

19 APRIL 2001

Flying Operations

EC-137D OPERATIONS PROCEDURES



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OPR: HQ AFSOC/DOVS
(MSgt Donald R. Wilson)
Supersedes AFI 11-2EC-137V3, 1 December
1999

Certified by: HQ USAF/XOO
(Brig Gen Michael S. Kudlacz)
Pages: 92
Distribution: F

This instruction implements AFD 11-2, *Flight Rules and Procedures*. It establishes procedures for the operation of EC-137D aircraft by aircrews employed by Air Force Special Operations Command (AFSOC). It provides policies and procedures for most circumstances, but should not replace sound judgment. This instruction is not applicable to the Air National Guard or Air Force Reserve Command. The Paperwork Reduction Act of 1974 as amended in 1996 affects this instruction. Also, the Air Force Forms Management Program IAW AFI 37-160V8, *The Air Force Publications and Forms Management Program - Developing and Processing Forms*, affects this instruction. This instruction contains references to the following field (subordinate level) publications and forms which until converted to departmental level publications and forms, may be obtained from the respective MAJCOM publication office:

Publications: AFSOCR 66-2

Forms: AFSOC 11, AFSOC 38, AFSOC 41, AFSOC 54, AFSOC 55, AFSOC 97, AMC 409, AMC 410

SUMMARY OF REVISIONS

This revision incorporates Interim Change 2001-1 and corrects the Actual Engine Shutdown and Airstart, and Simulated Engine Failure restrictions in Figure 9.2., Training Maneuver Restrictions. See the last attachment of this publication for the complete text of the IC. A bar (|) indicates revision from the previous edition.

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Chapter 1

GENERAL INFORMATION

1.1. General. This is a single source command instruction for AFSOC EC-137D aircrews. Use it in conjunction with aircraft operations manuals, flight information publications (FLIP), and applicable USAF directives. It is written for normal and contingency operations to reduce procedural changes at the onset of contingencies. Training procedures are included. HQ AFSOC Standardization/Evaluation (HQ AFSOC/DOV) has overall responsibility for the administration of this instruction.

1.2. Applicability. This publication is directive for all personnel assigned or attached to AFSOC units flying EC-137D aircraft. Crewmembers require a thorough working knowledge of all procedures applicable to their crew position.

1.3. Distribution. Distribute this volume to aircrews and operational sections on as required basis.

1.4. Supplements. Units may publish a supplement to this instruction. Do not duplicate, alter, or amend the provisions of the basic volume. File supplements according to AFI 37-160, Volume 7, *The Air Force Publications and Forms Management Program - Publication Libraries and Sets*. Upon publication, forward one copy of all supplements to HQ AFSOC/DOVS.

1.5. Revisions. Personnel at all echelons are encouraged to submit proposed changes IAW AFI 11-215, *Flight Manuals Procedures*, to HQ AFSOC/DOVS. Use AF Form 847, Recommendation for Change of Publication.

1.6. Deviations and Waivers. Do not deviate from the policies and guidance in this instruction, except:

1.6.1. For safety.

1.6.2. If beyond command and control communications capability, aircraft commanders may deviate from this instruction as necessary to protect their crew and aircraft. Although this publication provides guidance for aircraft operations under most circumstances, it is not a substitute for sound judgment. Report deviations, without waiver, through channels to HQ AFSOC/DOVS within 24 hours, followed by a detailed written report.

1.6.3. Unless otherwise indicated, the AFSOC/DO is the waiver authority for this volume. AFSOC/DO may delegate this authority to the COMAFSOF for operationally assigned forces. Request waivers through command and control channels.

1.7. Key Words and Definitions:

1.7.1. "Will" and "shall" indicate a mandatory requirement.

1.7.2. "Should" indicates a recommended procedure that is required if practical.

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

1.7.4. WARNING: Operating procedures and techniques, which may result in personal injury or loss of life if not carefully followed.

1.7.5. CAUTION: Operating procedures and techniques, which may result in damage to equipment if not carefully followed.

1.7.6. NOTE: Operating procedures and techniques, which are essential to emphasize.

Chapter 2

COMMAND AND CONTROL

2.1. General. The AFSOC command and control (C2) system is based on the principles of centralized monitoring and decentralized control and execution. The result is a C2 mechanism which keeps the AFSOC Commander informed of the current status of AFSOC forces while enabling the wing or group commander to exercise control over day to day operations unless operational control is changed (CHOPed) to another operational commander.

2.2. Operational Control (OPCON). AFSOC is designated as the controlling agency for USSOCOM assigned Air Force aircraft, while theater special operations commands (SOC) have OPCON of theater-based assets. In practice, responsibility for planning and executing AFSOC missions is routinely delegated to the wing or group commander. The wing or group commander, in turn, exercises control of non-close-hold missions through the command post. In the event that assigned forces undergo a change in operational control (CHOP), responsibility for mission monitoring passes from the wing or group C2 facility to the gaining command. Changeover will be accomplished IAW the pertinent OPLAN, OPORD, or deployment or execution order.

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 agency. The wing or group commander will ensure procedures are established for the responsible agency to monitor mission progress and advise the AFSOC/DO and CC as appropriate.

2.3. Mission Monitoring. Except for selected close-hold missions, the Command Center monitors aircraft, which move to, from, or between off-station locations. The Command Center tracks off-station aircraft via the command and control system and direct reporting from aircrew. The following mission monitoring procedures primarily apply to missions that are not close-hold in nature and have not been CHOPed to another command.

2.3.1. The mission commander, or if none is assigned, aircraft commander is responsible for flight reporting. Aircraft movement will be reported by SATCOM, INMARSAT, HF or land line to the appropriate controlling agency(ies). Normally make the report at the beginning and end of each flight leg. Include all takeoff and landing times, flight duration, maintenance status, and point of contact for the aircraft or mission commander as applicable.

2.4. Mission Commander. The unit commander will designate a mission commander when the aircraft or crew is deployed away from home station for training, exercises, or other operations. The mission commander should be a field grade officer. The mission commander or air mission commander will not be a primary crewmember for exercises, but may fly as a crewmember when mission commander duties do not adversely affect crew rest. Mission commander duties include, but are not limited to:

2.4.1. Briefing crews on local operating procedures.

2.4.2. Coordinating with ATC, range control, passengers, and others that may impact the mission.

- 2.4.3. Ensuring personnel have ample and adequate billeting, messing, and transportation arrangements.
- 2.4.4. Ensuring maintenance personnel know of aircraft and fuel requirements.
- 2.4.5. Submitting timely reports on aircraft movements (see paragraph [2.3.1.](#)).

