the planned alternate is unsuitable upon arrival at destination, the controlling agency will advise the PIC of other suitable alternates. **(T-2)**.

2.7. Civilian Law Enforcement Support. It is the policy of the Department of Defense (DoD) to cooperate with civilian law enforcement officials to the maximum extent practicable. AFI 10-801, *Defense Support of Civil Authorities (DCSA)*, incorporates the appropriate direction and provides uniform policies and procedures service members must follow when supporting federal, state, and local civilian law enforcement agencies. It establishes specific limitations and restrictions on the use of Air Force personnel, equipment, facilities, and services by civilian law enforcement organizations. ACs or their designees will report all requests for assistance and coordinate all requests from civilian law enforcement authorities through the appropriate C2 channels. **(T-0)**.

Chapter 3

AIRCREW COMPLEMENT AND MANAGEMENT

3.1. Aircrew Qualification. Each person assigned as a primary crew member must be qualified or in training for qualification in that crew position and mission. **(T-2)**.

3.1.1. Basic proficiency aircrew members may perform primary crew duties on any non-mission sortie and on mission sorties (including unilateral training, joint training, and exercises) when receiving mission qualification training or evaluations under the supervision of a qualified instructor or flight examiner in their respective crew position. **(T-2)**.

3.1.2. Noncurrent (NC) or unqualified (UNQ) aircrew members may perform crew duties only under the supervision of a qualified instructor or flight examiner in their respective crew position. **(T-2)**. Refer to AFI 11-401, *Aviation Management,* for guidance on transporting passengers with NC or UNQ aircrew members.

3.2. Crew Complement. The minimum crew complement for flight operations is two pilots and one loadmaster (LM). **(T-3)**. During cases when no LM is available, the minimum crew complement is two pilots. **(T-2)**. The squadron commander or deployed mission commander is the approval authority for such operations.

3.2.1. A minimum of two pilots and one LM is required when carrying more than 10 passengers. **(T-3)**.

3.2.2. A LM is not required for engine ground runs.

3.2.3. Additional Crew Members. Additional aircrew members assigned in addition to the normal aircrew complement required for a mission, will travel in MEP status. **(T-2)**. See AFI 11-401, AFSOC Sup, *Aviation Management*. The PIC or designated representative will brief all MEPs on emergency procedures, egress, and appropriate flight crew information file (FCIF) items. **(T-2)**. MEPs will possess a security clearance appropriate to the mission being performed. **(T-2)**.

3.2.4. Other United States (US) military service members performing duties on Air Force aircraft. Reference AFI 11-401, AFSOC Sup.

3.3. Interfly. Interfly is the exchange and/or substitution of aircrew and/or aircraft between MAJCOMs to accomplish flying missions.

3.3.1. HQ AFSOC/A4RX maintains current memorandum of agreements (MOA) between AFSOC, Air Force Reserve (AFR), Air Force Material Command (AFMC), Air Education and Training Command (AETC), and Air Combat Command (ACC) for interfly using AFSOC-assigned aircraft. Unless specified in the MOA:

3.3.1.1. Aircraft ownership will not be transferred. **(T-2)**.

3.3.1.2. The operational squadron will prepare and sign AFSOC/AFRC/AETC flight orders. **(T-2)**.

3.3.1.3. As a minimum, aircrews will be qualified in the C-146A, as well as systems or configuration required to fly the aircraft and/or mission. **(T-2)**. If noncurrent, comply with **Paragraph 3.1.2**.

3.3.1.4. All aircrew will follow operational procedures defined in this manual and aircraft operating handbook (AOH) procedures. **(T-2)**.

3.3.1.5. Flight and ground mishap reporting responsibility will be handled in accordance with AFI 91-204, *Safety Investigation and Hazard Reporting.* **(T-2)**.

3.3.2. Waiver Authority.

3.3.2.1. With a valid MOA. OG/CC or COMAFSOF is the approval authority for interfly on AFSOC aircraft under their control. **(T-2)**.

3.3.2.2. No MOA/expired MOA. HQ AFSOC/A3 is the approval authority for interfly on AFSOC aircraft. **(T-2)**.

3.3.2.3. Contingency operations must be approved by both HQ AFSOC/A3 and respective MAJCOM/A3. **(T-2)**.

3.4. Intrafly. Intrafly is the exchange and/or substitution of aircrew members from separate units under the same MAJCOM to accomplish flying missions.

3.4.1. The OG/CC or COMAFSOF is the approval authority for intrafly of AFSOC crew members on nonstandard Aviation (NSAv) aircraft under OG/CC or COMAFSOF control.

3.4.2. In all cases, the aircrew must be current and qualified in the aircraft, systems, configuration, and mission being flown. **(T-2)**. If noncurrent, comply with **Paragraphs 3.1.2**.

3.5. Flight Duty Periods (FDP). Reference AFI 11-202, Vol 3, AFSOC Sup, *General Flight Rules*. FDP does not include post-mission administrative duties.

3.5.1. Aircraft operated by the C-146A units are considered transport aircraft and will comply with flight duty period (FDP) criteria outlined in AFI 11-202, Vol 3, and AFSOC Sup. **(T-2)**. The basic FDP is 16 hours provided no training events or maintenance ground runs are accomplished after 12 hours. **(T-2)**. Fully qualified and current aircrew must occupy duty stations past 12 hours. **(T-2)**.

3.6. Crew Rest. Refer to AFI 11-202, Vol 3, AFSOC Sup.

3.7. Alert Duty. Refer to AFI 11-202, Vol 3, AFSOC Sup, for alert FDP guidance.

3.7.1. Give alert aircrews a general briefing at the beginning of each alert period. **(T-3)**. Update the briefing every 24 hours to include weather, local notice to airman (NOTAM), latest FCIF information, and special instructions. **(T-3)**.

3.7.2. Alert aircrews will prepare a weight and balance for the alert aircraft and compute takeoff and landing data (TOLD) using the existing weather conditions for the alerted time of takeoff. **(T-2)**

3.7.3. When an alert crew change occurs and the same aircraft remains on alert, the oncoming alert crew will complete a face-to-face turnover and review the aircraft forms for the aircraft. **(T-2).** If unable to accomplish a face-to-face turnover, accomplish a preflight.

Chapter 4

AIRCRAFT OPERATING GUIDELINES

4.1. Objectives. This chapter provides guidance on how to operate with degraded equipment and systems. If the PIC elects to operate with degraded equipment or aircraft systems, the PIC will coordinate mission requirements (i.e., revised departure times, fuel requirements, maintenance requirements, etc.) prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions. Refer to the aircraft Master Minimum Equipment List (MMEL) for aircraft systems and equipment required for operations.

4.2. Degraded Equipment and Degraded Aircraft Systems. The final responsibility regarding equipment required for a mission rests with the PIC. If one crew accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that crew, or a different crew, to accept subsequent operations with the same item or system inoperative. When the PIC considers an item essential, designate the component Mission Essential (ME) on the aircraft maintenance forms; the item will be repaired or replaced by maintenance personnel prior to departure. **(T-2)**.

4.2.1. The PIC is the approval authority for operations with degraded equipment within the guidelines of the aircraft MMEL and minimum equipment subsystems list (MESL). Operating outside of the aircraft MMEL guidelines requires Group/CC or COMAFSOF approval. For contingency operations, when communication issues prevent any possibility of a waiver request, the PIC is the approval authority for operating outside the aircraft MMEL guidelines but must notify the chain of command of the situation as soon as conditions permit. **(T-2)**.

4.2.2. One-time Flights. An aircraft may be released by maintenance personnel for a one-time flight with a condition that might be hazardous for continued use provided the aircraft is airworthy for one flight to another station. **(T-2)**. A one-time flight is defined as a required flight to a final destination including required fuel stops. **(T-2).**

4.2.2.1. The squadron commander, chief of maintenance, MC, or deployed maintenance representative must authorize this release. **(T-2)**.

4.2.2.2. The OG/CC or COMAFSOF must authorize the flight after maintenance has released the aircraft for flight operations. **(T-2)**.

4.2.2.3. The maintenance release, OG/CC or COMAFSOF approval, and the PIC's concurrence are all required before the aircraft can be flown to the specified repair destination. **(T-2)**.

4.3. Degraded Systems

4.3.1. Pressurization and/or air-conditioning systems. Pressurization and/or the air-conditioning system should be operational if patients are carried. If a system fails at an en route stop, the mission may continue (coordinate with the senior medical crew member when patients are carried) to a destination with repair capability. Required en route stops with inoperative pressurization and/or air-conditioning systems are authorized. The PIC will brief passengers and patients on the possibility of personal discomfort. **(T-2)**.

4.3.2. Retractable Landing Gear System. If a landing gear malfunction is encountered, only a full stop landing will be made. **(T-2)**. The discrepancy will be corrected prior to the next flight.

(T-2). **Exception:** If repair capability does not exist and a positive determination is made that further flight can be accomplished with the gear down and locked, the aircraft may be flown to a destination where repair capability exists provided the gear is not moved from the down and locked position. Required en route stops are authorized.

4.3.3. Radar. The weather mode radar must be operative for flights into areas of known or forecast thunderstorms. **(T-2)**.

Chapter 5

AIRCRAFT OPERATING PROCEDURES

5.1. Checklists. Accomplish all checklists with strict discipline. A checklist is not complete until all items have been accomplished. **(T-2)**.

5.1.1. The pilot flying (PF) will initiate all checklists unless the AOH or this manual establishes an alternate procedure. **(T-2)**.

5.1.2. Each aircrew member will use the HQ AFSOC/A3V approved checklist for the appropriate aircraft and duty position when conducting ground or flight operations. **(T-2)**. Self-prepared or "cheat sheet" checklists are not authorized for ground or flight usage. **(T-2)**.

5.1.3. Aircrews may modify HQ AFSOC/A3V-approved checklists with notes, amplifying procedures, and limits provided the checklist and notes are current. Currency of notes is the aircrew member's responsibility.

5.1.4. Before Landing Checklists. Aircrew will complete the Before Landing Checklist no lower than 200 feet (ft) above ground level (AGL). **(T-2)**.

5.2. Duty Stations. All aircrew members will be at their duty stations during all takeoffs, departures, approaches, and landings. **(T-2)**. During other phases of flight, aircrew members may leave their duty stations to meet physiological needs and perform normal crew duties. One pilot must be at their duty station at all times. **(T-2)**. Notify the AC prior to departing assigned primary duty station. **(T-2)**.

5.2.1. The LM's primary duty station is the jump seat for critical phases of flight. The AC may assign an alternate duty station for abnormal situations.

5.3. Seat Belts.

5.3.1. Crew members occupying a primary crew position will have seat belts fastened at all times. **(T-2). Exception:** Evaluators, instructors, or crew members performing required duties not on the flight deck will have a designated seat and required restraint available. **(T-2)**.

5.3.2. Occupants will fasten seat belts securely for all takeoffs and landings or as directed by the PIC. **(T-2)**.

5.3.3. Floor loading is authorized to support dedicated special operations forces team members or litter medical patients during contingencies, exercises, or training. The LM will ensure a tie-down strap is rigged for each row of passengers to provide forward restraint and body stability. **(T-2)**.

5.3.3.1. Alternate restraints will be secured prior to takeoff and will not be removed until after landing unless required to meet physiological needs or perform mission related duties. **(T-2)**.

5.3.3.2. Accomplish alternate passenger restraints by one of the following methods in descending order of preference:

5.3.3.2.1. Seatbelts or snap links attached to tie-down rings on the cabin floor.

5.3.3.2.2. Five thousand (5,000) pound tie-down straps.

5.4. Aircraft Control. A qualified pilot will be at a set of flight controls during all phases of flight. **(T-2)**. Pilot in-flight seat swaps may be accomplished above 1,000 ft AGL.

5.5. Takeoff and Landing Guidance.

5.5.1. The PIC should land the aircraft during:

5.5.1.1. Aircraft emergencies unless conditions prevent compliance.

5.5.1.2. Missions with patients on board the aircraft.

5.5.1.3. Missions with distinguished visitor (DV) 4 or higher on board the aircraft.

5.5.1.4. During missions operating in areas of hostile airspace. For units operating in defined combat zones, Squadron commander (SQ/CC) or deployed equivalent (with G-series orders) may authorize landing from the right seat at specific airfields. **EXCEPTION**: Main operating bases with an instrument approach do not require approval if the instrument approach is flown.

5.5.2. A qualified mission pilot (MP), instructor pilot (IP), or evaluator pilot (EP) may takeoff or land from either seat. Any combination of mission events is permissible (i.e., short field, semi-prepared and/or NVGs). **(T-2)**.

5.5.3. Co-pilots (CPs) are only permitted to conduct pilot not flying (PNF) duties for short field operations. **(T-3)**. CPs can conduct short field procedures on a simulated short field as the PF with an IP at a set of controls.

5.5.4. Unless further restricted by this volume, the crosswind limitation for all C-146A takeoff and landing operations is 21 KTS. **(T-3)**.

5.5.5. Gust Factor Correction. Whenever real-time weather source is available a gust factor correction will be utilized. Add half of the gust increment not to exceed 10 knots to V_R, approach speed (V_{REF} + 10) and V_{REF}. **(T-3)**.

5.5.6. After Landing Checklist. Aircrews should not perform the After Landing Checklist until clear of the active runway and the aircraft has slowed to a safe speed. This includes the gust lock lever.

5.5.7. After landing, the LM will remain seated until the aircraft has taxied clear of the runway, at which point the LM may leave the jump seat to perform duties for the After Landing Checklist. **(T-2)**.

5.6. Aircraft Taxi Obstruction Clearance Criteria. In addition to the requirements of AFI 11-218, *Aircraft Operations and Movement on the Ground,* comply with the following:

5.6.1. Without wing walkers, avoid taxi obstructions by at least 25 ft; with wing walkers, avoid taxi obstructions by at least 10 ft. **(T-2)**. **Exception:** When operating at a civilian airport and taxiing on a fixed based operator (FBO) ramp, the PIC may taxi the aircraft within 25 ft of obstacles or other aircraft without wing walkers when using marked taxi routes. **(T-2)**. The PIC will comply with marshaller instructions. **(T-2)**. Taxi routes must be used by similar types of aircraft for which the routes were designed and in specifically designed parking spots. **(T-2)**. Support equipment shall be located in appropriately designated areas. **(T-2)**. In austere locations where wing walkers and taxi lines do not exist and obstacle distances are

questionable, the PIC must use good crew coordination and sound judgment to effectively mitigate risk to the aircraft. **(T-2)**.

5.6.2. Do not taxi aircraft closer than 10 ft to any obstacle. **(T-2)**.

5.6.3. When taxi clearance is doubtful, use a wing walker. If wing walkers are unavailable or if provided and doubt still exists as to proper clearance, deplane a crew member to maintain obstruction clearance. **(T-2)**.

5.7. Takeoff and Landing Runway Criteria.

5.7.1. PICs will comply with the airfield suitability and restrictions report (ASRR) requirements prior to operating at airfields classified as "special PIC airports" or "certification airfields" by the ASRR. **(T-2)**. Refer to AFI 11-202, Vol 3, AFSOC Sup, for information on ASRR waiver authority.

5.7.2. Runway Requirements.

5.7.2.1. Taxiway width. Minimum width for all operations is 22 ft. **(T-2)**.

5.7.2.2. Runway width. Minimum width for normal operations is 35 ft. **(T-2)**.

5.7.2.2.1. Minimum runway width for narrow field operations is 22 ft. **Note:** Approval authority for operations with less than 35 ft runway width is the squadron commander or Joint Special Operations Air Component (JSOAC) commander for deployed operations. **Note:** Operations on runways with widths less than the minimum turn radius of 47 ft 6 inches require an additional level of risk management.

5.7.2.2.2. Runways narrower than the minimum turn radius will require the crew to accomplish star turns or other procedures to reposition the aircraft for departure. Crews must also consider the distance from the nose landing gear to the main landing gear (24 ft 4 inches) when attempting turnarounds.

5.7.3. Normal Operations:

5.7.3.1. Takeoff and Landing. Minimum runway length is the greater of takeoff distance (TOD) or accelerate-stop distance (ASD). **(T-2)**.

5.7.3.2. Touch-and-go operations. A touch-and-go will not be continued unless sufficient touch-and-go distance remains. **(T-2)**. A minimum of 6,000 ft of runway is required for Flaps 20 touch-and-go landings. **(T-2)**. A minimum of 7,000 ft of runway is required for zero-flap or Flaps 32 touch-and-go landings. **(T-2)**.

5.7.3.2.1. Touch-and-go distance is defined as Flaps 12 landing distance plus 1,000 ft prior to takeoff power application. **(T-2)**.

5.7.3.2.2. Runway length permitting, it is acceptable to use reduced power settings for takeoff after a touch and go. Do not set torque less than 10% below the takeoff torque bugs. **(T-2)**.

5.7.3.2.3. If an emergency affecting the safety of flight occurs prior to the pilot not flying (PNF) calling "Throttles," the touch and go should be rejected.

5.7.3.2.4. If the malfunction occurs after the "Throttles," call, the PIC will determine whether or not to continue the touch and go. **(T-2)**. This decision should consider flap

setting, airspeed and distance remaining and the nature of the emergency. Once the PNF calls "rotate" the crew will treat the situation as an emergency during takeoff and after V1. **(T-2)**.

5.7.3.3. Stop-and-go operations. Available runway distance remaining after stopping the aircraft will be at least TOD or ASD, whichever is greater. **(T-2)**. If the runway remaining is less, taxi the aircraft to achieve the required distance. **(T-2)**.

5.7.4. Short field operations:

5.7.4.1. Takeoff. Minimum runway length for a short field takeoff is the greater distance of: takeoff ground roll (TOGR) + 10% of TOGR, ASD, or 2,000 ft. **(T-2)**.

5.7.4.1.1. Calculate values for TOGR at KVS 1.13 and V1/VR = 1.0.

5.7.4.1.2. Calculate values for ASD at KVS 1.13 and V1/VR = 0.85

5.7.4.2. Landing. Minimum runway length for a short field landing is the greater distance of landing ground roll (LGR) + 10% of LGR or 2,000 ft. **(T-2)**. ***CAUTION*:** Landing at an airfield based on LGR may not provide the aircrew with the required takeoff ground roll without off-loading passengers, cargo, or fuel.

5.7.4.3. Short Field Stop-and-Go Operations. Short field stop-and-go operations are not authorized. **(T-2)**. If a landing is conducted and sufficient distance does not remain to conduct a normal takeoff, taxi the aircraft back until sufficient distance allows using normal takeoff procedures. **(T-2)**.

5.7.5. Semi-prepared surface operations:

5.7.5.1. Semi-prepared surfaces are defined in AFI 13-217, AFSOC Sup, *Drop Zone and Landing Zone Operations*.

5.7.5.1.1. Pilots will only perform stop-and-go or full stop landings on semi-prepared surfaces. **(T-2)**.

5.8. Landing Gear and Flap Operation.

5.8.1. The PNF will operate the landing gear. **(T-2)**. Actuate the landing gear upon command of the pilot flying (PF). Prior to actuation of the landing gear, the PNF will acknowledge the PF command by repeating the command. **(T-2)**.

5.8.2. The flaps will be actuated by the PNF, upon command of the PF. **(T-2)**.

5.8.3. Unless an emergency situation dictates otherwise, zero-flap takeoffs are prohibited. **(T-2)**.

5.9. Aircraft Navigation Systems.

5.9.1. Global Positioning System (GPS) approaches. The C-146A is approved to use GPS for navigation during en route operations and terminal procedures to include area navigation (RNAV) arrivals and departures and RNAV instrument approaches down to localizer performance with vertical guidance (LPV) minima on properly equipped and certified aircraft. Navigational aids (NAVAIDS) will be used for backup when available. **(T-2)**. Refer to AFI 11-202, Vol 3 AFSOC Sup, AFMAN 11-217, Vol 1, *Instrument Flight Procedures*, and C-146A AOH guidance for procedures and limitations.

5.9.2. LPV Minima Approaches. C-146A aircrew are authorized to perform LPV minima approaches on appropriately equipped Block 20+ aircraft in both instrument meteorological conditions (IMC) and visual meteorological conditions (VMC) conditions. Aircrew will comply with the following guidance to ensure safe operation of the aircraft during these type approaches. **(T-2)**.

5.9.2.1. LPV indications are readily visible on respective primary flight display (PFD) for PF, to include:

5.9.2.1.1. Green "LPV" annunciator on the primary functional display (PFD) once approach is captured.

5.9.2.1.2. Synthetic Vision System (SVS) imagery displayed (if onside flight management system (FMS) is solely configured for LPV).

5.9.2.2. GNSSU Failure. If both FMS are configured for LPV minima during a GNSSU failure, crews should expect:

5.9.2.2.1. Loss of SVS imagery.

5.9.2.2.2. Amber "MSG" annunciator on the FMS.

5.9.2.2.3. "GPS 1 (or 2) FAILED" message on the control display unit (CDU) for the respective FMS. **NOTE:** the AP will NOT automatically disengage during a coupled approach should a single GNSSU fail with both FMS configured for LPV minima.

5.9.2.3. Aircrew must 1) terminate the approach, or 2) revert to minimum descent altitude (MDA) minima, if any of the following occur: **(T-2)**.

5.9.2.3.1. Green "LPV" annunciator on PF's PFD is replaced by required navigation performance (RNP) symbology.

5.9.2.3.2. Green "LPV" annunciator on PF's PFD is removed from PFD.

5.9.2.3.3. Green "LPV" annunciator on PF's PFD is replaced with amber "LPV" annunciator.

5.9.2.3.4. "GPS 1 (or GPS 2) FAIL" message appears on the CDU for the respective FMS.

5.9.2.3.5. SVS imagery is lost on the PF's PFD (if onside FMS is solely configured for LPV minima).

5.10. Aircraft Lighting.

5.10.1. Operate aircraft lighting in accordance with AFI 11-202, Vol 3, AFSOC Sup, and AFI 11-218, except when in compliance with contingency requirements or guidance. **(T-2)**.

5.10.2. During NVG training operations, the aircrew may turn off all aircraft lighting when on final approach for landing within two nautical miles of touchdown zone, on the landing surface, and immediately after takeoff. For contingency operations, aircrew may turn off all lights as required for mission accomplishment. For all other areas of NVG operations, aircrew will comply with AFI 11-202, Vol 3, AFSOC Sup. **(T-2)**.

5.11. Advisory Calls During Instrument Flight Rules (IFR) Operations. The following are mandatory altitude calls made by the PNF:

5.11.1. Non-precision Approaches.

5.11.1.1. "Minimums" at minimum descent altitude (MDA). **(T-3)**.

5.11.1.2. "Runway in sight" when the runway environment is in sight and the aircraft is in a position to execute a safe landing. **(T-3)**.

5.11.1.3. "Go-around" at or below MDA or at the missed approach point and the runway environment is not in sight, when the aircraft is not in a position to execute a safe landing, when directed by ATC facility, or conditions on the runway will not allow a safe landing (e.g., personnel, equipment, or aircraft on the runway). **(T-3)**.

5.11.1.4. Precision Approaches.

5.11.2. "Continue" at decision height (DH) with approach light system visible and the aircraft is in a position to execute a safe landing. **(T-3)**.

5.11.2.1. "Land" at DH with the runway environment in sight and the aircraft is in a position to execute a safe landing. **(T-3)**.

5.11.2.2. "Go-around" at or below DH and the runway environment is not in sight or if the aircraft is not in a position to execute a safe landing, when directed by ATC facility, or conditions on the runway will not allow a safe landing (e.g., personnel, equipment, or aircraft on the runway). **(T-3)**.

5.11.3. Altimeter settings. Both pilots will state and set the altimeter setting as issued by ATC, weather reporting facilities (automatic terminal information service (ATIS), automated weather observation system (AWOS), automated surface observing system (ASOS), etc.), or when passing a transition level or altitude (e.g., Flight Level 180). **(T-2)**.

5.11.4. Deviations.

5.11.4.1. Any crew member will immediately advise the PF when observing unannounced heading deviations greater than 10 degrees, airspeed deviations of 10 knots, altitude deviations of 100 ft during approach or 200 ft while en route, 1 dot lateral or vertical deviation from the assigned or selected course after being previously established, or potential terrain or obstruction problems and no attempt is being made by the PF to correct the deviation. **(T-2)**.

5.11.4.2. Any aircrew member will announce deviations from prescribed procedures for the approach being flown to the PF when no attempt is being made to correct the deviation. **(T-2)**.

5.12. Communications Guidance. The PIC will determine communication requirements during mission planning. **(T-2)**. Ensure all mission frequencies, cryptologic data, mission radio configuration, and mission radio monitoring responsibilities are outlined during the preflight briefing. **(T-2)**.

5.13. Landing Zone (LZ) Operations and Criteria.

5.13.1. Aircrews may conduct operations at airfields and landing zones as defined in AFI 13-217 AFSOC Sup, *Drop Zone and Landing Zone Operations*. For LZ suitability requirements refer to the applicable takeoff and landing guidance within this volume (**Chapter 5**), aircraft operating limitations, and performance charts found within the AOH.

5.13.2. All LZs must be surveyed and approved in accordance with AFI 13-217, AFSOC Sup. **(T-2)**.

5.13.3. The LZ program is a squadron tactics function. The squadron tactics office must ensure surveys are conducted and updated in accordance with AFI 13-217, AFSOC Sup, and the procedures below. **(T-3)**. It is the responsibility of all aircrew and/or ground personnel to notify the point of contact (POC) for the squadron LZ survey program, in a timely manner, of any changes or discrepancies on existing surveys. **(T-2)**

5.13.4. The overt or covert markings and signals to be used during LZ operations will be established during mission planning and included in the aircrew briefing. **(T-2)**. Refer to AFI 13-217, AFSOC Sup, for LZ marking descriptions.

5.13.5. Navigating to Landing Zones. Some missions may require operations into unmarked and uncontrolled LZs. Mission effectiveness depends upon detailed intelligence, extensive aircrew planning and study, precision en route navigation and time control, accurate and timely LZ recognition, and positive aircrew coordination.

5.13.6. Landing Zone Arrival Procedures (LZAP). LZAPs may be developed and flown upon initial arrival to LZs or airfields without compatible instrument approaches. LZAPs should be considered in low illumination, low contrast, or AMP-4 LZ lighting configurations.

5.13.6.1. Weather minimums. All LZAPs must be flown in visual meteorological conditions (VMC). **(T-2)**.

5.13.6.2. LZAP Construction. Crews will conduct a thorough terrain analysis via sectional, TPC, JOG, or Google Earth imagery with incorporated NGA DVOF data. **(T-2)**. Other imagery may be used for increased situational awareness but shall not be used as the sole source of terrain/obstacle data. **(T-2)**. Crews will calculate a MSA by adding 500 feet to the highest obstacle within a 5 mile radius from the runway center point. **(T-3)**. An ESA will be calculated by adding 1000 feet, rounded to the next highest 100 foot increment, to the highest obstacle within a 10 mile radius from the runway center point. **(T-3)**. Additionally, crews will identify and brief specific Go-Around procedures. **(T-3)**.

5.13.6.3. At a minimum, crews will input the threshold coordinates into the FMS, derived from sources in **paragraph 5.13.6.2**, LZ survey, or the FMS database, and calculate a 2.5-5 degree glideslope depending on obstacles. **(T-3)**. Glideslope intercept should occur no later than 3 miles from the threshold to ensure a stabilized approach to landing. For lateral guidance, crews will extend the runway centerline or offset up to 30 degrees on either side of centerline to ensure obstacle clearance or to avoid sensitive areas. **(T-3)**. Refer to the AFTTP 3-3.C-146A for further instruction and techniques on terrain analysis.

5.14. Terminal Area Landing Procedures.

5.14.1. Initial Approach. When pre-mission intelligence requirements are not satisfied for LZs, additional maneuvering and reconnaissance may be required to accomplish a safe landing. Perform reconnaissance maneuvering with approach flaps. **Note:** If the PF determines that the actual touchdown point is going to be different than what was briefed, the PF must verbalize the updated touchdown point. **(T-2)**.

5.14.2. Do not land if the LZ is not properly identified or an abort signal is given. **(T-2)**.

5.14.3. Brief the ground party and subsequent aircrews on any unexpected hazards encountered during takeoff or landing. **(T-2)**.

5.14.4. If landing clearance or go-around signals are to be given via radio, two-way communications with the reception committee must be established prior to landing. **(T-2)**. If communications out procedures are used, presence of a pre-briefed signal constitutes clearance to land. A signal must be pre-briefed to direct a go-around. **(T-2)**. Radio clearance to land is the primary method when more than one aircraft is using the LZ. **(T-2)**.

5.15. Stabilized Approach

5.15.1. The following criteria apply to all approaches:

5.15.1.1. At 1000 ft above ground level (AGL):

5.15.1.1.1. Aircraft is in approach configuration. Circling configuration is acceptable for circling approaches. **Note:** In those cases where visual flight rules (VFR) traffic pattern is 1,000 ft AGL (as opposed to 1,500 ft), the aircraft will be configured for landing prior to commencing the base turn to final. For 32-flap landings, the aircraft shall be configured for landing no lower than 500 ft AGL. **(T-2)**.

5.15.1.1.2. Airspeed as appropriate for the configuration and conditions. **(T-2)**.

5.15.1.1.3. Sink rate is no greater than 1000 fpm. **Note:** Under certain conditions (weather, threats, terrain, etc.) some IAPs and tactical approaches may require greater than a 1000 fpm descent rate. **(T-2)**.

5.15.1.1.3.1. Non-Precision Approaches. Pilots should calculate a constant descent gradient profile from the FAF altitude to the visual descent point (VDP) in accordance with AFMAN 11-217, Vol 1. This is considered the safest profile and should be used to the maximum extent possible. During a go-around, ensure descent below the MDA does not occur. **(T-2)**.

5.15.1.1.4. All briefings and checklists are complete unless contrary to AOH guidance. **(T-2)**.

5.15.1.1.5. Aircraft is on the correct track.

5.15.1.1.6. Aircraft in the correct bank angle to maintain proper approach track for instrument, circling, or visual/tactical approach.

5.15.1.1.7. Power set to maintain the descent profile at approach speed.

5.15.1.1.8. If these criteria are not met by 1,000 ft AGL, the PNF will announce the deviation and the PF will take immediate corrective action. **(T-2)**. PNF states "1,000 xxxx," where "xxxx" equates to a concise description of the unstable characteristic(s) which clearly relay to the PF what actions are required to return the aircraft to a stable platform. Examples: "1,000, fast," or "1,000, half dot low". If criteria are met, PNF will simply state "1,000." **(T-2)**.

5.15.1.2. From 500 AGL to the runway, if these parameters are exceeded the PNF will announce "go-around" and the PF will execute a go-around/missed approach. **(T-2)**. If criteria for stable approach are met, the PNF will state "500." **(T-2)**.

5.15.1.2.1. Parameters are the same as those at 1,000 ft AGL.

5.15.1.3.1. Momentary minor corrections or deviations are acceptable and defined as:

5.15.1.3.1.1. Airspeed: +10/-5 knots indicated airspeed (KIAS) from target.

5.15.1.3.1.2. Bank Angle: ± 15°.

5.15.1.3.1.3. Rate of Descent: ± 300 fpm from target.

5.16. NVG Operations.

5.16.1. Aircrews may land at an LZ marked with any airfield marking pattern (AMP) configuration provided the pilots define identifiable touchdown and go-around points (e.g., visual point/location, timing past intended landing point, etc.) prior to landing. Refer to AFI 13-217, *Drop Zone and Landing Zone Operations* for AMP configurations. **(T-2).**

5.16.2. AMP-3 markings will consist of a box marked by four lights at the corners of the touchdown zone and a strobe will mark the end of the usable LZ surface or distance. **(T-2)**. The box width of the markings should be the width of the LZ up to 60 ft maximum. The box length should be 300 ft for both short field and non-short field procedures.