2.5. Aircraft Commander Responsibility and Authority. The AFSOC Form 41, **Flight Authorization**, designates an aircraft commander for all flights. Aircraft commanders are:

- 2.5.1. In command of all persons on board the aircraft.
- 2.5.2. Responsible for the welfare of their crew, passengers and the safe accomplishment of the mission.
- 2.5.3. Vested with the authority necessary to manage their crew and safely 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 their crew or mission.
- 2.5.6. Charged with keeping the applicable commander and/or DV Code informed of mission progress and difficulties.
- 2.5.7. Responsible for the timely reporting of aircraft movements in the absence of a mission commander (see paragraph [2.4.3.](#)).
- 2.5.8. The aircraft commander is the focal point for interaction between the aircrew and mission support personnel. The controlling agency is the focal point for all required mission support activities. The aircraft commander will establish a point of contact with the controlling agency prior to entering crew rest.

2.6. Mission Clearance Decision. The final decision to delay a mission may be made either by the agency with OPCON or the aircraft commander 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 aircraft commander. If the aircraft commander refuses a mission, it will not depart until the conditions have been corrected or improved so that the mission can operate safely. Another aircraft commander and aircrew will not be alerted to take the same mission under the same conditions.

2.6.1. Diverting or rerouting a mission must 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 mission or aircraft commander must notify the controlling authority as soon as possible.

2.6.1.1. The controlling agency directing the rerouting or diversion is responsible for ensuring destination requirements or facilities are adequate for the aircraft.

2.6.1.2. The aircraft commander will notify the controlling agency of any aircraft or aircrew limitations that may preclude diverting or rerouting the mission.

2.6.2. When directing an aircraft to an alternate airfield, the controlling agency will ensure the aircraft commander is provided existing and forecasted weather for the alternate. If the planned alternate is

unsuitable upon arrival at destination, the controlling agency will advise the aircraft commander of other suitable alternates.

Chapter 3

CREW COMPLEMENT AND MANAGEMENT

3.1. Aircrew Qualification. Each person assigned as a primary crewmember must be qualified or in training for qualification in that crew position, mission, and type aircraft.

3.1.1. Basic aircraft qualification (BAQ) crewmembers may perform primary crew duties on any non-mission sortie and on missions when receiving mission qualification training or evaluations under the supervision of a qualified instructor or flight examiner in their respective crew position.

3.1.2. Mission ready (MR) crewmembers may perform primary crew duties on any mission or non-mission sortie.

3.1.3. Basic mission capable (BMC) crewmembers may perform primary duties on any unilateral training mission. For other missions, the unit commander must determine the readiness of each BMC crewmember to perform primary crew duties.

3.1.4. Noncurrent (NC) or unqualified (UNQ) pilots may perform crew duties only on designated training or evaluation missions under the supervision of a qualified instructor or flight examiner pilot. Both pilots must be fully qualified unless excepted by AFI 11-401. Pilots noncurrent in an overseas sortie can fly under the supervision of another pilot current in overseas event.

3.1.5. Other NC or UNQ crewmembers may perform duties in their primary crew position on any mission when under direct supervision of a qualified instructor or flight examiner in their respective crew position. In this case, the student crewmember and the instructor or flight examiner fulfills the requirement for one primary position as specified in [Figure 3.1](#).

3.2. Crew Complement. Minimum crew complement is as specified in [Figure 3.1](#). If resources permit, commanders may add crewmembers to enhance mission accomplishment or maximize training. The wing or group commander, or COMAFSOF, is the waiver authority for all other crew positions less than the minimum specified by the [Figure 3.1](#). and for modifying the minimum crew complement.

3.3. Additional Crewmembers (ACM). An ACM is one assigned in addition to the normal aircrew complement required for a mission. ACM status granted under this paragraph is applicable only to AFSOC aircraft.

3.3.1. Policy Governing ACM Authorization. Unit commanders may authorize ACM status to personnel assigned or attached to the unit. ACM status will not be granted to personnel while on leave. Unit commanders have approval authority for personnel traveling on ACM orders to fly on aircraft under their control.

3.3.2. Orders. ACM travel authority must be cited on the orders and include the crew position for which the individual is qualified. Travel orders that do not cite ACM authorization must be accompanied by written authorization (letter or message).

3.3.3. Logging of Flying Time. Flight examiners, flight surgeons, and medical technicians log flying time IAW AFI 11-401, *Flight Management*. Other ACMs may log flying time only at the discretion of the aircraft commander.

3.3.4. Briefings. The aircraft commander or representative will brief all ACMs on emergency procedures and egress.

3.3.5. Security Clearance. ACMs will possess a security clearance and will be briefed appropriately to the mission being performed.

3.4. Interfly. Wing or group commander, or COMAFSOF, is the approval authority for interfly on AFSOC aircraft under their control. In all cases, the crew will be qualified in the aircraft.

3.5. Scheduling Restrictions. In addition to guidance in AFI 11-202 Volume 3 Chapter 9, comply with the following restrictions. Crewmembers will not be scheduled to fly nor will they perform crew duties:

3.5.1. When the maximum flying time limitations of AFI 11-202 Volume 3, *General Flight Rules*, will be exceeded.

3.5.2. After consuming alcoholic beverages within 10 hours of show time or 12 hours of departure time, whichever is earliest, after consuming alcoholic beverages within 12 hours of assuming alert duty; or when under the influence of alcohol.

3.5.3. Within 24 hours after being administered anesthetics for dental or surgical procedures. Flight surgeons may authorize shorter periods of not less than 8 hours.

3.5.4. When taking oral or injected medication comply with the restrictions in AFI 48-123, *Medical Examination and Standards*.

3.5.5. Aircrew members who have been exposed to aircraft ground pressurization checks exceeding 10 minutes will not fly within 24 hours. Aircrew members who accomplish aircraft pressurization checks of less than 10 minutes duration will be restricted from flying for 30 minutes.

3.6. Crew Rest. In addition to AFI 11-202 Volume 3 Chapter 9, comply with the following guidance.

3.6.1. Do not give crewmembers less than 12 hours crew rest without wing or group commander or COMAFSOF approval. Under unusual circumstances, it is permissible for crewmembers not previously placed in crew rest to fly if they say they are sufficiently rested.

3.6.2. Crewmembers departing on missions scheduled to recover away from home station should be notified 24 hours before reporting for the mission. The first 12 hours are not considered crew rest, but are designed to allow crewmembers to resolve personal affairs. During these first 12 hours, a crewmember may perform limited nonflying duties. The second 12-hour period is inviolate. For short-notice mission tasking or when a scheduled crewmember is unable to fly, crewmembers may be given less than 24 hours notification with unit DO approval; however, they will not be given less than 12 hours. For all other missions, crewmembers will enter crew rest 12 hours before reporting for the mission.