5.16.3. AMP-4 landings will have a clearly defined intended point of landing. **(T-2)**.

5.16.4. NVG go-around points will be briefed for all runways of intended landing. **(T-2)**.

5.16.5. The first crew member to positively identify an airfield of intended landing should notify the remaining crew by stating "airfield in sight." Subsequent crew members identifying the airfield should also state "airfield in sight," and confirm with the first crew member using clock position and approximate distances.

5.16.6. The following parameters will be used to announce deviations during NVG approaches and landing. **(T-2)**. These are in addition to the normal required callouts.

5.16.6.1. Rate of descent greater than 1000 vertical velocity indicator (VVI) within 1 mile of touchdown.

5.16.6.2. Airspeed +5 KIAS or -2 KIAS of planned approach speed or threshold crossing speed.

5.16.6.3. Aim point trends on final approach departing the intended landing zone.

5.17. Aircraft Rescue and Firefighting (ARFF) Requirements. Sq/CC or DO will establish aircraft incident procedures at local training airfields. Comply with local and MAJCOM restrictions (if applicable) and use the operation risk management (ORM) process to mitigate risk.

5.18. Reverse Taxi. ***CAUTION*:** Using brakes to stop the aircraft while reverse taxiing may result in aircraft empennage (tail assembly) contacting the ground.

5.18.1. The pilot performing reverse taxi operations will conduct a thorough reverse taxi briefing referencing the C-146A in flight guide (IFG). Briefings should include the following: Taxi speeds, obstacles, use of brakes, and communication procedures with the marshaller or loadmaster.

5.18.2. The LM or another crew member will be in a position to direct reverse taxi, report any hazards and provide the pilot with timely interphone instructions on turns, distance remaining, condition of the maneuvering area, and stopping point. **(T-2)**.

5.18.3. During night reverse taxi operations, the pilot will ensure visibility in the taxi area is sufficient to conduct safe taxi operations. **(T-2)**.

5.18.4. Stop no less than 25 ft from an obstruction even if using a wing walker. **(T-2)**.

5.18.5. Secure all cargo and ensure passengers are seated prior to reverse taxi operations. **(T-2)**.

5.19. Aircraft Maximum Operating Weight Policy. Waiver authority for operations above the maximum ramp, takeoff, or landing weights listed in the aircraft AOH is OG/CC or COMAFSOF. Waivers will be forwarded to HQ AFSOC/A3V for tracking purposes. **(T-2)**.

5.20. Operations Over Arresting Cables. Do not roll over arresting cables at high speed during taxi, takeoff, or landing to preclude damage to bottom of aircraft. **(T-2)**. ***CAUTION*:** Do not taxi over raised arresting cables when the gravel guard is installed on the nose wheel. **(T-2)**. Raised runway barriers are elevated above the runway surface using rubber "doughnuts."

5.21. Aircraft Recovery from Unprepared Surfaces. Aircrews should not attempt to recover an aircraft after inadvertent entry onto surfaces that are not suitable for taxi. Ground crews using appropriate equipment will normally recover the aircraft. Aircrews may recover the aircraft at austere locations if, after thorough inspection, the PIC is sure there is no aircraft damage and the surface will support the aircraft. **(T-2)**

5.22. Intersection Takeoffs. Normally, initiate takeoffs from the beginning of the runway. The decision to make intersection takeoffs rests solely with the AC. Base TOLD computations on the runway remaining at the point the takeoff is initiated. **(T-2).**

5.23. Engines Running Onload or Offload (ERO).

5.23.1. The ERO procedures in this paragraph may be used for any mix of personnel or cargo. Comply with all AOH limitations and checklists. **(T-2)**.

5.23.2. General Procedures:

5.23.2.1. The PIC will brief crew members on the intended ERO operation, emphasizing specific aircrew duties. **(T-2)**.

5.23.2.2. Complete passenger and cargo manifests, and weight and balance for the subsequent sortie if passengers or cargo are onloaded or downloaded. **(T-2)**.

5.23.2.3. After the aircraft is slowed to taxi speed, the crew may remove all tie-downs except one forward and one aft restraint. Remove remaining restraints only after the aircraft is stopped. **(T-2)**.

5.23.2.4. The LM will direct all onloading or offloading operations using pre-briefed signals. **(T-2)**. Other qualified crew members may assist the operation; however, the PIC and LM retain overall responsibility for the operation.

5.23.2.5. Passengers will be escorted by the LM when enplaning or deplaning. **(T-2)**.

5.24. Towing Operations.

5.24.1. Gear pins will be installed for all towing operations. **(T-2)**.

5.24.2. C-146A aircrew are permitted to participate in towing and pushback only when operationally necessary. Examples include required pushback at high density commercial

airports or when inadequate maintenance personnel are available for the tug, wing walkers, and brake rider. In these cases, the crew will coordinate the tow with Contract Logistical Support (CLS)/Maintenance (MX) before initiating. **(T-2)**. Whenever possible, aircrews will turn the aircraft back over to CLS/MX to tow and hanger the aircraft as part of routine operations. **(T-2)**.

5.25. Terrain Collision Avoidance System (TCAS) Operations.

5.25.1. Unless considerations dictate otherwise, the Pilot's TCAS should be placed in ABOVE and the CP's TCAS should be in BELOW.

5.25.2. The Transponder will be placed in the "ATC ALT" position as the default position prior to ground movement or when clear of the active runway after landing unless FLIP or local procedures dictate otherwise. **(T-2)**.

5.26. Operations above FL270. Aircrews are not restricted to flight duration limitations above FL270. Aircrews should continue to evaluate their performance with respect to atmospheric conditions to determine the appropriate altitudes to fly for fuel conservation and mission-specific requirements.

Chapter 6

GENERAL OPERATING PROCEDURES

Section 6A—Pre-mission

6.1. Aircrew Uniforms.

6.1.1. On all missions, wear the aircrew uniform and other flying clothing/equipment in accordance with AFI 11-301 Vol. 1, AFSOC Sup, Aircrew Flight Equipment (AFE) Program and AFI 36-2903, Dress and Personal Appearance of Air Force Personnel, or as directed for mission requirements. **(T-2).**

6.1.2. Aircrew will wear conservatively styled functional clothing that portrays a professional image. **(T-3).** Do not wear excessively tight or loose fitting clothing, or excessive logos or branding/styles. **(T-3).** Do not mix military clothing and functional clothing (boots, belts, backpacks, jackets, etc.). **(T-2).** While OCONUS, carry operational equipment (helmets, NVGs, flight equipment, etc.) in luggage transiting to/from the aircraft. **(T-3).**

6.1.2.1. Headgear: Hats and baseball caps are not authorized for wear with functional clothing. **(T-3).** Aircrew may wear solid colored beanies or similar headgear during inclement weather.

6.1.2.2. Shirts: Approved shirts will consist of cotton or at least 51% natural fiber material. **(T-2).** Pastel shirts are not authorized, and shirts will be collared and solid-colored. **(T-3).**

6.1.2.3. Eyewear: Mirrored lenses are not authorized. **(T-3).**

6.1.2.4. Jackets/Over garments: Sport coats, sweaters and hoodies are not authorized. **(T-3).**

6.1.2.5. Belts: Belts are required and will be capable of supporting a concealed firearm. **(T-3).**

6.1.2.6. Pants: Approved pants will consist of cotton or at least 51 % natural fiber material. **(T-2).** Denim jeans and cargo pants with external pockets are not authorized. **(T-3).**

6.1.2.7. Footwear: Footwear will be suitable to help prevent injury in an emergency or during survival situations. **(T-2).** Cowboy boots, dress-, and slip-on shoes are prohibited. **(T-3).**

6.1.3. All aircrew will have flight gloves readily available during all flights. **(T-2)**. **Exception:** When wearing functional clothing, aircrew will have equivalent gloves readily available. **(T-2).**

6.2. Personal and Professional Equipment.

6.2.1. Passports. Carry official government passports on OCONUS missions. **(T-2)**.

6.2.2. Identification Tags. Identification tags should be worn around the neck or carried in a uniform pocket. If identification tags are not carried, member will carry a military issued identification card. **(T-2)**.

6.2.3. Foreign Object Damage (FOD) Hazards. Aircrew will not wear wigs, hairpieces, scarves, ornaments, pins, hair clips or fasteners, or earrings in the aircraft or on the flight line.

(T-2). **Exception:** Plain elastic rings, hair fasteners, and plastic barrettes are allowed, provided they do not interfere with aircrew duties, to include the wearing of headsets or helmets, or the donning of oxygen equipment. All devices will be accounted for before and after flight. **(T-2)**.

6.2.4. Restricted Area Badges. Carry the restricted area badge when directed. Display the badge only in designated restricted areas. **(T-2)**.

6.2.5. Carry a headset and operable flashlight on all flights. **(T-2)**.

6.2.6. NVGs. All aircrew will carry and preflight their own NVGs prior to flight for missions using NVGs. The PIC or designated aircrew member will preflight a spare set of NVGs. **(T-2)**.

6.2.6.1. The PIC or designated crew member should preflight a night tactical bag containing a minimum of:

6.2.6.1.1. Spare set of NVGs and headset.

6.2.6.1.2. Chemical illumination devices (i.e., chem sticks).

6.2.6.1.3. Spare batteries compatible with batteries used in-flight.

6.3. Survival and Protective Equipment. All personnel will wear provided survival and protective equipment during hostile environment operations in accordance with theater directives. **(T-2)**.

6.4. Aircrew Publication Requirements.

6.4.1. Aircrews will maintain the unclassified publications specified in AFI 11-202 Vol 2 AFSOC Sup, *Aircrew Standardization/Evaluation Program*. **(T-2)**.

6.4.2. Electronic posting and maintenance of aircrew publications is approved. All applicable supplements, changes, and other official modifications of publications will be incorporated in the electronic version of publications. **(T-2)**.

6.4.3. Electronic Flight Bag (EFB). Follow AFSOC Guidance on EFB operations. Each aircrew member is required to carry an EFB with current publications. **(T-2)**. Charging EFB devices via power from the aircraft 115 volts alternating current (VAC) outlets is permitted.

6.5. Aircraft Mission Kits. Units will maintain aircraft mission kits for reference by aircrew in-flight. **(T-2)**. The entire mission kit may be stored electronically on an approved AFSOC Specialized Automated Mission Suite Electronic Flight Bag (SAMS-EFB) device **(T-2)**. Aircrews will ensure all appropriate forms are available for their respective mission type and route. **(T-3)**.

6.6. Route Navigation Kits.

6.6.1. The following items and applicable change updates will be included on EFB or hard copy. **(T-2)**.

6.6.1.1. DoD FLIP IFR Supplement (one each). **(T-2)**.

6.6.1.2. DoD FLIP Visual Flight Rules (VFR) Supplement (one each). **(T-2)**.

6.6.1.3. DoD FLIP Flight Information Handbook (FIH) (one each). **(T-2)**.

6.6.1.4. DoD FLIP IFR En Route Charts (one set for en route segments and area of operation). **(T-2)**.

6.6.1.5. DoD or Federal Aviation Administration (FAA)/National Aeronautical Charting Office (NACO) FLIP Instrument Approach Procedures (IAP) or commercially approved IAP documents. **(T-2)**. Two sets are required for areas of operation, including en route stops and diverts. Reference AFI 11-202, Vol 3, AFSOC Sup, for information on guidance for using host nation or commercial IAP products. **(T-2)**.

6.6.1.6. Maps and Charts (including VFR sectional aeronautical charts as required). **(T-2)**.

6.6.1.7. FAA/NACO Airport Facility Directories (one for each applicable region as required). **(T-2)**.

6.6.1.8. Standard Instrument Departure (SID) and Standard Terminal Arrival Route (STAR) procedures. **(T-2)**.

6.6.2. Applicable information in FLIP planning guides (e.g., GP, AP/1, AP/2, AP/3, AP/4) may also be included in en route navigation kits. **(T-2)**.

6.7. Airfield Review. Accomplish airfield review in accordance with AFI 11-202, Vol 3, AFSOC Sup. For landing zones, reference AFI 13-217, AFSOC Sup. **(T-2)**.

6.8. Intelligence Briefing. Before departing on missions outside the United States, crews will receive an intelligence briefing that will emphasize terrorist, enemy, and friendly political and military development in the area in which they will be operating. **(T-2)**. In theater, aircrews should receive intelligence updates on initial arrival at a forward operating location, or en route stop, and thereafter when significant developments occur. Report information of possible intelligence value to the local intelligence officers at the completion of each mission. **(T-2)**.

6.9. Classified Material. Obtain and safeguard classified materials required for the mission. The level of communications security (COMSEC) material that is required for the mission depends on the theater of operation and user.

6.10. International Procedures. The PIC will review the FCG and brief crew members on applicable items before OCONUS flights. **(T-2)**. Comply with all country over flight and landing diplomatic clearances, as well as customs, immigration, agriculture, immunization, and quarantine requirements. The unit dispatching the mission is responsible for coordinating diplomatic clearance approval and other special clearances when required. **(T-2)**.

Section 6B—Predeparture

6.11. Briefing Requirements. Briefings should be clear, concise, and designed to provide mission essential information. The PIC will ensure their crews receive a briefing, prior to each mission, covering all specific areas to be accomplished. **(T-2)**.

6.11.1. ACs will brief the planned profile to the flight authorization authenticating official and submit documentation the day prior to the flight. **(T-3)**. On missions that are scheduled to span several days, the entire profile will be briefed prior to departure. **(T-3)**. Any changes to the briefed profile after departure, including (but not limited to) weather changes that require filing of an alternate not already planned and briefed or maintenance issues that degrade the performance of the aircraft, will be discussed with the authenticating official prior to

subsequent departure. **(T-3)**. This discussion will ensure the risks associated with the modified profile are fully understood by the AC and operations supervisors as well as to establish a dialogue regarding appropriate levels of risk mitigation. **(T-2)**.

6.11.2. Passenger Briefings. Prior to each flight, the LM will ensure that all passengers are briefed. **(T-2)**. When more than one flight is accomplished by the same crew and passengers, subsequent briefings are not required, except to brief route information, mission changes, etc. When additional passengers are added, brief them completely. **(T-2)**.

6.12. Flight Crew Information File (FCIF). Review Volume I, Part A, of the FCIF before all missions.

6.12.1. Aircrew will access Patriot Excalibur (PEX) via web-based or desktop module to review and sign applicable FCIFs and read files. **(T-2)**. When unable to complete electronic FCIF review procedures, initialing and numbering the latest FCIF by an individual's name on the flight authorization order certifies the FCIF currency review of all items are complete.

6.12.2. The PIC will ensure any aircrew joining a mission en route receive an FCIF update. **(T-2)**.

6.12.3. Aircrew not assigned or attached to the squadron will certify FCIF review by entering the last FCIF number and their initials next to their name on the file copy of the flight authorization orders. **(T-2)**.

6.13. Flight Planning Systems. The primary flight/mission planning systems are the Universal Weather (uvGO) software suite and Portable Flight Planning System (PFPS). Upgraded or new versions of flight planning systems will be released and authorized by HQ AFSOC/A3. **(T-2)**.

6.13.1. Aircrews will utilize the following naming convention when generating uvGO Trips: "(C/S) DD MMM YR." **(T-3)**. Aircrews will utilize the day of initial departure (local time) when labeling these missions. **(T-3)**.

6.13.2. Data Link is approved on appropriately equipped Block 20+ aircraft.

6.14. Coordinates. Aircrew will confirm a common data set with their mission users during the mission planning process. Failure to plan navigation to LZ or mission areas using a common datum may result in errors of up to several miles. Computer based mission planning systems and aircraft navigational systems generally use WGS84 as reference datum. Attempt to use WGS84 whenever possible to minimize confusion. **(T-2)**.

6.15. Weather Planning. Comply with AFI 11-202V3, AFSOC Sup, weather minimums unless local or theater specific weather minimums are more restrictive. **(T-2)**.

6.15.1. Thunderstorms. Do not fly within 2,000 ft. of thunderstorms or cumulonimbus clouds. **(T-3)**.

6.15.1.1. If unable to vertically clear thunderstorms or cumulonimbus clouds, by at least 2,000 ft.:

6.15.1.1.1. Avoid thunderstorms by 20 nautical miles (NM) at or above FL230. **(T-3)**.

6.15.1.1.2. Avoid thunderstorms by 10 NM below FL230. **(T-3)**.

6.16. Lunar Illumination. Any mission planned when the lunar illumination is forecast to be less than 10% during the mission will require an additional level of operational risk management

(ORM). **(T-2)**. ***WARNING*:** NVGs worn during flights with illumination less than 10% can lead to induced motion illusions and spatial disorientation.

6.17. Fuel Planning. Use criteria outlined in AFI 11-202, Vol 3, AFSOC Sup. Aircrews will conduct appropriate in-flight planning to ensure proper fuel management. **(T-2)**. Refer to **Attachment 2** for equal time point (ETP) discussion and calculations. **(T-2)**

6.17.1. Pilots will plan fuel consumption rates in order to optimize training or mission accomplishment. **(T-2)**. Crews will attempt to conserve fuel to the maximum extent possible. **(T-2)**.

6.17.2. Plan to arrive in the terminal area at destination or alternate (if required) with:

6.17.2.1. 600 lbs of fuel remaining during day VFR or night VFR conditions when using NVGs. **(T-2)**.

6.17.2.2. 900 lbs of fuel remaining during night VFR conditions when not using NVGs or IFR conditions. **(T-2)**.

6.17.2.3. When two alternates are required, flight plan to the most distant alternate. **(T-2)**.

6.17.3. Holding Exception for Remote or Island Destinations. In accordance with AFI 11-202, Vol 3, AFSOC Sup, aircrew are authorized to hold for one hour in lieu of an alternate for remote or island destinations. **(T-2)**.

6.17.4. Land with no less than 450 lbs of fuel on board. **(T-2)**.

6.17.5. Plan to consume 300 lbs of fuel for each instrument approach to be flown. **(T-2)**.

6.17.6. Minimum Fuel is 450 lbs and Emergency Fuel is 250 lbs. Pilots will declare "minimum fuel" or "emergency fuel" to ATC when fuel quantity reaches the respective value and the aircraft has not been given an approach or landing clearance. **(T-2)**.

6.17.7. Plan an additional 15 minutes of fuel per hour at a maximum cruise power fuel consumption rate for that portion of the flight where structural icing or thunderstorms requiring off-course maneuvering are forecast or reported. **(T-2)**.

6.17.8. For missions with extended periods over large bodies of water or desolate land areas, if no suitable alternate exists between the ETP and final destination, pilots will include an additional 10% of en route fuel to their total fuel requirements for contingencies (ex., flight at aircraft depressurization altitude). Waiver authority for this requirement is the OG/CC or COMAFSOF. **(T-2)**.

6.18. VFR En Route Planning.

6.18.1. Map Selection. VFR sectional or tactical pilotage chart (TPC) 1:500,000 are required for en route VFR navigation legs and objective area planning, such as an LZ arrival. **(T-2)**. The VFR sectional is consulted because it is updated more frequently than the joint operations graphic (JOG). It also provides accurate information on controlled airspace, major towers, airports, beacons, and power lines as well as current magnetic variation. Maps with a scale of 1:250,000 or greater are highly desired for objective areas. **(T-2).**

6.18.2. Pilots will ensure all maps used for flight have the most current hazards posted. Aircrew will also ensure appropriate civil airspace is annotated along their route of flight. **(T-2)**.

6.18.3. An emergency safe altitude (ESA) and minimum safe altitude (MSA) will be calculated for all VFR legs. **(T-2)**. ***WARNING*:** Failure to maintain an accurate altimeter setting during flight may cause lower than planned terrain clearances or impact with terrain when using the computed ESA/MSA.

6.18.4. During VFR en route navigation training (outside of the terminal area), the minimum altitude is 1000' AGL above the highest obstacle within 2 NM of the desired course **(T-3)**. For training sorties and exercises, lower altitudes are permitted with the approval of the squadron commander. During operational and contingency missions, lower altitudes are permitted with the approval of the mission commander.

6.18.5. GPS/FMS (Flight Management System) Procedures. Aircrews may use the GPS/FMS for situational awareness and as a backup to visual navigation.

6.19. Objective Area Planning.

6.19.1. A thorough review of the LZ survey and accompanying photographs, computer drawings, or imagery will be accomplished by all crew members during the aircrew brief. **(T-2)**. The PIC is responsible for ensuring that any crew member unable to attend the brief either reviews the landing zone survey or is briefed on the hazards associated with the LZ. Review the following items: **(T-2)**.

6.19.1.1. For an LZ, brief the runway orientation, the run-in orientation, the LZ coordinates, dimensions, significant obstacles, expected surface conditions, weight bearing capacity, LZ markings, planned point of touchdown, go-around point, escape route in the event of a balked landing, and performance data for landing and for takeoff. **(T-2)**.

6.19.1.2. High quality imagery of the landing zone. This facilitates final approach planning and LZ recognition.

6.19.1.3. Moisture at the LZ or any other meteorological elements that might affect landing surface weight bearing capability.

6.20. Aircraft Performance.

6.20.1. Weight and Balance. A copy of each mission's weight and balance will be maintained at the squadron or operations center (as applicable) and carried with the aircrew. **(T-2)**. For en route stops, weight and balance need not be recomputed provided the zero fuel weight has not changed. Weight and balance computations will be briefed during the crew or mission brief or during flight, as required. **(T-2)**.

6.20.2. Takeoff and Landing Data (TOLD). Compute TOLD using the AOH performance data charts or eTOLD application. Compute TOLD for initial takeoff prior to engine start. Every attempt should be made to compute new TOLD data for each subsequent takeoff and landing. At a minimum, re-compute data for pressure altitude changes of 500 ft, temperature changes of 5° Celsius (C), or gross weight changes of 500 lbs. **(T-2)**.

6.20.2.1. Standard options for calculating TOLD are depicted in the eTOLD application and utilize the parameters listed below in accordance with AOH Volume 3; utilize these options in the following priority order:

6.20.2.2. Priority 1: Uses 1.2 Variable V2 (KVS) and a V1/VR of 1.0.

6.20.2.3. Priority 2: If the runway is contaminated or length is limiting and climb gradient is not a factor, use 1.13 KVS and V1/VR of 1.0.

6.20.2.4. Priority 3: Use TOLD calculations to find an optimized KVS and V1/VR combination. **Note:** All qualified MPs and MCs may perform takeoffs and landings using Options 1-3.

6.20.2.5. Priority 4: Use short field performance planning data. **Note:** Only MPs may perform takeoffs or landings when using Priority 4 TOLD to meet performance requirements. **(T-3)**.

6.20.2.6. If none of these options offer suitable TOLD values for the given field length and conditions, consider reducing gross weight or delaying the mission until environmental conditions allow for use of one of the above 4 options.

6.20.2.6.1. Priority 4 procedures may be utilized under training conditions at airfields with suitable runway distances for Priority 1-3.

6.20.2.6.2. The approval for Priority 4 at airfields using procedures from **paragraph 5.7.4**, that cannot be completed using Option 1-3, is the Sq/CC (or equivalent) for both training & contingency operations.

6.20.2.7. Aircrew are prohibited from utilizing Enhanced Field Performance (EFP) and Maximum Field Performance (MFP) procedures within C-146A AOH, Volume 3.4, until receiving AFSOC-approved, specialized training. **(T-2)**.

6.20.2.8. eTOLD Application. The Teledyne eTOLD application is an approved source for calculating performance data.

6.20.2.8.1. eTOLD Landing Data, Wet Runways. For landing operations on wet runways, aircrew will use "runway contaminated by standing water, slush or wet snow" landing distances, which can be found on the landing inputs tab of the application. **(T-3)**.

6.20.3. Computed Engine Out Service Ceiling. The computed engine out service ceiling will not be below the published minimum IFR altitude on IFR flights or planned VFR cruising altitude for VFR flights unless the following requirements are met: **(T-2)**.

6.20.3.1. The forecast weather for each critical route segment, as defined in **Paragraph 6.20.3**, is day VMC allowing a VFR descent to a safe VFR altitude during an emergency, and; crews have planned emergency routes to emergency airfields on VFR charts (1:500,000 or larger) for the critical route segments, or;

6.20.3.2. Single engine drift down performance from the planned cruise altitude provides the opportunity to remain above the minimum en route altitude (MEA) until reaching a sector with a lower MIA and then safely continue to an emergency airfield.

Section 6C—Preflight

6.21. Aircraft Maintenance Forms.

6.21.1. Review the aircraft maintenance forms before applying power to the aircraft or operating aircraft systems. **(T-2)**.

6.21.2. Ensure that the USAF fuel card and/or other authorized method of payment are on board the aircraft. The Air Card is used to pay for services such as aviation fuel, aircraft oil and fluids, minor maintenance items, landing fees, aircraft de-icing, follow-me trucks and other airfield related services at commercial FBO locations. The PIC is responsible for ensuring the receipt is correct and all appropriate signatures are obtained before departing the military base, airport, or FBO. The PIC is responsible for turning in all service receipts to maintenance upon return to home station. If services does not generate a receipt, the PIC will ensure the location and services performed are noted and relayed to maintenance. **(T-2)**.

6.21.3. The aircraft preflight or exceptional release (if applicable) must be signed before flight. **(T-2)**. A maintenance officer, maintenance superintendent, or authorized contract civilian will sign the preflight or exceptional release. **(T-2)**.

6.21.3.1. When the above-designated personnel are not available to sign the exceptional release, the PIC may sign the release in accordance with T.O. 00-20-1.

6.21.4. Ensure that aircraft locking keys are in aircraft maintenance forms prior to takeoff. **(T-2)**.

6.21.5. Ensure the aircraft protective covers are on board aircraft prior to flight. **(T-2)**.

6.22. Aircraft Inspections and Ground Operations.

6.22.1. The AC will review the forms and conduct an exterior inspection. The AC will focus on the overall condition of the plane and the LM will complete an exterior inspection according to the AOH. **(T-2)**.

6.22.2. The copilot will complete the Cockpit Preparation Checklist in accordance with the AOH expanded checklist. **(T-2)**.

6.22.3. The LM will check the mission bus circuit breaker panel to ensure all applicable circuit breakers are closed. **(T-2)**.

6.22.4. Auxiliary Power Unit (APU) Operations. Anytime the APU is running, at least one crew member or maintainer will remain within the aircraft cockpit/cabin, or within the vicinity of the APU fire suppression control panel in order to adequately hear the APU fire bell. **(T-2).** Unattended use of the APU is prohibited. **(T-2).**

6.22.5. Crew members should wear hearing protection when operating aft of the 3-9 line while the APU is operating. The LM should offer hearing protection to passengers required to assist in loading/unloading baggage while the APU is running. The LM will ensure adequate hearing protection is stored onboard the aircraft. **(T-3)**.

6.22.6. During higher headquarters directed exercises or contingency operations, any qualified aircrew may accomplish the preflight inspection and brief the oncoming aircrew.

6.23. Required Forms. Aircraft must contain an appropriate and current airworthiness certificate, effective registration certificate, appropriate weight and balance information, and applicable maintenance forms. **(T-2)**.

6.24. Alert Aircraft Procedures. To accept an aircraft on alert, complete a normal aircraft preflight. After 72 hours on alert, allow maintenance personnel access to inspect the aircraft. **(T-2)**.

6.24.1. Parking. Aircrew or maintenance personnel will park the alert aircraft in a designated alert parking area to expedite taxi and takeoff.

6.24.2. Climatic Protective Facilities. During periods of extreme cold, hot, or severe weather, every effort should be made to shelter alert aircraft and essential equipment in a hangar to ensure operational readiness in the event of a mission.

6.24.3. Flying Alert Aircraft. The alert aircraft may be flown for purposes other than actual alert missions **(T-2)**. Comply with the following conditions:

6.24.3.1. Ensure sufficient fuel remains on board to meet mission requirements. If not, upon flight completion, refuel the aircraft to required alert fuel quantity. **(T-2)**.

6.24.3.2. Maintain communication contact with the primary controlling agencies. **(T-2)**.

6.24.3.3. A qualified (for the alert mission) aircrew must be on board. **(T-2)**.

6.24.3.4. Controlling agencies must be notified any time the alert aircraft departs the local area. **(T-2)**.

6.24.4. Once accepted for alert, the alert aircrew will make an entry in the aircraft maintenance forms, stating, "Aircraft accepted on alert at _____." (Zulu time and date). **(T-2)**. No maintenance may be performed on it without prior approval of the alert crew PIC and notification of the squadron DO or deployed MC. To ensure integrity of the aircrew preflight, an alert aircrew member must be present whenever maintenance is performed, or at the completion of the maintenance, the aircrew is required to check the area in which maintenance was performed. **(T-2)**. The check should be performed as soon as practical after the maintenance and must be performed prior to flight.

6.25. Aircraft Servicing.

6.25.1. Aircraft Refueling. Aircrew qualified in refueling operations may perform refueling duties at austere locations or at stations without maintenance support. Aircrews are allowed to add engine oil, if needed, at austere locations or at stations without maintenance support.

6.25.2. Aircrew/Maintenance Engine Runs. Maintenance engine runs should not normally be accomplished by a mixed complement of aircrew and maintenance. If conducted, the AOH or maintenance inspection procedures will be used. **(T-2)**.

6.26. Life Support and Oxygen Requirements.

6.26.1. Upon reporting to the aircraft, the PIC or designated representative will ensure sufficient quantities of appropriate serviceable life support, survival equipment, and protective clothing for the entire mission are aboard the aircraft. **(T-2)**. Verify Air Force technical order (AFTO) Form 46, *Prepositioned Aircrew Flight Equipment,* prior to departing home station. **(T-2).**

6.26.2. When route of flight is beyond power off gliding distance from land, aircrew members will have life preserver units sized and immediately available at the aircrew member's duty station while flying over water. **(T-2)**. Passengers will have life preservers available and will be worn at the discretion of the PIC. **(T-2)**. Life rafts will be available to accommodate all personnel on board. **(T-2)**. Life rafts and life preservers are not required when overwater flight occurs during instrument approach procedures under ATC control, immediately after takeoff, and before landing. **(T-2)**.

6.26.3. Anti-exposure suits for the aircrew will be readily available during any preplanned overwater flights which are beyond power off gliding distance from land and the water temperature is 60° Fahrenheit (F)/(16°C) or less. **(T-2)**.

6.26.4. Oxygen requirements are outlined in AFI 11-202, Vol 3, AFSOC Sup.

6.26.5. Smoke Barrier Removal. When the smoke barrier is not installed, the aircraft must have both EVAS systems operational and EPOS kits for each passenger. **(T-3)**.

6.27. Cockpit Congestion and Loose Objects.

6.27.1. The flight deck area will be kept as uncluttered and orderly as possible for all flight and ground operations. **(T-2)**.

6.27.1.1. During engine start and ground operations, no items (checklist, charts, etc.) will be placed in a position that would prevent inspection of aircraft and engine instruments or switches. **(T-2)**.

6.27.1.2. During flight, no items (checklists, charts, etc.) will be placed in a position that covers or hides any flight or engine instruments from the view of the PF. **(T-2)**.

6.27.1.3. No items will be placed where they may interfere with the flight controls or egress. **(T-2)**.

6.27.1.4. Drinking containers with liquids are not permitted in the cockpit unless covered with a lid. **(T-2)**.

Section 6D—Departure

6.28. Departure Briefing. Before initial takeoff, the PF will brief the aircrew on the procedures to be followed during takeoff and departure, performance data, and intentions in case of an emergency. **(T-2)**.

6.29. On Time Takeoffs and Landings. Departures are considered "on time" if the aircraft is airborne +30/-15 minutes of the scheduled departure time; "on time" landings are those within +15/-15 minutes of the scheduled landing time. Early departures are authorized provided local, down range and aircrew impact are evaluated and no adverse effect will result.