3.6.3. Alert crews will be given 12 hours crew rest prior to the earliest anticipated show time.

3.6.4. Normal ground time at enroute stations should be planned for at least 16 hours between scheduled landing and departure time.

3.6.5. If the aircraft is not capable of being airborne within 4 hours of scheduled departure time, the aircrew may be returned to crew rest or released from the flight. Two hours minimum for aircraft pre-flight and stations time within the 4 hours should be provided. The unit commander/DO may grant

exceptions at the request of the aircraft commander. This paragraph applies to all missions, including unit training missions.

3.6.6. The maintenance personnel are responsible to the aircraft commander. The aircraft commander and maintenance supervisor will determine how long the maintenance personnel can safely perform aircraft recovery actions. The maintenance personnel must have the opportunity to sleep 8 hours of each 24-hour period.

3.6.7. Postmission crew rest begins upon the final return of an individual to home station (not applicable to continuing missions) and runs continuously until completed. Postmission crew rest must be completed before starting the predeparture crew rest period for a subsequent mission. Do not require a crewmember to get immunizations, engage in ground training, perform alert or squadron duties, or perform any other activity, which would encroach upon crew rest. Waiver authority for postmission crew rest is the wing or group commander, or COMAFSOF. Waiver requests for postmission crew rest are considered on a case by case basis only with the concurrence of the individual crewmember. Compute post-TDY crew rest at the rate of 1 hour off for every 3 hours of TDY not to exceed 72 hours.

3.6.7.1. For missions less than 16 hours CDT, the unit commander determines post mission crew rest time.

3.7. Crew Duty Time (CDT). CDT begins at show time. When crewmembers perform other duties prior to flight-related duties, CDT begins when reporting for the other duties. CDT ends when all crewmembers have completed postmission duties to include refueling, offloading, maintenance, etc. CDT will not exceed the crew duty day (CDD) limitations below:

3.7.1. The basic CDD is 16 hours provided no pilot proficiency training, or functional check flights (FCF) are accomplished after 12 hours and no inflight refueling events (IFR) after 14 hours. If the autopilot is not operational or its use is denied for more than 4 hours, the CDD will be 12 hours (the use of altitude hold does not constitute use of an autopilot). If the autopilot fails after departure, continue to the next scheduled stop and then comply with the basic CDD limitations.

3.7.2. The augmented CDD is 24 hours provided no pilot proficiency training, or FCFs are accomplished after 16 hours and no IFR events are accomplished after 18 hours. If the autopilot is not operational or its use is denied for more than 8 hours, the CDD will be 16 hours. If the autopilot fails after departure, continue to the next scheduled stop and then comply with the basic CDD limitations.

3.7.2.1. Augmented CDD requires the minimum inflight crew rest facilities of 4 bunks.

3.7.3. CDD length will be based on the mission to be performed. For example, if the planned mission duration is 15 hours from show time to termination, then a basic CDD is appropriate even if the crew is augmented. Once established, a basic CDD will not be changed to an augmented CDD, regardless of crew composition. Operational and DV missions are always considered augmented CDD.

3.7.4. Deadhead time before or after performing primary crew duties is CDT. Crewmembers may perform primary crew duties after deadheading if their CDT will not exceed a basic CDD for the mission. Crewmembers may deadhead following primary crew duties if their CDT will not exceed 24 hours.

3.7.5. CDT for flight examiners administering flight evaluations and not occupying a primary crew position will not exceed the augmented CDD.

3.7.6. Aircraft commanders may extend CDD by up to 2 hours if the mission priority justifies the risk and the PIC is unable to contact the waiver authority. AFSOC/DO authorizes this IAW AFI 11-202 Volume 3 Chapter 9. (If this option is used, aircraft commanders should coordinate with command and control agencies so downstream activities are not adversely affected) This extension is not to be used as a planning consideration. All other CDD extensions require wing or group commander, or COMAFSOF approval. All CDD waivers require the aircraft commander's concurrence. Do not give crewmembers less than 12 hours crew rest without wing or group commander or COMAFSOF approval.

3.8. Alert Duty:

3.8.1. Alert duty is defined as any period during which a alert crew is on call to perform a specific mission. Prior to entering crew rest, an aircrew will be given an expected alert time for the mission.

NOTE:

Waiver authority for paragraph 3.8. is wing or group commander, or COMAFSOF.

3.8.2. Publish unit alerting procedures in the supplement to this volume. A minimum of 2 hours from arrival at aircraft to stations time for crewmembers to complete preflight duties (if not previously preflighted) should be provided.

3.8.3. Alert personnel are those required to be on duty for the prompt execution of the mission. Alert crews will be readily available in a location, which allows the crew to meet the required time to launch from notification.

3.8.4. The alert duty period will begin at a scheduled time which is determined by the unit/mission commander. Provide aircrew members an inviolate 12 hours crew rest prior to alert duty. The unit/mission commander will determine the length of the alert period, not to exceed 72 hours. Predeparture crew rest is waived for flight surgeons or medical technicians who are on alert duty for urgent aero-medical evacuation missions.

3.8.5. Flying the alert crew:

3.8.5.1. CDT starts when the crew reports for any duty within the alert period.

3.8.5.2. If the alert crew is launched and returns with CDT remaining, they may be launched again within the constraints of that crew day. Numerous circumstances may arise that affect the decision to replace the alert crew and each incident must be evaluated on an individual basis.

3.8.6. If the alert crew completes 12 consecutive hours of crew rest between flights or official duties, the previous CDT period no longer applies and the cycle can be started anew provided the crew does not remain on alert for more than 72 hours from their initial assumption of alert.

3.8.7. The alert crew will not perform other official duties (e.g., additional duties, commander's call, safety meeting, etc.).

3.8.8. A alert crew will not remain in alert status for more than 2 consecutive 72-hour alert periods. The crew will receive 12 hours of premission crew rest between the first and second alert periods.

3.8.9. Provide post-alert crew rest for crews required to stand alert at locations other than their normal domicile. Provide 1 hour of crew rest for every 3 hours on alert. This time off does not include the normal 12 hours for crew rest prior to assuming another alert period or flying mission.

Figure 3.1. EC-137D Crew Complement.