Section 6E—En Route

6.30. En Route Briefings. Conduct in-flight briefings, as necessary, to cover any unusual circumstances and when flight safety or other conditions require the nonstandard accomplishment of any maneuver. **(T-2)**.

6.31. Flight Progress. Use all available navigation aids to maintain course centerline and a positive fix on the aircraft's position. When conducting navigation using a GPS for primary navigation or autopilot flight coupling, the pilots will also use appropriate navigation aids (e.g., VHF omnidirectional range [VOR]) to maintain a positive fix on the aircraft's position and back up the GPS. **(T-2)**.

6.32. In-Flight Crew Duties and Responsibilities.

6.32.1. Transfer of Aircraft Control. Aircrew will transfer flight controls using a positive change of controls. **(T-2)**. Use the statement "Pilot/Copilot has the controls" to transfer control.

The other pilot will acknowledge the change of aircraft control by stating "Pilot/Copilot has the controls." **(T-2).**

6.32.2. During approach briefings the PF should transfer aircraft control and the radios to the PNF. Transferring the autopilot is not necessary.

6.32.3. Interphone Communications. Limit interphone conversations to those essential for crew coordination. Do not discuss classified information on interphone during radio transmissions.

6.32.4. All crew members will monitor aircraft interphone prior to engine start. **(T-2)**. Clearance is required from the PIC prior to an aircrew member removing headset. The aircrew member will advise the PIC when they have resumed monitoring the aircraft interphone. **(T-2)**.

6.32.5. Radio Communication. A thorough pre-brief should be accomplished by the AC to specify who is in control of which radio during all phases of flight. Aircrew will be specific when transferring control of radios in flight. **(T-2)**.

6.32.6. Record and read back all ATC clearances except when ATC instructions require immediate execution and read back would interfere with the timely performance of aircrew duties.

6.33. Communication Instructions for Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports. Refer to AFMAN 10-206, *Operational Reporting (OPREP)*. Report all vital intelligence sightings from aircraft as indicated in FLIP planning or flight information handbook (FIH). **(T-2)**.

6.34. In-Flight Emergency (IFE) Procedures. Report deviations from directives that occur as a result of an emergency in accordance with AFI 11-202, Vol 3, AFSOC Sup, and this manual.

6.34.1. During an emergency situation, the pilot flying will continue to fly the aircraft. **(T-2)**. The AC may take control of the aircraft if the situation dictates. The AC will assign specific duties based on the situation. **(T-2)**. The AC will conduct the emergency landing unless conditions do not permit. **(T-2)**.

6.34.2. The PNF should be the primary aircrew member responsible for executing emergency checklist procedures. The PF maintains aircraft control and calls for appropriate critical action procedures and checklists. The PF will confirm any switches or levers prior to being actuated and will reference the Emergency/Abnormal Quick Reference Handbook (QRH) for guidance during the emergency. **(T-2)**. The PNF or LM should review the AOH as appropriate and as time permits. **(T-2)**.

6.34.3. The LM will back up the PNF with the QRH checklist reading/actions as directed, visual confirmation of the memory items, and scanning of engines/passenger compartment. **(T-2)**. During engine shutdown procedures, the AC may direct the LM to perform a visual scan of the engine and inform the pilots when/if the engine shuts down correctly (i.e., "Number 1 scans clear, standing tall"). Any abnormalities to include fluid leaks, smoke, fire, or damage will be verbalized to the pilots. **(T-2)**.

6.34.4. During any emergency procedure, the AC may direct the LM to reposition from the jump seat to another location on the aircraft to perform duties.

6.34.4.1. The LM is the primary aircrew member responsible for fighting fires in the cabin/cargo area. **(T-2)**.

6.34.4.2. If necessary, the LM will assist passengers in an emergency situation (i.e., donning oxygen masks, directing ground evacuation, etc.) and maintain general order in the cabin. **(T-2)**.

6.34.5. Notification of Controlling Agencies. As soon as practical after completing the aircraft emergency procedure checklist or critical action procedures, furnish the controlling agency a description and extent of the difficulty, assistance required, intentions, and any further pertinent information.

6.34.6. Turnaround Procedures. When a turnaround is necessary, use procedures in FLIP. Maintain VFR, reverse course, climb or descend to a VFR altitude or flight level and request ATC clearance. If unable to maintain VFR, obtain an ATC clearance before reversing course. A turnaround under IFR conditions, without ATC approval, will be made only after a thorough evaluation of the seriousness of the emergency, general traffic density, and known traffic operating in the immediate area. **(T-2)**. Normally, a climb or descent (with minimum change in altitude) to a VFR altitude or flight level will result in minimum exposure to other aircraft, if a turnaround is required.

6.34.7. Need for Medical Assistance. When a person on board the aircraft requires medical care, the PIC will inform the station of next intended landing in sufficient time so medical personnel may meet the aircraft. The request will include the individual‘s gender, approximate age, and the nature of the medical problem. **(T-2)**.

6.34.8. Emergency Ground Evacuation. Conditions permitting, the primary emergency exit for both crew and passengers will be the crew entrance door.

6.34.8.1. When directed, the LM should initiate the evacuation of all passengers through the selected emergency exit. The LM should notify the flight crew of the selected exit and any other hazards or issues.

6.34.8.2. The AC will be the last crew member to leave the aircraft. **(T-3)**.

6.34.8.3. A rally point should be established 300’ at a 45 angle away from the aircraft centerline on the side exited.

6.34.8.4. A headcount will be conducted and the AC, or in the absence of the AC the highest ranking member will make the decision to return to the aircraft for missing personnel. **(T-3)**.

6.34.8.5. When all personnel are accounted for, determine if it is necessary to increase separation from the aircraft.

Section 6F—Arrival

6.35. Arrival. Before starting each approach, the PF will brief the procedures to be followed during approach, landing, and go-around/missed approach, as necessary. **(T-2)**. Performance data will be reviewed. **(T-2)**. This briefing should be accomplished prior to the completion of the Before Landing Checklist. **(T-2)**.

6.36. Go-Around Calls. If any crew member calls "Go-around", the PF will immediately apply power to establish a climb that clears all obstacles. **(T-2)**. Minimum altitude for overflight of aircraft, equipment, or personnel on the runway is 500 ft AGL. **(T-2)**.

Section 6G—After Landing

6.37. Maintenance and Bed Down. Complete aircraft maintenance forms after each flight.

6.37.1. Immediately after arrival, the PIC and any aircrew member documenting a maintenance discrepancy will debrief maintenance personnel on the status of the aircraft and subsystems. **(T-2)**. The PIC or aircrew member noting a discrepancy will document the problem in the aircraft maintenance forms. **(T-2)**. At locations where there is no maintenance personnel and maintenance support is required, the PIC will ensure a thorough debrief is provided to the MC or command post prior to entering crew rest. **(T-2)**.

6.37.2. The LM, or designated aircrew member will perform servicing when maintenance personnel are not available. **(T-2).** Gloves and eye protection will be worn while executing refueling operations. **(T-2)**.

6.37.3. All crew members will ensure the aircraft is clean, stow publications, deposit trash in proper receptacles, and account for all personal equipment before leaving the aircraft. **(T-2)**.

6.37.4. The AC and the LM will complete a post mission walk around to determine any changes from their pre-mission inspection (i.e., bird strike). **(T-2)**.

6.38. Classified Material. Turn in classified materials at destination (if applicable) and obtain receipts for classified material. At locations where no storage facilities exist, the PIC will ensure classified material is properly protected. Refer to AFI 16-1404, *Air Force Information Security Program*, for further information about storing of classified on the aircraft. **(T-2)**.

6.38.1. Mission Radios. Do not leave the aircraft unattended with crypto loaded into the mission radios. **(T-2)**. The AC is ultimately responsible for ensuring the radios are zeroized prior to leaving the aircraft. **(T-2)**.

6.38.1.1. If the aircrew is going to leave the aircraft unattended for any period of time, secure crypto and hard drives in the aircraft-mounted safe. **(T-2)**. In addition, ensure all entry points to the aircraft are secured. **(T-2)**.

6.38.2. Remove/"Zeroize" any potential or classified information in the FMS, aircraft radios, and mission systems/software when not required for flight or continuous mission operations. **(T-2)**. The PIC is responsible for all classified materials. **(T-2)**.

6.38.3. In an emergency, destroy or damage classified material and equipment prior to crash landing if possible. **(T-2)**.

6.39. Aircraft Impoundment. If an aircraft is involved in a ground or in-flight incident, the PIC should impound the aircraft immediately and contact the squadron CC, DO, MC or appropriate controlling agency for further instructions.

6.40. Clearwater Rinse Facility. If directed by aircraft maintenance personnel, aircrews may use clearwater rinse facilities in order to prevent damage to the aircraft.

6.40.1. An entry will be placed in the aircraft maintenance forms, "Aircraft Subjected to Salt Spray" any time the aircraft is flown over salt water below 1,000 ft AGL, except for takeoffs and landings. **(T-2)**.

6.40.2. Document the lowest altitude and duration the aircraft was subjected to salt spray. **(T-2)**.

6.41. Customs, Immigration, and Agriculture Inspections.

6.41.1. Complete customs, agriculture, and public health clearance forms, as required, prior to opening any doors other than the crew door or enplaning and deplaning personnel. **(T-3)**.

6.41.2. Proceed directly from the aircraft to customs, immigration, or agricultural inspection for processing at those stations where federal or local inspections are required. **(T-2)**. The PIC or designated representative should complete the necessary forms before reporting to inspectors. **(T-2)**

6.41.3. A US military aircraft is a sovereign instrument. When cleared to over-fly or land in foreign territory, it is US policy to assert that military aircraft are entitled to the privileges and immunities which customarily are accorded warships. These privileges and immunities include, in the absence of stipulations to the contrary, exemption from duties and taxation; immunity from search, seizure, and inspections (including customs and safety inspections); or other exercise of jurisdiction by the host nation over the aircraft, personnel, equipment, or cargo on board. The PIC will not authorize search, seizure, inspection, or similar exercises of jurisdiction enumerated above by foreign authorities except by direction of HQ USAF or the American Embassy in the country concerned. **(T-1).**

6.41.4. PIC will not permit the inspection of their aircraft by officials of any foreign government. **(T-1)**. If requested to do so, the PIC and crew will deny access and seek aid from the senior AFSOC, USAF representative, US Embassy, or consulate within the host nation. **(T-1)**. Inform customs or other officials of the above policy and request that they confirm their request through their own government and with US Department of State representatives. If necessary, the aircrew will seal the aircraft and enter into crew rest, and relay departure intentions, until resolution of the matter by appropriate authority. **(T-1)**. Use communications by the fastest means available to inform command and control facilities should this situation occur. **(T-1)**

6.41.5. When confronted with a search request by foreign authorities, aircrews should consider the following procedures:

6.41.5.1. In most cases, search attempts may be stopped by a statement of the PIC to the foreign officials that the aircraft is a sovereign instrument not subject to search without consent of HQ USAF or the chief of mission in the country concerned. This should be clearly conveyed in a polite manner so as not to offend foreign authorities that may honestly, but mistakenly, believe they have authority to search USAF aircraft. **(T-2)**

6.41.5.2. If foreign authorities insist on conducting a search, the PIC must negotiate to delay the search until contact is made with HQ USAF/A3OFN or the appropriate embassy (US or other friendly nation). **(T-0).** The PIC should unequivocally state, the aircrew has no authority to consent to the search and that they must relay the foreign request to these agencies for decision. The PIC should then notify these agencies of the foreign request by

the most expeditious means available. Thereafter, the PIC should follow instructions provided by the appropriate embassy and HQ USAF. **(T-2).**

6.41.5.3. If foreign officials refuse to desist in their search request, the PIC should indicate that they would prefer to fly the aircraft elsewhere (provided fuel and mechanical considerations permit a safe departure) and request permission for immediate departure. **(T-2).**

6.41.5.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the PIC should state that he/she protests the course of action being pursued and that he/she intends to notify both HQ USAF and the US Embassy of the foreign action. The PIC should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and the US Embassy as soon as possible. **(T-2).**

6.41.6. In all instances, specific instructions may be briefed because of sensitive cargo or equipment. These instructions and applicable provisions of classified supplements to the foreign clearance guide should be followed where applicable. **(T-2)**.

6.42. Crew Debriefing/Post-Mission Actions.

6.42.1. Training Missions. The PIC will conduct the debriefing session and complete the appropriate documentation. **(T-3)**. The PIC will ensure all applicable information is passed to controlling agencies. **(T-2)**.

6.42.2. Combat Operations. Each aircrew participating in operations under actual combat conditions will participate in an intelligence and mission debriefing session. **(T-2)**.

6.42.3. The squadron CC or MC will ensure that all aircrews are debriefed immediately following a combat or combat support mission during which any tactics or procedures were observed that may affect other operations. **(T-2)**.

6.42.4. Crews encountering hostile fire will submit an immediate airborne report to their controlling agency followed by a hostile fire incident report to intelligence immediately after landing. **(T-2)**.

6.42.5. Other Missions. The PIC has the responsibility of affording each crew member the opportunity to discuss unusual aspects of the mission. Debriefings may be formal or informal, as the situation requires. **(T-2)**.

6.42.6. When transiting installations, the PIC will establish a point of contact with the base operations or FBO for overnight billeting. **(T-3)**. Base Operations or FBO will immediately notify the PIC in the case of incident or emergency affecting the safety or security of the aircraft. **(T-2).**

Section 6H—Miscellaneous

6.43. Electronic Devices. The use of electronic devices is as specified in AFI 11-202, Vol 3, AFSOC Sup. For electronic devices not listed, the user will provide the aircrew a letter from the Aeronautical Systems Division, Deputy for Engineering (AF ASC/ENAE) certifying the device is approved for airborne use. **(T-2)**. If the aircrew detects any interference from an electronic device used aboard the aircraft, discontinue the use of this device for the duration of the flight. **(T-2)**.

6.44. Jamming and Interference. All aircrews and other radio users must be familiar with the procedures for reporting incidents of meaconing, intrusion, jamming, and interference (MIJI) or spectrum interference (SI). Info copy HQ AFSOC/A3V on all MIJI/SI reports. **(T-2)**.

6.45. Passenger Guidance. DoDI 4515.13, *Air Transportation Eligibility*, establishes criteria for passenger movement on DoD aircraft. AFI 11-401, AFSOC Sup, provides further guidance on orientation and public affairs travel. Refer to these publications directly.

6.45.1. During spouse orientation flights, spouses will not fly together on the same aircraft. **(T-2)**.

6.45.2. Space-required. The OG/CC or COMAFSOF will determine and approve eligibility for all space required categories. Refer to AFI 11-401, AFSOC Sup, for more information. **(T-2).**

6.45.2.1. Exception: Supported Forces. A subcategory of space-required passenger defined by this manual as US and foreign military personnel who are integral part of the mission being performed. Approval is assumed by the mission tasking. Manifest on DD Form 2131.

6.45.2.2. Restrictions. Both pilots must be fully qualified (unless by exception in AFI 11-401). **(T-3)**. Simulated emergency procedures are prohibited with passengers aboard the aircraft. **(T-2)**. There are no restrictions on mission events. Passengers will be seated and secured during threat maneuvers **(T-3)**. The PIC will ensure supported forces are briefed on mission profile and events before flight. **(T-3).**

6.46. Utilization of Civilian Law Enforcement or Medical Personnel. Generally, before transporting civilian law enforcement officials or civilian medical personnel, obtain proper authorization through OG/CC or COMAFSOF. **(T-2)**.

6.47. Hazardous Material (HAZMAT) Procedures. Refer to AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*. **(T-2).**

6.47.1. Cargo Documentation. Do not accept hazardous materials unless proper documentation, certification, and identification of cargo are provided. **(T-2)**. This includes transportation control number entered correctly on both the cargo manifest and the shipper‘s declaration for dangerous goods.