TYPE CREW	AC	CP	FE	FA	CSO
Basic (1)	1	1	1	2	1
Augmented (1,2)	2	1	2	3	2
Inflight Refuel (IFR) (1)	1	1	1		
Augmented IFR (1,2,3)	2	1	2	3	2

NOTES:

1. An FA is only required when passengers are carried. One FA (First FA qualified) is required if 21 or less passengers are carried. Two FAs (one of which is First FA qualified) are required for more than 21 passengers. Mission and/or passenger requirements may dictate up to four FAs. Unit DO will determine CSO and FA requirements for each mission.
2. The aircraft commander must be instructor or flight examiner qualified on DV Code 6 or higher missions.
3. Required if any IFR events are planned after 14 hours CDT. Requires two IFR qualified aircraft commanders.

Chapter 4

COMMAND OPERATING GUIDELINES

4.1. Objectives. A fully mission capable aircraft is the ultimate objective of the logistics effort. The final responsibility regarding equipment required for a mission rests with the aircraft commander. If one aircraft commander accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that aircraft commander, or a different aircraft commander, to subsequent operations with the same item or system inoperative.

4.2. Policy. The Minimum Equipment Listing (MEL) is the operating guideline. It lists the equipment and systems considered essential for routine operations and provides guidance on how to operate with degraded equipment. The aircraft commander is the approving authority for operations with degraded equipment within the guidelines of the MEL and needs no further approval. Operating outside of MEL guidelines for routine operations requires wing or group commander, or COMAFSOF approval. For contingency operations, the aircraft commander is the approving authority for operating outside of MEL guidelines and needs no further approval.

Chapter 5

AIRLAND OPERATIONS

Section 5A—General Operating Policies

5.1. Takeoff and Landing Policy:

- 5.1.1. The pilot in command will occupy either the left or right seat during all takeoffs and landings.
- 5.1.2. Instructor and flight examiner pilots may takeoff or land from either seat under any condition.
- 5.1.3. An aircraft commander qualified pilot may make takeoffs and landings from either seat.
- 5.1.4. An aircraft commander qualified pilot will land from the left seat during:
 - 5.1.4.1. Aircraft emergencies, unless conditions prevent compliance.
 - 5.1.4.2. DV Code 6 or higher missions.
 - 5.1.4.3. Situations when, in the opinion of the aircraft commander, marginal conditions exists.
- 5.1.5. Aircraft commanders who possess less than 100 hours in type in the EC-137D aircraft since initial upgrade will make all takeoffs and landings from the left seat when in command. These aircraft commanders may allow instructor and flight examiner pilots to make takeoffs and landings for currency.

5.2. Aircraft Maximum Gross Weight Policy. Comply with the limitations of the aircraft Operations Manual.

5.3. Landing Gear and Flap Operation Inflight:

- 5.3.1. The pilot in the right seat will operate the landing gear. Actuate the landing gear only after command of the pilot flying the aircraft. Prior to actuation of the landing gear, the other pilot will acknowledge the command by repeating it.
- 5.3.2. The pilot in the right seat will operate the flaps. Actuate the flaps only after command by the pilot flying the aircraft. Prior to actuation of the flaps, the other pilot will acknowledge the command by repeating it.

5.4. Use of Outside Observers. It may be necessary to use crewmembers to assist in outside watch during taxi operations and inflight during arrivals and departures.

5.5. Seat Belts:

- 5.5.1. Crewmembers occupying either the pilot, copilot, or flight engineer seat will have seat belts fastened at all times.
- 5.5.2. All occupants will be seated with seat belts fastened during taxi, takeoffs and landings. Exception: Flight examiners, instructors, mission commanders, outside observers during taxi, flight engineers, and FAs performing required duties are exempt; however, they will have a designated seat and required restraint available.

5.5.3. Provide a safety belt for all occupants over 2 years of age. Occupants will fasten seat belts securely when turbulence is encountered or anticipated, or in areas of forecast clear air turbulence.

5.6. Aircraft Lighting: Comply with AFI 11-202 Volume 3 Chapter 5 and the following guidance.

5.6.1. Use landing/runway turnoff lights at night in unlighted areas. Use the landing/runway turnoff lights during night takeoffs. Use landing lights inflight any time the landing gear is extended unless reflections cause pilot distractions in instrument conditions.

5.6.2. Use beacon lights while engines are running and from takeoff to landing on all flights. PIC may turn off beacon lights when it is in the best interest of safety to do so. AFI 11-202 Volume 3 allows for continuation of the mission with the failure of any light in the beacon light system to the first stop where repairs can be made. Refer to the MEL for further guidance of operations with inoperative beacon lights.

5.6.3. Landing lights/wing illumination lights should normally be on in addition to position and beacon lights during operations below 18,000 feet. Landing lights may be used continuously during local traffic pattern training and during low altitude maneuvering in high-density traffic areas.

5.6.4. Contingency operations may dictate that external lights are off and internal lights are limited to the minimum necessary for aircrew activities.

5.7. Advisory Calls. Mandatory advisory calls for the pilot not flying the aircraft are as follows:

5.7.1. Nonprecision Approaches:

5.7.1.1. One hundred feet above minimum altitudes.

5.7.1.2. "Minimums" at the MDA.

5.7.1.3. "Runway in sight." Make this call when the runway environment is in sight. Do not call too soon when obstructions to vision, such as fog, haze, low stratus clouds, etc., are present.

5.7.1.4. "Go-around." Call at missed approach point if the runway environment is not in sight or if the aircraft is not in a position to make a normal landing. This call can be made anytime if the aircraft is not in a position to make a safe landing or obstructions to the landing are present on the runway.

5.7.2. Precision Approaches:

5.7.2.1. One hundred feet above decision height (DH).

5.7.2.2. "Land." Make this call at decision height if the runway environment is in sight and the aircraft is in a position for a normal landing.

5.7.2.3. "Go-around." Make this call at decision height if the runway environment is not in sight or if the aircraft is not in a position for a normal landing. This call can be made anytime if the aircraft is not in a position to make a safe landing or obstructions to the landing are present on the runway.

5.7.3. Climb out:

5.7.3.1. Transition altitude.

5.7.3.2. One thousand feet below assigned altitude.

5.7.4. Descent:

- 5.7.4.1. Transition level.
- 5.7.4.2. One thousand feet above assigned altitude.
- 5.7.4.3. One thousand feet above initial approach fix altitude or holding altitude.
- 5.7.4.4. One hundred feet above procedure turn and final approach fix altitude.