6.47.2. Flight Planning. The PIC will (unless specifically briefed otherwise): **(T-2)**.

6.47.2.1. Enter “Hazardous Cargo” in the appropriate section of the flight plan **(T-2)**. Use remarks section of DD Form 175, information section of DD Form 1801, or ICAO Flight Plan Form.

6.47.2.2. Plan the flight to minimize over-flying heavily populated or otherwise critical areas **(T-2)**.

6.47.2.3. Prepare a departure message **(T-2)**. The remarks section of the departure message should include the following:

6.47.2.3.1. Department of Transportation (DoT) class and DoD hazard class or division, if applicable, of hazardous material on board (include net weight of DoT class A or B poisons and net explosive weight of class A or B explosives).

6.47.2.3.2. Request for special support (e.g., isolated parking, security, technical escort teams, etc.).

6.47.2.3.3. Inert devices (when applicable).

6.47.2.4. If estimated time en route (ETE) is less than 1 hour, or if other circumstances preclude timely receipt at destination, notify base operations at the first intended landing, by priority telephone. **(T-2)**.

6.47.3. Before Engine Start. Ensure placards are removed. **(T-2)**. Give the controlling agency parking location, approximate engine start time, and verify that the firefighting agency has the hazardous materials information. **(T-2)**. If not, request the following be relayed to the firefighting agency:

6.47.3.1. DoT class of hazardous material on board and the DoD hazard class or division for explosive material on board.

6.47.3.2. Net Explosive Weight.

6.47.3.3. Request for isolated parking (if necessary).

6.47.3.4. Estimated time of departure.

6.47.4. En Route. Normal procedures apply. Avoid flying over heavily populated or otherwise critical areas. **(T-2)**.

6.47.5. Before Landing. Accomplish the following unless specifically prohibited by the theater commander or FLIP planning: **(T-2)**.

6.47.5.1. Contact the base operations dispatcher, control tower, approach control, or other agency specified in FLIP at least 30 minutes (or as soon as practical) before estimated time of arrival (ETA) to announce that hazardous materials are on board and to verify that the appropriate base support agencies have received the departure message. **(T-2)**. If not, transmit the ETA and pertinent hazardous material (HAZMAT) information. **(T-2)**.

6.47.5.2. If landing at a CONUS civil airport without a tower, give the previous information to the nearest Federal Aviation Administration (FAA) flight service station. **(T-2)**.

6.47.5.3. Request the information be relayed immediately to base operations or the civil airport manager, crash or fire protection agency, and other support agencies. **(T-2)**.

6.47.6. Parking: **(T-2)**

6.47.6.1. DoD requires aircraft carrying DoD hazard class or division 1.1, 1.2, 1.3 explosives, DoT class A poisons, and certain biological agents and munitions be parked in areas isolated from personnel. **(T-2)**. PICs are responsible for ensuring cargo is correctly identified to the tower and ground control. When aircraft are not directed to an isolated area, identify the cargo again to tower or ground control. **(T-2)**. When identification is acknowledged, the host is solely responsible for selecting the parking area. Should host procedures be questionable, submit trip reports, as appropriate, to document such occurrences. **(T-2)**.

6.47.6.2. The military host is responsible for ensuring aircraft are properly placarded. **(T-2)**. For non-military installations, the briefing to the PIC will include placard requirements

and, if required, placards will be furnished at the on load base. **(T-2)**. The shipper must make prior arrangements with the airport manager for shipments of hazardous materials requiring placards. **(T-2)**. The shipper is responsible for cargo identification, firefighting procedures, and isolated parking requirements. **(T-2)**.

6.47.7. Unscheduled Landing Due to IFE. Transmit unclassified information to the appropriate air traffic control facility. **(T-2)**. Include the following:

6.47.7.1. Nature of emergency and intent to land. **(T-2)**.

6.47.7.2. Aircraft position and ETA. **(T-2)**.

6.47.7.3. Number of personnel and location in aircraft. **(T-2)**.

6.47.7.4. Fuel on board. **(T-2)**.

6.47.7.5. That hazardous materials are on board, location of the cargo, and applicable information.

6.48. Hazardous Medical Equipment.

6.48.1. Nonstandard equipment possessed by medical facilities that use AFSOC air evacuation services should be regarded as potentially hazardous. Two types of equipment are of major concern:

6.48.1.1. Electronic medical equipment produces electromagnetic interference, and therefore can interfere with aircraft communication and navigational equipment.

6.48.1.2. Therapeutic oxygen systems present an increased hazard of fire or explosion. A potential hazard is the inadvertent disruption of the cylinder neck, manifold, or regulator resulting in explosion and propulsion of the container or accessories.

6.48.2. For nonstandard electronic medical equipment, take the following precautions:

6.48.2.1. When nonstandard electronic medical equipment is brought onboard the aircraft, pararescue or aeromedical evacuation personnel must inform the PIC. **(T-2)**.

6.48.2.2. The PIC must be informed of the anticipated period of use of the equipment during the mission. **(T-2)**.

6.48.2.3. The crew must be alert for any interference with aircraft communications or navigation equipment during periods of use of this equipment. **(T-2)**.

6.48.2.4. Crews should consider staying in VMC conditions as mission dictates.

6.48.3. For nonstandard oxygen equipment, take the following precautions:

6.48.3.1. All compressed oxygen equipment with exposed, unprotected cylinder neck, manifold, or regulator must be completely secured from all movement in its longitudinal and lateral axes. **(T-2)**.

6.48.3.2. Pararescue or aeromedical evacuation personnel must continually monitor the operation of the equipment to detect possible malfunction during exposure to altitude. **(T-2)**.

6.49. Transporting Narcotics. Aircrew members will ensure narcotics and other unauthorized items are not smuggled onboard the aircraft. **(T-2)**. Maintain narcotics that are part of official medical kits in accordance with appropriate directives.

6.50. Dropped Objects. During aircraft exterior visual inspections, pay particular attention to surfaces, panels, and components, which could potentially be dropped objects. If a dropped object is discovered and the mission is continued, the PIC will: **(T-2)**.

6.50.1. Ensure documentation is entered into the aircraft maintenance forms. **(T-2).**

6.50.2. Notify the controlling agency as soon as practical. Include route of flight, altitude, and weather conditions encountered. **(T-2).**

Chapter 7

AIRCRAFT SECURITY

7.1. General. This chapter provides guidance for aircraft security on the ground and in-flight. AFSOC C-146A aircraft are protection level (PL) 4 resources in CONUS and PL 3 while OCONUS. These security priority designations apply to operational aircraft, wherever they are located, worldwide. Some aircraft contain equipment and documents that require protection per DoDI 5200.01, *DoD Information Security Program; Vol 1-4*, and AFI 16-1404.

7.2. Security Procedures. The PIC is ultimately responsible for the security of their aircraft when located away from US military installations. AFJI 31-102, *Physical Security*, covers security arrangements when US Air Force aircraft are located on other US military installations. Arrangements must be made to protect the aircraft during crew rest status at non-US protected locations. **(T-2)**. If US military security forces are not available, the US embassy assigned to that country must be consulted to ensure security arrangements are made. **(T-2)**. For missions involving a planning agency, the agency must coordinate with the PIC to ensure the planned security measures conform to mission requirements. **(T-2)**. The amount of security required will vary, depending on location and ground time. **(T-2).**

7.2.1. For non-permissive or uncertain environments, airfield and LZ security is the responsibility of the agency requesting support. Crew will work with the agency requesting support to ensure security meets the requirement for the mission. **(T-2)**.

7.2.2. For permissive environments, the PIC will receive a threat assessment and force protection capability evaluation briefing at home station prior to departure and receive updates en route, if required. When landing at DoD component installations, the installation commander is responsible for providing adequate security for the aircraft. The PIC will determine if security is adequate. **(T-2)**. Planning agencies and the PIC will use **Table 7.1**, to help assess the risk to parked aircraft for planned overnight stops located at non-US military installations overseas and civilian airfields. **(T-2)**. **Note:** Aircrews possess the training to provide the appropriate security when present at the aircraft. For unscheduled or emergency landings at non-USAF installations, the PIC will assess the aircraft security situation and take the following actions, if force protection capability appears insufficient:

7.2.2.1. Aircrew surveillance. If the aircraft is not remaining overnight, aircrews are capable of maintaining appropriate aircraft security. The PIC will direct armed crew members to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity. **(T-2)**.

7.2.2.2. Area Patrol. If available, request area patrol coverage from local security forces to include back-up response forces. If local authorities request payment for this service, use AF Form 15 or cash.

7.2.2.3. Departure without Crew Rest. If local security forces are unacceptable or unavailable, the PIC may waive FDP restrictions and depart as soon as possible for a destination with adequate force protection. If unable to depart the location due to system malfunction, the aircrew must secure the aircraft to the best of their ability. **(T-2)**. In no case, will the entire crew leave the aircraft unattended. **(T-2)**. Crew rest requirements will be subordinate to aircraft security when the aircraft may be at risk. **(T-2)**. The PIC should

rotate a security detail among the crew to provide for both aircraft protection and crew rest until relief is available. The PIC will coordinate through appropriate C2 channels to acquire additional security. **(T-2)**.

7.2.2.4. Tailored Security Measures. Standard physical security measures may be impractical at times due to mission, terrain, climate, sociopolitical sensitivities, or other factors. At such locations, tailor security measures to meet unique requirements when necessary. As a minimum, lock aircraft entry points and hatches. Contact with US Embassy personnel is required at locations where security agreements are not in existence. **(T-2)**.

7.2.3. **Ground security teams.**

7.2.3.1. Ground security teams may be considered to guard the aircraft for planned overnight stops. Teams may travel in MEP status and are responsible to the PIC at all times.

7.2.3.2. The PIC will ensure security team members receive a mission briefing, aircraft egress, and passenger briefings, as appropriate. **(T-3)**.

7.2.3.3. The flying squadron commander is the final approval authority for the need of ground security teams for their aircraft and authority may be delegated no lower than the PIC. **(T-2)**

7.2.3.4. Ground security teams will comply with AFMAN 24-204, at all times when carrying weapons, ammunition, and equipment onboard the aircraft. **(T-2)**.

7.2.4. Unauthorized Entry.

7.2.4.1. At the direction of the PIC, the aircraft will be locked or sealed as a measure to detect unauthorized entry. **(T-2)**.

7.2.4.1.1. If the seal used has a unique identifying number or code, record the number to ensure verification upon subsequent inspections **(T-2)**.

7.2.4.2. After locking or sealing the aircraft, the AC will make every effort to ensure the aircraft and aircraft-mounted safe are inspected once every 24 hours. **(T-3)**.

7.2.4.2.1. When a tamper-proof seal is used and no evidence of tampering is observed, a visual inspection of the container within the aircraft is not required.

7.2.4.2.2. If unable to complete an inspection within 24 hours, perform these checks no later than 1 hour after beginning the flight duty period. **(T-3)**.

7.2.5. Aircraft-Mounted Safe. An aircraft-mounted safe is required and will be installed on the aircraft. **(T-2)**.

7.2.5.1. The provided GSA lock is the only approved means of securing the aircraft-mounted safe.

7.2.5.2. The aircraft-mounted safe is approved by AFSOC/A3 for use in storing classified materials, weapons, ammunition, and sensitive or mission-critical equipment and materials.

7.2.6. During preflight activities, aircrews will inspect accessible areas to include aircraft wheel wells, air-conditioning compartments and cargo compartment for unauthorized packages, personnel, or other unfamiliar devices. Report any suspicious items to host security forces and/or chain of command. **(T-2)**.

7.3. Aircraft Security Risk Assessment Matrix. Planning agencies and the PIC will use **Table 7.1** Aircraft Security Risk Assessment Matrix to help assess the risk to parked aircraft in a permissive environment. **(T-2)**. This matrix will be used for planned overnight stops at non-US military installations overseas and civilian airfields. **(T-2)**. A cumulative score of less than 55 implies that normal unmanned aircraft security measures are adequate. A score of 55 to 90 implies moderate security risk. The squadron or mission commander may consider additional security measures. If the cumulative score is greater than 90, commanders should consider deploying or contracting security personnel. The squadron or mission commander is the final approval authority for aircraft security issues. Authority may be delegated no lower than the PIC. **Exception:** During unscheduled or emergency landings, the PIC is the final approval authority for aircraft security. The PIC should contact the US Embassy or US Defense Attaché Office (USDAO) for security assistance. **Note:** Normally, additional security for the aircraft is not required at military installations within a NATO country or US civilian airfields approved by the FAA/Transportation Security Administration (TSA). **(T-2)**.

Table 7.1. Aircraft Security Risk Assessment Matrix.

FACTORS	0 POINTS	5 POINTS	10 POINTS	15 POINTS
Local terrorist threat is currently: (See Note 1)	Negligible	Low	Medium (See Note 3)	High (See Note 3)
Installation/airport security services are:	Provided by host military forces only	Provided by Host military and contract security forces	Contract security forces only	Not available (See Note 3)
Host security forces control entry:	The flight line and installation/airport	To the flight line only	To the installation/ airport only	To neither flight line nor the installation/ airport (See Note 3)
There is perimeter fencing or barriers around:	The flight line and installation/ airport	The flight line only	The installation/ airport only	Neither the flight line nor the installation/ airport (See Note 3)
Host security forces will provide ___ to guard the aircraft	An armed sentry	An unarmed sentry	Random security patrol coverage only	No sentry or random patrol coverage (See Note 3)

Host security forces will _____security incidents involving the aircraft	Provide armed response to	Provide unarmed response to	Notify civilian authorities of	Notify the PIC of (See Note 3)
The aircraft will be parked:	Among civilian Aircraft	Separate from host military and civilian aircraft	Among other host military aircraft only	
The aircraft will____ illuminated during the hours of darkness. See Note 2)		Be adequately	Be marginally	Not be (See Note 3)
TOTAL POINTS: **Notes:** 1. Derive the local threat from valid intelligence sources only. 2. "Adequate lighting" is equal to the illumination provided by one standard USAF light cart. 3. If a security response team and security patrols are not present, commanders should consider deploying or contracting security personnel.				

7.4. Protective Standards for Aircraft Carrying Distinguished Visitors (DV). This paragraph applies specifically to aircraft transporting DV Code 4 or above. The PIC is responsible for aircraft security at en route stops. **(T-2)**.

7.4.1. DoD Installations. Notify the base security forces of estimated arrival and departure times. Request continuous security surveillance during the entire ground time. If the installation is unable to comply, arrange for the best protection available. **(T-2)**.

7.4.2. Non-DoD Installations. Contact the airport manager or installation commander to arrange for force protection. **(T-2)**.

7.5. Arming of Crew Members. The squadron CC, DO, or MC may direct arming of crew members as deemed necessary by mission threat analysis. Protect all weapons in accordance with AFI 31-117, *Arming and Use of Force by Air Force Personnel* and AFMAN 31-129, *USAF Small Arms and Light Weapons Handling Procedures*. **(T-2)**.

7.5.1. Weapons Issue. Before departing home station, authorized crew members will obtain weapons, ammunition, lock, and key. **(T-3)**. Crew members must present a current AF Form 523, *USAF Authorization to Bear Firearms*, to be issued a weapon. Crew members will be reissued the same weapon until the mission terminates at home station. **(T-3)**. If an armed crew member must leave the crew en route, transfer the weapon to another authorized crew member, using AF Form 1297, *Temporary Issue Receipt*. **(T-3)**.

7.5.2. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels/facilities if available. To transfer a loaded weapon to another crew member, place the weapon on a flat surface. Do not use a hand-to-hand transfer. **(T-3)**.

7.5.3. Wearing of Weapons. Weapons will be concealed at all times to protect the identity of armed crew members. **(T-2)**.

7.5.3.1. Due to the sensitivity of weapons in foreign countries, crews will keep their weapons inside the aircraft and out of sight of foreign nationals, even if the FCG allows them to be carried outside the aircraft. **(T-2)**. If a destination requires weapons be carried outside the aircraft, the controlling MAJCOM must approve such action prior to deployment. **(T-2)**.