5.8. Communications Policy:

5.8.1. Aircraft Interphone:

- 5.8.1.1. All crewmembers will monitor interphone. FAs are required to monitor interphone for taxi, take-off, descent-approach and landing only. Crewmembers will notify the pilot before going off headset and advise when back on headset.
- 5.8.1.2. Any crewmember seeing a deviation of 200 feet in planned altitude, or deviations in heading, airspeed, or potential terrain or obstruction clearance problems will notify the pilot immediately.
- 5.8.1.3. During takeoff roll, the pilot not flying the aircraft will state "80 Knots", "V-One", "Rotate", and "V2" at the computed speeds. Any crewmember noting a safety of flight malfunction before hearing "V-One" will state "Reject" and give a brief description of the malfunction. The pilot flying will make the final decision to reject or continue the takeoff.
- 5.8.1.4. Do not discuss classified information on the interphone during radio transmissions.
- 5.8.1.5. Classified interphone or radio transmissions will be recorded on the cockpit voice recorder if it is operating. Ensure the CVR tape is erased after each flight and prior to leaving the aircraft. Flight engineers will use the following procedures to erase the CVR after engine shutdown.
- 5.8.1.6. After the aircraft is on APU or external power and the parking brake is set, press the CVR erase button a minimum of 2 seconds.
- 5.8.1.7. Non-aircrew members will monitor interphone or radio transmissions only when this has been specifically approved by the aircraft commander. The AC will brief communications policy to these personnel prior to flight. The AC must ensure no one monitors classified information they are not cleared for, or transmits classified information over the radios.

5.8.2. Command Radios:

- 5.8.2.1. The pilot not flying the aircraft normally makes all radio calls.
- 5.8.2.2. All crewmembers will monitor the primary radio unless specifically directed to do otherwise by the aircraft commander or other chapters of this instruction. If the primary radio is HF, the aircraft commander will direct a crewmember to monitor it.
- 5.8.2.3. The pilot operating command radios will tell the crew which radio is primary.
- 5.8.2.4. Pilots or a designated crewmember are responsible for ensuring emergency frequencies are monitored at all times.

5.8.2.5. During emergencies, request simultaneous UHF and VHF transmissions when operating in a terminal area under radar control.

5.8.2.6. One of the pilots will record and read back all ATC clearances. The CSO will record the clearance and monitor the read back. This includes all transmissions pertaining to ATC instructions involving departure, en route, and approach procedures. Disregard this procedure when ATC instructions require immediate execution, or when such action interferes with timely completion of more important duties.

5.8.2.7. The CSO will be used to provide communications with operational headquarters, commanders, or designated personnel.

Section 5B—General Airland Procedures

5.9. Wind Limitations. The maximum limiting crosswind value has not been determined. Maximum demonstrated crosswind landings are 33 knots for the EC-137D. Consult the Operations and Performance Manuals when operating in crosswind conditions.

5.10. Runway and Taxiway Requirements. Minimum runway criteria for normal operations are listed below. Compute landing performance with no reverse and full brakes. The desired approach zone gradient is 50:1, but no greater than 35:1. The group commander may waive runway and taxiway width requirements.

5.10.1. Takeoff. Minimum runway length required is FAR Takeoff Field Length.

5.10.2. Landing. Minimum runway length required is FAR Landing Field Length.

5.10.3. Minimum runway width is 148 feet or 45 meters. Refer to [Figure 5.1](#) for obstruction clearance. Minimum runway width may be waived to 98 feet or 30 meters.

5.10.4. Minimum taxiway width is 50 feet or 15 meters. Refer to [Figure 5.2](#) for obstruction clearance.

5.11. Aircraft Taxi Obstruction Clearance Criteria:

5.11.1. Without wing walkers, avoid taxi obstructions by at least 25 feet; with wing walkers by at least 10 feet. Refer to [Figure 5.1](#) and [Figure 5.2](#) for more specific guidance.

5.11.2. Whenever taxi clearance is doubtful, use a wing walker. If wing walkers are unavailable, deplane a crewmember to maintain obstruction clearance.

5.11.3. Use idle thrust when practical. If foreign object damage (FOD) is a problem, the outboard engines may be shut down provided gross weight, taxiway, and weather are favorable. Verify all sources of brake pressure before shutting down symmetrical engines.

5.12. Takeoff and Landing Obstruction Criteria:

5.12.1. The mission directive is confirmation that AFSOC/CC, or COMAFSOF with area jurisdiction has reviewed the airfields of intended operation for obstructions and other hazards in accordance with Air Force and AFSOC directives. The wing or group commander, or COMAFSOF will advise crews of known obstructions and other factors that could be hazardous to airland operations. This does not relieve the crew from proper mission planning including obstacle clearance on the

approaches and departures. Aircraft commanders will not make an approach and landing into an airfield requiring certification by the HQ AMC Airfield Suitability Report, unless they have previously operated into that airfield as a pilot, copilot, or observer and have reviewed the airfield certification briefing and audiovisual program within the last 14 days. Waiver authority for the Airfield Suitability Report rests with the AFSOC/DO.

5.12.2. Take-offs and landings on runways equipped with arresting cables. The following information applies to all runways equipped with BAK 9, 12 and 13 (Navy designation E-28) cables. It does not apply to runways equipped with BAK 14 cables that are in the recessed position.

5.12.2.1. Do not land on the cable. Landing on the cable may damage the aircraft or cable.

5.12.2.2. If the aircraft lands before the cable, crews should contact the tower to have the cable inspected.

5.12.2.3. Do not take-off or land over an approach end cable that has been reported by NOTAM, ATIS or air traffic controllers as slack, loose or improperly rigged.

5.12.2.4. Units may develop local procedures for their specific runway environments.

5.12.2.5. Aircraft operations manuals, FLIP, NOTAMS or summary of airfield restrictions may have additional restrictions for take-offs or landings over raised cables. Those restrictions take precedence over this guidance.

5.13. Reverse Taxi. This procedure should only be used in situations when aircraft movement is critical and no other means exists to accomplish the task. Use extreme caution while backing the aircraft due to inherent hazards.

5.13.1. The pilot will coordinate reverse taxi directions and signals to be used with the marshaller.

5.13.2. Secure all cargo and ensure all passengers are seated.

5.13.3. During night reverse taxi operations, the pilot will ensure that visibility in the taxi area is sufficient to conduct safe taxi operations.

5.13.4. Stop no less than 25 feet from an obstruction even if using a wing walker.

5.13.5. Use forward thrust as a means of stopping the aircraft during reverse taxi.

5.14. Intersection Takeoffs. Normally, initiate takeoffs from the beginning of the approved usable portion of the runway. The decision to make intersection takeoffs rests solely with the aircraft commander. Base TOLD card computations on the runway remaining at the point the takeoff is initiated.

5.15. Reduced Power Operations. Reduced power operations are intended to prolong engine service life. Takeoffs should normally be accomplished using reduced power unless operational requirements dictate otherwise.

5.16. Three-Engine Takeoffs. Actual engine-out takeoffs require HQ AFSOC/DO waiver. Crews will review and follow the limitations and procedures addressed in the Airplane Flight Manual, Appendix A.

5.17. Aircraft Recovery From Unprepared Surfaces. Aircrews should not normally attempt to recover an aircraft after inadvertent entry onto soft, unprepared surfaces which are not suitable for taxi.

Ground crews using the appropriate equipment will accomplish aircraft recovery. Aircrews may accomplish recovery at austere locations if, after thorough inspection, the aircraft commander is sure there is no damage and the surface will support the aircraft. If there is damage or if there is any doubt that the surface will support the aircraft, aircrews will not attempt recovery. Aircraft commanders will notify the unit commander prior to moving the aircraft if conditions permit.

5.18. Engines Running Onload or Offload (ERO). Use ERO procedures only when necessary to expedite aircraft movement or meet time requirements.

5.18.1. The ERO procedures in this paragraph may be used for any mix of personnel or cargo. The airstairs is preferred over the maintenance access door (lower 41). Aircraft commanders will assess prevailing weather, lighting, and parking location to ensure a safe operation.

5.18.2. General Procedures:

5.18.2.1. Aircraft commanders will brief crewmembers on the intended ERO operation, emphasizing specific crewmember duties.

5.18.2.2. The parking brake will be set and one pilot will monitor brakes, interphone, and radio.

5.18.2.3. Operate engines in idle thrust. If conditions warrant, lower flaps to reduce jet blast aft of the aircraft.

CAUTION: Due to hazards involved (e.g., jet blast, proximity to engines, etc.), only hand transferable items may be on or off loaded.

5.18.2.4. Turn wing illumination lights on during night ERO.

5.18.2.5. The aircraft commander will assign a crewmember (normally the FA) to direct all onload and offload operations.

5.18.2.6. After clearance from the pilot, open the briefed exit.

5.18.2.7. During enplaning and deplaning, position a crewmember (normally the FA) as an aircraft security and safety observer.

5.18.2.8. Enplaning or deplaning personnel will be escorted by a crewmember. Brief these personnel to remain clear of hazardous areas. Deplane passengers before cargo and enplane passengers after cargo unless cargo size or location dictates otherwise.

5.18.2.9. Complete passenger and cargo manifests, crew lists, and DD Form 365-4, Weight and Balance Clearance Form F-Transport, for the subsequent sortie. NOTE: DD Form 365-4 is not required for subsequent sortie if aircraft departs empty.

5.18.2.10. Resume taxi after the door warning light is out and when the assigned crewmember has verbally acknowledged that the aircraft is ready for taxiing.

5.18.3. ERO for crew changes during local training missions is authorized. Keep ERO for crew changes to the absolute minimum necessary to accomplish the mission.

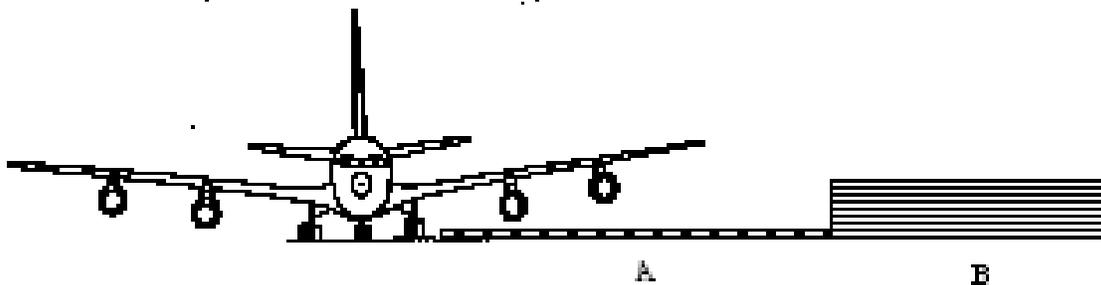
Figure 5.1. Runway Obstruction Criteria.

BOEING 707

RUNWAY

148 FEET MINIMUM WIDTH -
 TRAINING/CONTINGENCY

NOTE: MAY BE WAIVED BY GROUP CC TO NOT
 LESS THAN 98 FEET



MEASURE FROM EDGE OF RUNWAY

A: 3 INCH MAXIMUM OBSTRUCTION - 85 FEET
 B: NO RESTRICTION

NOTE: AREA A - OBJECTS HIGHER THAN 3 INCHES ABOVE GRADE SHOULD BE CONSIDERED ON LOW IMPACT RESISTANT SUPPORTS (FRANGIBLE MOUNTED STRUCTURES)

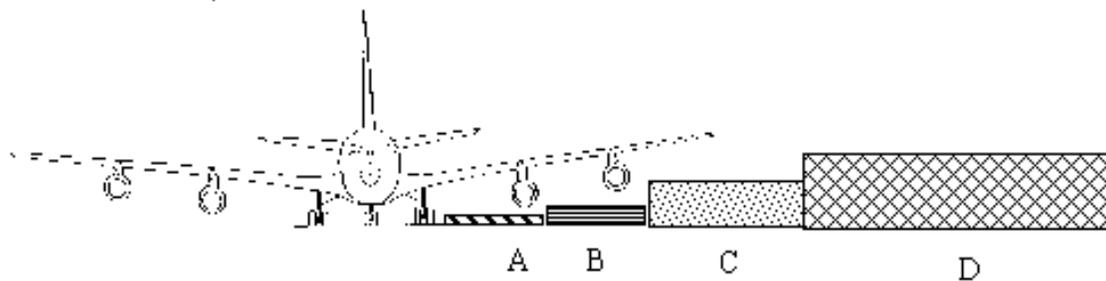
Figure 5.2. Taxiway Obstruction Criteria.

BOEING 707

TAXIWAY

50 FOOT MINIMUM WIDTH

TAXING FROM A 50 FOOT TAXIWAY TO A
50 FOOT TAXIWAY REQUIRES FILETS



MEASURE FROM EDGE OF TAXIWAY

- A: 1 FOOT MAXIMUM OBSTRUCTION - 0 TO 30 FEET
- B: 2 1/2 FOOT MAXIMUM OBSTRUCTION - 30 TO 50 FEET
- C: 6 FOOT MAXIMUM OBSTRUCTION - 50 TO 85 FEET
- D: NO RESTRICTION - 85 FEET +

NOTE: AREAS A AND B MUST BE STABILIZED SURFACES

NOTE: AIRCRAFT MAY BE OFFSET FROM THE OBSTRUCTIONS DURING TAXI
TO PROVIDE ADEQUATE CLEARANCE

Chapter 6

GENERAL OPERATING PROCEDURES

Section 6A—Permission

6.1. Aircrew Uniforms. Wear the aircrew uniform on all missions, unless other attire is authorized. Do not wear scarves while in, on, or around aircraft. When the USAF Foreign Clearance Guide requires civilian attire, wear conservatively styled civilian clothing.