7.5.4. Weapons Storage. If required for anti-hijacking purposes, crew members will be armed before beginning preflight or on load duties. **(T-3)**. When no passengers are on board and after a satisfactory stowaway check, weapons may be stored in the aircraft-mounted safe in-flight. Crew members will rearm before landing. Weapons need not be unloaded before being placed in the aircraft-mounted safe.

7.5.5. Crew Rest. During crew rest, store weapons in the most secure facility available. If a weapons storage facility is unavailable or the country prohibits or restricts the entry of weapons, secure firearms and ammunition in the aircraft-mounted safe. **(T-3)**.

7.6. General Anti-Hijacking Guidance. Aircrews must make every reasonable effort to resist an aircraft hijacking attempt. **(T-2)**. Resistance may vary from dissuasion, to direct physical confrontation, including the use of deadly force in accordance with CJCSI 3121.01B, *Standing Rules of Engagement/Standing Rules for the Use of Force for US Forces,* and all other applicable rules of engagement and rules for the use of force (ROE/RUF). It is imperative that all crew members are familiar with the ground and in-flight resistance actions and forced penetration of unfriendly airspace procedures in AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking),* and the FIH.

7.6.1. In the event of a hijacking, crew members must act immediately and resourcefully, without instruction, in order to counter the attacker successfully. An aircraft is most vulnerable when the crew is on board and the aircraft is ready for flight. Hijackers cannot be dealt with as ordinary criminals. Some are mentally disturbed, emotionally unstable individuals for whom the threat of death is not a deterrent, but a stimulus to crime. Delay tactics have been most successful in saving lives and property. Detection of potential hijackers before they board the aircraft is the best solution to the problem.

7.6.2. Acceptance of Passengers. The host station passenger processing and manifesting facility should conduct anti-hijacking inspections. Do not board passengers unless the AC is fully satisfied with these inspections. **Exception:** Passengers may be anti-hijack inspected at the aircraft by the aircrew if no passenger processing facility exists.

7.6.2.1. Aeromedical Procedures. Military medical facility commanders are responsible for the anti-hijacking inspection of patients. When patients are delivered to the aircraft by civilian sources, the aircrew will perform required inspections before departure. **(T-3).**

Chapter 8

LOADMASTER SPECIFIC OPERATIONAL GUIDELINES

8.1. General. LMs are responsible for all duties described in technical orders, Air Force instructions, and any other regulatory guidance that applies to their crew position. The PIC may assign additional duties as necessary to aid in ensuring mission success. In addition to the responsibilities listed above, the LM is responsible for, supervises, performs, and/or participates in the following:

8.1.1. Load planning, verifying proper aircraft configuration, aircraft pre-flight, operation of aircraft equipment, preparation of DD Form 365-4, *Weight and Balance Clearance Form F*, the safe movement of cargo and personnel into and out of the aircraft, ensuring proper tie-down of cargo/equipment, handling of troops/passengers, and verifying cargo/passengers against required documentation. **(T-2).**

8.1.2. Backing up the pilots on radio traffic, assigned altitude/heading/airspeeds, altimeter settings, traffic collision avoidance system (TCAS) alerts, monitoring systems and periodically accomplishing an interior/exterior scan. **(T-2).**

8.1.3. Perform and/or read checklists initiated by the PF. **(T-2).**

8.1.4. Assist the pilot in obstacle and terrain clearance during flight and ground operations. **(T-2).**

8.1.5. Perform any other ground or in-flight duties as briefed by the PIC. **(T-2).**

8.1.6. Ensure potable water is onboard the aircraft, as directed by the PIC. **(T-3).**

8.2. Responsibilities of Aircraft Loading.

8.2.1. Normally, all air freight, fleet service, and servicing personnel are authorized to perform assigned duties in all AFSOC aircraft when escorted by an authorized individual. **(T-2).**

8.2.2. At locations with no air terminal or traffic personnel, the shipper assumes responsibilities listed in **Paragraph 11.2.1**. **(T-2)**.

8.3. Emergency Exits and Safety Aisles. Load aircraft in such a manner that emergency exits are available as follows:

8.3.1. At least one cabin emergency exit is unobstructed. **(T-2)**.

8.3.2. Seats erected across an emergency exit are not considered an obstruction.

8.3.3. Access to the rear of the aircraft and entry into cargo or baggage areas, or emergency exits must be maintained without exception. **(T-2)**.

8.4. Air Cargo Restraint Criteria. Cargo will be restrained in accordance with the AOH. **(T-2)**.

8.5. Preflight Duties. The LM should report to the aircraft immediately after the crew briefing or as directed by the AC to begin preflight and/or loading duties.

8.5.1. The LM will sign off the AFE inventory Air Force technical order (AFTO) Form 46, communications and mission equipment inventory forms prior to each flight of the day for local flying and for any off stations missions. **(T-2).**

8.5.2. After removing the landing gear pins, the LM will show the pins to the AC prior to stowing the pins, and also ensure a set of chocks and a grounding wire are stowed aboard the aircraft **(T-2).**

8.6. Passenger Handling. LMs will ensure all passengers are manifested and the information is left with appropriate agency and retain sufficient copies for border clearance. **(T-3)**. The LM will complete anti-hijacking requirements for passengers in accordance with this manual. **(T-3)**.

8.6.1. Passengers may move about the cargo compartment. Encourage passengers to keep seat belts fastened when seated.

8.6.2. Do not allow passengers to lounge on or tamper with equipment, cargo, or baggage. **(T-2).**

8.6.3. LM will ensure classified equipment remains covered prior to passenger boarding, during the entire mission when passengers are on board, and passengers are denied access to this equipment. **(T-2).** If troops require access to classified equipment, the requirement should be made known to the PIC prior to the mission.

8.6.4. Floor loaded passengers. If available, any cushioning material may be used for seating to prevent the passenger from having to sit on the cargo floor. Seat passengers face forward in the aircraft. Attach a cargo tie-down strap for each row of passengers, in a manner that it will provide forward restraint and body stability. No more than 5 passengers should be in a row per strap. Pig tails with quick release are authorized as restraint for specific SOF operations.

8.7. Troop Movements. Every effort should be made to advise troops of mission progress or deviations. The troop commander should be identified prior to boarding.

8.7.1. Determine if the troop commander has any special requirements prior to departure, and advise the AC of these requirements if appropriate.

8.7.2. Determine if specific communications requirements exist and coordinate these requirements with the PIC.

8.8. Border Clearance. Customs, Immigration, and Agriculture require certain forms for border clearance. The LM will ensure that required forms are contained in the aircraft mission kit. **(T-3)**. Distribute the forms to the crew, ensure their completion prior to landing, and deliver them to the proper persons. **(T-3)**.

8.9. Weight and Balance. Weight and balance for the aircraft is accomplished in accordance with TO 1-1B-50, *Weight and Balance,* and the AOH. **(T-2)**.

8.9.1. A basic handbook of weight and balance, containing current aircraft status, is maintained by the unit possessing the aircraft which provides a supplemental weight and balance handbook for each aircraft. The LM will carry any additional weight and balance documentation necessary for the planned mission. **(T-2)**.

8.9.2. Compute weight and balance by using the moments method or the approved spreadsheet. **(T-2)**.

8.9.3. The weight and balance section of the unit possessing the aircraft is responsible for providing the appropriate agency with information required to keep documents current and accurate. **(T-2)**.

Chapter 9

TRAINING

9.1. General. See AFI 11-202, Vol 1, *Aircrew Training,* and AFMAN 11-2C-146A, Vol 1, *Aircrew Training*, for additional information.

9.2. Instructor/Flight Examiner Briefings. Before all training/evaluation missions, the PIC or instructors/flight examiners will brief their crew on the training/evaluation requirements, objectives, planned profiles, and seat changes. **(T-2)**.

9.3. Debriefing. Review and assess overall training performed. Each student or aircrew member should thoroughly understand what training has been accomplished. All required documentation should be completed as expeditiously as possible.

9.4. Training Aircraft Not Capable of Flight. If an aircraft is not capable of departure within 4 hours after scheduled departure time, the operations officer will cancel the training mission unless waived by the PIC. **(T-3)**. Departure consists of actual takeoffs for assigned or planned training missions and does not include maintenance ops checks.

9.5. Simulated Instrument Flight.

9.5.1. The use of a hood or other artificial vision-restricting device is not authorized for any phase of flight. **(T-2)**.

9.5.2. Initiate practice instrument missed approaches no lower than the minimum altitude for the approach being flown. **(T-2)**.

9.6. Confidence Maneuvers. All confidence maneuvers will be accomplished in VMC conditions under VFR with a discernible horizon. Ensure the airspace around the aircraft is clear of traffic by visually clearing the area prior to the maneuver. Do not exceed AOH limitations. **(T-2)**.

9.6.1. Stall Series. Begin stall series at least 5,000 ft AGL or 5,000 ft above the clouds if operating "VFR on top". For stall series training, recover from the stall at the first definite indication (e.g., stick shaker, actual stall of aircraft, decay of control effectiveness). An IP at a set of flight controls is required to perform this maneuver. **(T-2)**.

9.6.1.1. Simulated or actual engine-out stalls are prohibited. **(T-2)**.

9.6.2. Steep Turns. Accomplish steep turns at least 1,500 ft AGL, 1,500 ft above the clouds if operating "VFR on top". Accomplish 45 degree bank steep turns. Do not exceed 60 degrees of bank. **(T-2)**.

9.6.3. Slow Flight. Fly an airspeed 5 Knots Indicated Airspeed (KIAS) below V_{REF} for aircraft configuration. Do not exceed 15 degrees of bank. Authorized in day VMC only at a minimum of 1,500 ft AGL or 1,500 ft above a clouds if operating "VFR on top". **(T-2)**.

9.7. Prohibited Maneuvers. The following maneuvers or procedures are prohibited in the aircraft:

9.7.1. Spins. **(T-1)**.

9.7.2. Full Stalls. **(T-1)**.

9.7.3. Simulated runaway trim malfunctions. **(T-1)**.

9.8. Simulated Emergency Procedures.

9.8.1. Practice simulated emergencies which require placing switches in other than their normal position or the aircraft in an abnormal configuration as specified in the AOH only during training, evaluation, or currency flights when an instructor or flight examiner pilot is in one of the pilot seats. Preface all simulated emergencies with the word "simulated" and terminate simulated emergencies if an actual emergency arises. **Note:** For training, 0 Flap approaches and landings are not considered emergency procedures; however, if an actual condition exists that leads to a flapless landing, run appropriate emergency or abnormal checklists. **(T-2).**

9.8.2. IP candidates who occupy a pilot seat and are under the direct supervision of a flight examiner pilot not in the seat, may practice simulated emergency procedures during upgrade evaluations to IP.

9.8.3. EPs/IPs will provide clear direction to terminate simulated emergencies when required maneuvers have been performed or when an actual emergency arises. **(T-2)**.

9.8.4. Use a realistic scenario and do not compound emergencies. Limit simulated emergencies to noncritical phases of flight when possible. Notify the controlling agency if a nonstandard traffic pattern or maneuvering airspace is required. **(T-2)**.

9.8.5. Simulated Engine Failure. Simulated engine failures will only be accomplished with an IP at a set of functional aircraft controls. **(T-2)**. Weather required during daylight (or when using NVGs) is circling minimums for the approach being flown. **(T-2)**. Weather required for nighttime conditions is 1,000 ft ceilings and 2 statute miles (SM) visibility or circling minimums, whichever is higher. **(T-2)**.

9.8.5.1. Initiate simulated engine failure no lower than 200 ft AGL or approach minimums if during an instrument approach. The IP will initiate the emergency.

9.8.5.2. The IP will set the power lever or throttle to a setting equivalent to a feathered propeller once the flying pilot correctly executes/applies the proper critical action procedure. **(T-2)**.

9.8.5.3. Retard the appropriate throttle to approximately 10% torque to simulate zero thrust on the simulated failed engine. **(T-2)**.

9.8.5.4. Turns into the simulated failed engine should be minimized. Turns into the simulated failed engine are permissible but require a higher degree of pilot skill than with actual failed engines and must be smooth and coordinated. ***WARNING*:** Improper application of rudder or power can lead to an immediate out-of-control situation where recovery might not be possible.

9.8.5.5. No lower than 100' AGL, the simulated inoperative engine will be available for use by the PF to accomplish a landing or go-around. **(T-2)**. A go-around will be executed if a safe landing is not ensured. **(T-2)**.

9.8.5.6. Simulated Engine Out Go-around or Missed Approach. Initiate simulated engine out go-around or missed approach no lower than 100 ft AGL or minimum altitude for the approach. **(T-2)**.

9.8.6. Aborted Takeoff. Authorized during day or night VMC, or with NVGs. The runway must be dry, a minimum width of 44 ft, and long enough to meet normal takeoff distance requirements. **(T-2)**.

9.8.7. Actual Engine Shutdown and Air Start. If required by a formal training syllabus, one engine may be shut down in day VMC only at a minimum of 5,000 ft above the ground or cloud deck, whichever is higher. Do not shut down the engine unless the aircraft can remain clear of clouds and recover and land under visual flight rules. **(T-2)**.

9.9. Touch-and-go/Stop-and-go Operations.

9.9.1. The touch-and-go checklists may be used

9.9.1.1. Upon initial takeoff if the crew is intending to remain at the departure airfield.

9.9.1.2. When performing multiple instrument approaches or VFR pattern practice at the same airfield.

9.9.1.3. When transitioning to another airfield within 75 NM.

9.9.2. Wet Runways. Touch-and-go operations are prohibited when crosswinds exceed 15 KIAS. **(T-2)**.

9.9.3. Icy Runways. Stop-and-go or touch-and-go operations are prohibited on icy runways. **(T-2)**.

9.9.4. Ceiling and visibility (RVR) for touch-and-go operations must be at least 300 ft and ¾ mile. **(T-2)**.

9.10. NVG Operations. NVG training illumination requirements are the same as outlined in **Chapter 5**. NVG instrument approach weather minimums are the minimums for the approach. **(T-2)**

9.10.1. Training. Aircrews will normally use AMP-3 with covert lighting or AMP-4 markings for training; refer to AFI 13-217, *Drop Zone and Landing Zone Operations*. To sustain proficiency in the most demanding situations, light configuration priority for the first approach should be to an AMP-4 configuration.

Chapter 10

LOCAL OPERATING PROCEDURES

10.1. General. Units will publish local and unique unit operating procedures. **(T-2).** These procedures will not be less restrictive than items contained in this or extracted from other AFI. **(T-2).**

Chapter 11

OPERATIONAL REPORTS AND FORMS

11.1. General. This chapter contains a description of applicable reports and forms. For assistance in completing safety forms contact the wing/group, squadron, or local flight safety officer. **Note:** When filling out safety forms, be as complete as possible but do no compromise Personably Identifiable Information (PII). **(T-0)**. Do not put social security numbers on any safety form. **(T-0).**

11.2. AFSOC Form 97, *Aircraft Incident Worksheet*. Refer to the 492d Special Operations Wing (SOW) Incident Reporting Guide on 492d SOW Safety SharePoint site, AFI 91-204, *Safety Investigation and Hazard Reporting*, and AFI 91-204 AFSOC Sup, *Safety Investigation and Hazard Reporting* for additional guidance. The safety office (HQ AFSOC/SE) will be notified of the following high interest items: IFR incidents, dropped objects, or any other incident which, in the judgment of the flight safety officer (FSO), needs to be reported. Use the AFSOC Form97, when reporting these incidents to HQ AFSOC/SE. AFI 91-204, and the AFSOC Sup provide policy guidance that is common to investigating and reporting all US Air Force mishaps and instructions for using AFSOC Form 97. Safety investigations and reports are conducted and written solely to prevent future mishaps.

11.2.1. Notify the appropriate authorities of any mishap involving aircraft or crew in accordance with AFI 91-204 AFSOC Sup. When notified, AFSOC units will initiate investigative and reporting actions in accordance with AFI 91-204 AFSOC Sup. **Note:** Do not attempt to classify a mishap. **(T-1)**.