6.2. Personal and Professional Equipment. Crewmembers will carry or wear personal and professional equipment as follows:

6.2.1. Carry a headset and operable flashlight on all flights. Quick-don oxygen masks are installed, they will be preflighted (to include communications hook up) if they are used as the primary oxygen source.

6.2.2. Passports. Carry passports on missions when required by the Foreign Clearance Guide.

6.2.3. Shot Records. Carry shot records on all missions outside the CONUS, Alaska, or Hawaii. Aircrew members will ensure they meet immunization requirements for the mission.

6.2.4. Jewelry. Do not wear finger rings, earrings, or other loose fitting jewelry while in, on, or around aircraft.

6.2.5. Glasses. Wear prescribed glasses or contact lenses as required by AFI 11-202 Volume 3.

6.2.6. Restricted Area Badges. Carry the restricted area badge on all missions (except contingency missions). Display the badge only in designated restricted areas.

6.3. Tool Kits. A tool kit will be on board for all flights. The unit will establish requirements for tools to be included in these kits and the crewmember responsible for the kit.

6.4. Publications. Primary crewmembers will carry the publications specified in [Figure 6.1](#) on all missions. This requirement may be satisfied if fully posted publications are kept on board the aircraft. For multiple crew positions, crewmembers may coordinate to see that all required publications are carried.

6.5. Airfield Review. Aircraft commanders and other appropriate crewmembers will review all appropriate publications (e.g., FLIP, Jeppesen, HQ AMC Airfield Suitability and Restriction Report (ASRR) etc.) to determine airfield suitability. Crewmembers will review the HQ AMC Airfield Suitability and Restriction Report (ASRR) for any mission that will land/operate away from home station. If available, review the airport qualification audiovisual program. Crews will check the suitability codes and, if possible, adhere to all restrictions for an airfield. Since the EC-137 aircraft is not identified in the ASRR, KC-135 restrictions will apply. If a restriction applies to KC-135 aircraft, AFSOC EC-137 crews must comply. Waiver authority for ASRR restrictions is AFSOC/DO. Process waivers through stan/eval channels. See AFI 11-202 Volume 3, Chapter 2 and the AFSOC SUP to Volume 3.

NOTE:

HQ AMC updates the ASRR on the internet between formal publications. Updates may be found at www.safb.af.mil:81/hqamc/directorates/amcdo/doa/doas.htm

Section 6B—Predeparture

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

6.6.1. If material has been added to the FCIF since the last review, enter the latest FCIF item number, date, and initials on the AFSOC Form 11, FCIF Currency Record.

6.6.2. Crewmembers delinquent in FCIF review and joining a mission en route will receive an FCIF update from their primary aircrew member counterpart on that mission. Instructor pilots flying with general officers are responsible for briefing appropriate FCIF items.

6.6.3. Crewmembers not assigned or attached to that unit will certify FCIF review by entering the last FCIF number and their initials beside their name on the file copy of the flight authorization or their ACM orders.

6.7. Unit Mission Kits. Carry unit mission kits on all special mission, , and any other mission designated by the unit DO. The minimum contents of the mission kits are specified in this instruction and by the unit DO. Prior to off-station departures, the aircraft commander or a designated representative will ensure a current mission kit is on board the aircraft. The kit will contain, but is not limited to, the items listed in [Figure 6.2](#). Items required by a unit or wing directive to be carried onboard the aircraft or by an individual crewmember need not be duplicated in the mission kit. Maintain sufficient quantities of directives and planning documents to allow implementation of evacuation and contingency plans.

Figure 6.1. Aircrew Publications.

PUBLICATION	P	FE	FA	CSO
Aircraft Operations manual(s)		X		
Abb. Checklist (operations manual)		X	X	X
Abbreviated IFR Checklist			X	X
AFSOC Aircrew Checklists		X	X	X
AFI 11-2EC-137 Vol. 3	X	X	X	X
AFI 11-202 Volume 3		X		
Flt Crew Info. Summary (FCIS) (1)				X
Flt Crew Info. File (FCIF) (1)				X

Note:

1. FCIS is carried in a safe onboard the aircraft.

Figure 6.2. Aircraft Mission Kit.

AIRCRAFT MISSION KIT

Section I- Publications

1. AFI 11-202 Volume 3, *General Flight Rules*
2. AFI 11-401, *Flight Management*
3. AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program*
4. AFI 11-2EC-137, Volume 2, *EC-137 Aircrew Evaluation Criteria*
5. AFI 23-202, *Buying Petroleum Products and Other Supplies and Services Off-Station*
6. EC-137D Operations Manual
7. HQ AMC Airfield Suitability & Restrictions Report (ASRR)

Section II- Forms

1. DD Forms:
 - a. 173, **Joint Message Form**
 - b. 175, **Military Flight Plan**
 - c. 175-1, **Flight Weather Brief**
 - d. 1385, **Cargo Manifest**
 - e. 1801, **DOD International Flight Plan**
 - f. 1854, **U.S. Customs Accompanied Baggage Declaration**
 - g. CF Form 7507, **General Declaration (Outward/Inward)**
 - h. 2131, **Passenger Manifest**
2. AF Forms:
 - a. 15/15A, **USAF Invoice/Invoice Envelop**
 - b. 70, **Pilot's Flight Plan and Log**
 - c. 315, **USAF Avfuels Invoice**
 - d. 457, **USAF Hazard Report**
 - e. 651, **Hazardous Air Traffic Report (HATR)**
 - f. 1297, **Temporary Issue Receipt**
 - g. 2282, **Statement of Adverse Effect - Use of Government Facilities**
3. AFSOC Forms:
 - a. 38, **INS Flight Plan and Log**
 - b. 55, **Airborne Radio Log**
 - c. 97, **AFSOC Aircraft Incident**

Section III- Miscellaneous

1. Foreign Nation-Custom Forms (When Applicable)
 2. All Applicable Local Forms
-

Section 6C—Briefings

6.8. Requirements:

6.8.1. Briefings should be clear, concise, and designed to provide mission essential information. Supplement and shorten briefings with visual aids, flimsies, checklists, etc., when practical. Avoid needless repetition of published procedures. Schedule briefings after considering the particular mission, crew rest, and other pertinent factors. Aircrew members must be provided all applicable information available to ensure complete and professional aircrew planning.