11.3. AF Form 457, *USAF Hazard Repor*t. Refer to AFI 91-202, *The US Air Force Mishap Prevention Program*. The USAF hazard reporting system provides a means for Air Force personnel to alert supervisors and commanders to hazardous conditions requiring prompt corrective action. A hazard report may be submitted on any event that includes hazards, unsafe procedures, practices, or conditions that affects flight, ground, weapons, systems or space safety. Report hazards to the responsible supervisor or consult local safety office for guidance. A hazard is any condition, act, or circumstance that jeopardizes or may jeopardize the health and well-being of personnel, or which may result in loss, damage, or destruction of any weapons system, equipment, facility, or material resource.

11.4. AF Form 651, *Hazardous Air Traffic Report (HATR)*. Refer to AFI 91-202.

11.4.1. The Air Force HATR program provides a means for Airmen to report all near midair collisions and alleged hazardous air traffic conditions. Use information in HATR reports only for mishap prevention. Refer to AFI 91-202 for a list of reportable incidents.

11.4.2. Procedures:

11.4.2.1. Make an airborne report of the hazardous condition to the nearest ATC agency flight service station (FSS), control tower, or aeronautical radio station, and give the following information as appropriate:

11.4.2.1.1. Identification or call sign.

11.4.2.1.2. Time and place (radial/distance measuring equipment (DME), position relative to the airfield, etc.).

11.4.2.1.3. Altitude or flight level.

11.4.2.1.4. Description of the other aircraft or vehicle.

11.4.2.1.5. Include a verbal statement as soon as possible after occurrence that a written HATR report will be filed upon landing. **Note:** ATC agencies (e.g., FAA, etc.) must know if an official report is being filed.

11.4.2.2. File the HATR as soon as possible (within 24 hours) using any available means of communication. Normally, it should be filed at the base operations office at the landing airport. If this is impractical and if communications permit, notify the safety office of the Air Force base where the condition occurred, the safety office at the home station, or as prescribed by the overseas MAJCOM. In any case, provide the safety office with all available information needed to prepare the AF Form 651. Turn in a completed copy of the AF Form 651 to the wing/group safety office. **Note:** HATR reports are not privileged information and may be released outside the USAF.

11.5. Reports of Violations/Unusual Events or Circumstances. Violations identified in AFI 11-202, Vol 3, AFSOC Sup, and navigation errors (including overwater position errors exceeding 24 NM, border and ATC violations) will be reported to the appropriate squadron standardization and evaluations office. **(T-2)**.

11.5.1. Include the following: factual circumstances, investigation and analysis, findings and conclusions, recommendations, and actions taken. **(T-2)**. Attachments should include: notification of incident, crew orders, statement of crew members (if applicable), and any documentation providing additional evidence

11.5.2. In addition to the information listed, the historical flight plan will be turned in to the C2 center or owning standardization and evaluation office. **(T-2)**.

11.5.3. Commanders will send the original investigation report within 45 days to the Inspector General (HQ AFSOC/IG). **(T-2)**.

11.5.4. The following operational report (OPREP)-3, Event or Incident Report, reporting procedures for all aircraft notified of navigational errors exceeding 24 NM will be reported under AFI 10-206. **(T-2)**.

11.5.5. On notification of a navigational position error, the PIC (or agency receiving notification) documents the circumstances surrounding the incident (report content below) and ensures submission of an OPREP-3 report through C2 channels. **(T-2)**. Include the following:

11.5.5.1. Name and location of unit submitting report, mission identification number, reference to related OPREPs-3, type of event (e.g., state "navigation position error."), date, time (Zulu), and location (e.g., ATC sector).

11.5.5.2. Description of facts and circumstances. Include aircraft type and tail number, unit (wing/group or squadron assignment of crew), home base, route of flight, point of alleged deviation, and miles off course.

11.5.6. PICs must keep the appropriate agencies apprised of any unusual events or circumstances impacting their missions. **(T-2)**. Examples of reportable events include: Jamming, intrusion, interception, loss of multiple engines, hostile fire, injury to passengers or

crew members, etc. This list is not exhaustive. Some events may require the C2 agency to forward OPREP reports to higher headquarters.

MARK D. KELLY, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 10-801, *Defense Support of Civil Authorities (DCSA*), 23 December 2015

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 21 September 2018

AFI 11-202, Vol 1, *Aircrew Training,* 22 November 2010

AFI 11-202, Vol 2, *Aircrew Standardization/Evaluation Program,* 06 December 2018

AFI 11-202, Vol 2, AFSOC Sup, *Aircrew Standardization/Evaluation Program,* 23 July 2013

AFI 11-202, Vol 3, *General Flight Rules,* 10 August 2016

AFI 11-202, Vol 3, AFSOC Sup, *General Flight Rules,* 28 July 2017

AFI 11-218, *Aircraft Operations and Movement on the Ground,* 28 October 2011

AFI 11-301, Vol 1, *Aircrew Flight Equipment (AFE) Program,* 10 October 2017

AFI 11-301, Vol 1, AFSOC Sup, *Aircrew Flight Equipment (AFE) Program,* 7 January 2015

AFI 11-401, *Aviation Management,* 10 December 2010

AFI 11-401, AFSOC Sup, *Aviation Management,* 19 January 2012

AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking) (FOUO),* 21 June 2010

AFI 13-217, *Drop Zone and Landing Zone Operations,* 10 May 2007

AFI 13-217, AFSOC Sup, *Drop Zone and Landing Zone Operations,* 15 May 2014

AFI 31-117, *Arming and Use of Force by Air Force Personnel,* 2 February 2016

AFI 16-1404, *Air Force Information Security Program,* 29 May 2015

AFI 33-360, *Publications and Forms Management,* 1 December 2015

AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel,* 18 July 2011

AFI 91-202, *The US Air Force Mishap Prevention Program,* 24 June 2015

AFI 91-204, *Safety Investigation and Hazard Reporting,* 27 April 2018

AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials,* 11 November 1994

AFMAN 11-2C-146A, Vol 1, *Aircrew Training,* 22 February 2019

AFMAN 10-206, *Operational Reporting (OPREP),* 18 June 2018

AFMAN 11-217, Vol 1, *Instrument Flight Procedures,* 22 October 2010

AFMAN 11-217, Vol 3, *Supplemental Flight Information,* 23 February 2009

AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments,* 13 July 2017

AFMAN 31-129, *USAF Small Arms and Light Weapons Handling Procedures,* 29 June 2016

AFMAN 33-363, *Management of Records,* 1 March 2008

AFPD 11-2, *Aircrew Operations,* 31 January 2019

CJCSI 3121.01B, *Standing Rules of Engagement/Standing Rules for the Use of Force for US Forces*

DoDD 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report*

DoDI 4515.13, *Air Transportation Eligibility*

DoDM 5200.01, *DoD Information Security Program; Vol 1-4*

EO 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers*

TO 1-1B-50, *Weight and Balance,* 01 August 2015

37 USC 301(a), *Incentive Pay: Hazardous Duty*

492 Special Operations Wing Incident Reporting Guide

Adopted Forms

AF Form 15, *USAF Invoice*

AF Form 457, *USAF Hazard Report*

AF Form 651, *Hazardous Air Traffic Report*

AF Form 847, *Recommendation for Change of Publication*

AFTO Form 46, *Prepositioned Aircrew Flight Equipment*

AFSOC Form 97, *Aircraft Incident Worksheet*

AF Form 523, *USAF Authorization to Bear Firearms*

AF Form 4327A, *Crew Flight Authorization (FA)*

AF Form 1297, *Temporary Issue Receipt*

AFTO Form 46, *Prepositioned Aircrew Flight Equipment*

DD Form 175, *Military Flight Plan*

DD Form 365-4, *Weight and Balance Clearance Form F*

DD Form 1801, *DoD International Flight Plan*

DD Form 1854, *U.S. Customs Accompanied Baggage Declaration*

DD Form 2131, *Passenger Manifest*

Abbreviations and Acronyms

AC—Aircraft Commander

AETC—Air Education and Training Command

AF—Air Force

AFI—Air Force Instruction

AFJI—Air Force Joint Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFSOC—Air Force Special Operations Command

AFSOF—Air Force Special Operations Forces

AFTO—Air Force Technical Order

AFTTP—Air Force Tactics Techniques and Procedures

AGL—Above Ground Level

AIMS—Airlift Implementation and Monitoring System

AMC—Air Mobility Command

AMP—Airfield Marking Pattern

AOH—Aircraft Operating Handbook

AP—Area Planning

APU—Auxiliary Power Unit

ARFF—Aircraft Rescue Firefighting

ASRR—Airfield Suitability and Restriction Report

ATC—Air Traffic Control

C—Celsius

C2—Command and Control

CC—Commander

CDRUSSOCOM—Commander, United States Special Operations Command

CHOP—Change in Operational Control

CIK—Crypto Ignition Key

CIRVIS—Communication Instructions for Reporting Vital Intelligence Sightings

CLS—Contract Logistical Support

COMAFSOF—Commander Air Force Special Operations Forces

COMSEC—Communications Security

CONUS—Continental United States

CP—Copilot

DH—Decision Height

DO—Director of Operations

DoD—Department of Defense

DoT—Department of Transportation

DV—Distinguished Visitors

EFB—Electronic Flight Bag

ERO—Engine(s) Running On or Offload

ESA—Emergency Safe Altitude

ETA—Estimated Time of Arrival

ETP—Equal Time Point

F—Fahrenheit

FAA—Federal Aviation Administration

FAF—Final Approach Fix

FBO—Fixed Base Operator

FCG—Foreign Clearance Guide

FCIF—Flight Crew Information File

FDP—Flight Duty Period

FIH—Flight Information Handbook

FL—Flight Level

FLIP—Flight Information Publication

FMS—Flight Management System

FOD—Foreign Object Damage

FPM—Feet Per Minute

ft—Feet

GDSS—Global Decision Support System

GP—General Planning

GPS—Global Positioning System

HATR—Hazardous Air Traffic Report

HAZMAT—Hazardous Material

HQ—Headquarters

IAF—Initial Approach Fix

IAP—Instrument Approach Procedure

IFG—In-flight Guide

IFR—Instrument Flight Rules

IMC—Instrument Meteorological Conditions

IP—Instructor Pilot

KIAS—Knots Indicated Air Speed

LM—Loadmaster

LZ—Landing Zone

LZAP—Landing Zone Arrival Procedure

MAP—Missed Approach Point

MAJCOM—Major Command

MC—Mission Commander

MDA—Minimum Descent Altitude

MEL—Minimum Equipment List

MEP—Mission Essential Personnel

MESL—Minimum Essential Subsystem List

MIJI—Meaconing, Intrusion, Jamming, and Interference

MOA—Memorandum of Agreement

MP—Mission Pilot

MSA—Minimum Safe Altitude

MSL—Mean Sea Level

NACO—National Aeronautical Charting Office

NM—Nautical Miles

NVG—Night Vision Goggle

OCONUS——Outside Continental United States

OG/CC—Operations Group Commander

OPCON—Operational Control

OPR—Office of Primary Responsibility

OPREP—Operational Report

ORM—Operational Risk Management

QRH—Quick Reference Handbook

PF—Pilot Flying

PIC—Pilot In Command

PNF—Pilot Not Flying

PRC—Portable Radio Communicator

RNAV—Area Navigation

SI—Spectrum Interference

SID—Standard Instrument Departure

SITREP—Situation Reports

SKL—Secure Key Loader

SM—Statute Mile

TCAS—Traffic Collision Avoidance System

TOLD—Takeoff and Landing Data

USSOCOM—United States Special Operations Command

uvGO—Universal Weather GO Application

VFR—Visual Flight Rules

VMC—Visual Meteorological Conditions

Vref—Reference Speed

VVI—Vertical Velocity Indicator

Terms

ABORT—To turn back from or cut short a mission before its successful completion for reasons other than enemy action. This may occur after an aircraft is airborne or on the ground before takeoff.

ACCELERATE–STOP DISTANCE—The runway required to accelerate the aircraft to rotate speed, experience engine failure, and stop using the brakes IN ACCORDANCE WITH the AOH.

ADDITIONAL CREW MEMBER—An additional crew member is one assigned in addition to the normal aircrew complement required for a mission for purposes of supervising or monitoring in-flight procedures.

ALERT AIRCRAFT—An operationally ready aircraft specifically designated to be launched IN ACCORDANCE WITH timing factors established for the assigned missions with a ready crew available.

BORDER CLEARANCE—Those clearances and inspections required to comply with federal, state, Agricultural, Customs, Immigration, and Immunization requirements.

CLASS E PHYSIOLOGICAL EVENT—Category of physiological event as detailed in AFMAN 91-223.

COMMANDER, AIR FORCE SPECIAL OPERATIONS FORCES (COMAFSOF)—The commander designated by Commander, United States Special Operations Command (CDRUSSOCOM) for CONUS deployments or by Theater SOC/CCs for overseas deployments, who is responsible for management of Air Force Special Operations Forces (AFSOF) within a theater, a geographic area, or a designated operation. The COMAFSOF is responsible to CDRUSSOCOM for management of CONUS-deployed AFSOF or to the respective SOC/CC for

management of theater assigned AFSOF and is responsible to COMAFSOC for monitoring and management of AFSOF operating within the specific area of responsibility.

COMMAND AND CONTROL—An arrangement of personnel and facilities, plus the means of acquisition, processing, and dissemination of information, used by a command in planning, directing, and controlling operations.

CREW COMPLEMENT—The number of crew personnel used for a specific mission.

DESIGNATED REPRESENTATIVE—Individuals authorized in writing by the appropriate command level as having decision-making authority.

EXERCISE—A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training or evaluation. It may be combined, joint, or single-service, depending on participating organizations.

HAZARDOUS CARGO or MATERIALS—Explosive, toxic, caustic, nuclear, combustible or flammable, biologically infectious, or poisonous materials that may directly or indirectly endanger human life or property, particularly if misused, mishandled, or involved in accidents (AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Material*).

MANIFEST—Movement record of traffic airlifted on aircraft operated by, for, or under the control of the Air Force.

MISSION FOLLOWING—Monitoring the location and status of aircraft and crews through the use of departure, arrival, and advisory messages.

OPERATIONALLY READY AIRCRAFT—An aircraft which is capable of flight with all required equipment operable to carry out the primary assigned mission.

PIG TAILS—Passenger restraint device.

PROTECTION LEVEL—system of asset defense that determines the level of security dedicated to resources based on programmed manpower.

ZEROIZE—To remove all classified information from a piece of equipment.

Attachment 2

EQUAL TIME POINT CALCULATIONS

A2.1. Equal Time Point (ETP). The equal time point is an airborne decision point. It is the point along the route of flight (usually over water) from which it takes the same amount of time to return to the point of departure (or to the last suitable airfield) as it would to continue to the destination (or the first suitable airfield). In no wind conditions, the ETP is simply the halfway point between the two airfields. However, when flying into a headwind, the ETP moves closer to the destination aerodrome. Conversely, when flying into a tailwind, the ETP moves closer to the departure aerodrome. These calculations will also be impacted by the decision to fly at lower altitudes due to loss of aircraft pressurization without supplemental oxygen. The distance and time to the ETP from the departure aerodrome (or last suitable airfield) may be calculated using the following formulas: (reference **Figure A2.1** and **A2.2**.)

Figure A2.1. Equal Time Point Formula, Problem, and Solution.

$$\text{Distance to ETP} = \frac{(\text{Total Distance}) \times (\text{Ground Speed Home})}{(\text{Ground Speed Out}) + (\text{Ground Speed Home})}$$

$$\text{Time to ETP} = \frac{\text{Distance to ETP}}{\text{Ground Speed Out}}$$

Problem:

Distance from A to B=800 nm

Wind: 50 kts headwind

TAS: 250 kts

Solution:

$$\text{Distance to ETP} \quad \frac{800 \times 300}{200 + 300} - \frac{240{,}000}{500} = 480 \text{ nm}$$

GS Out: 200 kts (250 kts - 50 kt headwind)

$$\text{Time to ETP} = \frac{480 \text{ nm}}{200 \text{ kts}} = 2.4 \text{ hrs}$$

Figure A2.2. Example.