6.8.2. Crewmembers will not fly unless they attend the crew briefings for their mission. Exception: When preflight requirements dictate, aircraft commanders may excuse certain crewmembers from the briefing. The aircraft commander will ensure that those personnel receive a face-to-face briefing prior to engine start.

6.8.3. Weather Briefings. A weather briefing is required prior to all flights. The aircraft commander or other crewmembers designated by the aircraft commander will be briefed on the current weather trends and forecast for the proposed route, destinations and alternates. See AFI 11-202 Volume 3 and AFSOC Sup for further guidance.

6.8.4. Aircraft Commander's Crew Briefing. Give this briefing before the first flight of the mission and for subsequent flights when crewmember substitutions are made or operating procedures change from the original briefing. To reduce ground operating time on the aircraft, the departure briefing may be accomplished at this briefing, except for takeoff data and departure instructions.

6.8.5. Departure and Arrival Briefings. Conduct these briefings in accordance with the operations manual.

6.8.6. Passenger Briefings. The aircraft commander or designated representative will brief passengers in accordance with applicable passenger briefing checklist.

6.8.7. Specialist Briefings. Use specialist briefings to detail operating procedures or special interest items to various crew positions and to answer questions relating to those specialties. The mission commander will determine when specialist briefings are required.

Section 6D—FlightPlanning

6.9. Adherence To Rules. Comply with AFI 11-202 Volume 3, *General Flight Rules*; Foreign Clearance Guide; Flight Information Publication (FLIP); and this instruction.

6.10. Call Signs. Use voice call sign listing (VCSL) or as specified in mission directives for all missions except local area training missions. Use standard call signs for local area training missions.

6.10.1. Diplomatic (DIP) Clearance. Certain countries grant DIP clearance by mission number. Pass the mission number and call sign to the controlling agency upon entering such country's airspace and then use the call sign directed by that agency.

6.11. Instrument Flight Rules. All missions will use IFR to the maximum extent possible. If the mission cannot be accomplished satisfactorily or flying safety dictates otherwise, then VFR is authorized. Local training missions will be conducted under instrument flight rules and under the control of an en route air traffic control or approach control facility, except:

- 6.11.1. When operating in Category D or G airspace.
- 6.11.2. When conducting air work maneuvers required for evaluation or training. In this case, the following will apply:
 - 6.11.2.1. Flight to and from the area in which air work will be accomplished should be conducted under the control of an en route air traffic control or approach control facility.
 - 6.11.2.2. If possible, air work will be accomplished within an assigned block altitude. When unable to obtain an assigned block altitude, air work may be accomplished under VFR.
- 6.11.3. During VFR operations, all aircraft will use radar advisory service to the maximum extent possible.
- 6.11.4. Normally, conduct air refueling and inflight refueling on an IFR clearance. Refueling may be conducted under VFR when coordinated with the controlling ARTCC. VFR refueling tracks may be established when coordinated IAW FAA Handbook 7610.4H, Chapter 3. Inflight refueling under Due Regard procedures is permitted only with tanker concurrence and when operational requirements dictate.

6.12. Flight Plans:

- 6.12.1. Regardless of whether a flight plan is prepared by the aircrew or is furnished by another agency, the aircraft commander will verify routes and flight altitudes to ensure proper terrain clearance.
- 6.12.2. Unscheduled changes in crew, passenger, and aeromedical patient lists are authorized provided corrections to the crew list or passenger manifest are filed with the local command and control center, base operations, FAA office, or airport manager's office, at the airfield being transited.
- 6.12.3. Crews may use flight plans or AF Form 70, Pilots' Flight Plan and Flight Log.

6.13. International Procedures:

- 6.13.1. Review the USAF Foreign Clearance Guide (FCG) and brief crewmembers on applicable items before flying outside the CONUS.
- 6.13.2. Complete customs, immigration, agriculture, immunization, and quarantine as specified in the USAF FCG. The unit dispatching the mission is responsible for border clearance and other special clearances, when required (see paragraph 6.69.).

6.14. Departure Planning. Standard instrument departures (SID) or radar vectors are preferred methods of departure. If not available, use approved departure routings specified by the departure facility. Regardless of departure method, consider the type of terrain and other obstructions on or in the vicinity of the planned departure route. Comply with guidance in AFI 11-202 Volume 3 Chapter 8.

- 6.14.1. IMC Climbout. In addition to guidance in AFI 11-202, Volume 3, the aircraft must be capable of climbing at 3.0% climb gradient with one engine inoperative. The 3.0% climb gradient with one engine inoperative, in all cases, meets or exceeds the 152 feet per nautical mile climb requirement specified in AFMAN 11-217, *Instrument Flight Procedures*.
- 6.14.2. VMC Climbout. Even when obstacles are not a factor, the aircraft must be capable of climbing at a rate of at least 200 ft/mile on all engines at or above V2.

6.14.3. AF SIDS assume zero feet altitude at the departure end of the runway and then 200 feet per nautical mile as the minimum climb gradient unless otherwise specified. All other departure procedures are based on 35 feet altitude at the departure end and then 200 feet per mile unless otherwise specified.

6.14.4. For all IFR flights, the approach facility upon which minimums are based must be operational at the departure base and departure alternate, and approach equipment in the aircraft must be operational. Use runway visual range (RVR), when available, to determine the minimum visibility required for takeoff.

6.14.5. The minimum en route altitude will be the highest minimum en route altitude along a route segment except when under positive radar control.

6.15. Alternate Planning: Comply with guidance in AFI 11-202 Volume 3 Chapter 8.

6.16. Takeoff Minimums. If the departure weather is below published landing minimums, plan for a departure alternate IAW See AFI 11-202 Volume 3 Chapter 8.

6.17. Destination and Inflight Refueling Abort Alternates. Alternate requirements will be IAW AFI 11-202 Volume 3 Chapter 8. and AFSOC SUP.

6.17.1. Aircraft must be able to maintain MEA to the alternate if an engine fails.

6.17.2. If the destination is remote, or an island, with no alternate available, add 1 +15 hours holding fuel in lieu of an alternate.

6.18. Adverse Weather Planning. Plan all missions to avoid areas of severe weather, including icing or severe turbulence. Avoid thunderstorms and cumulonimbus clouds (CBs) using the following criteria:

6.18.1. Climb Out, En Route, and Descent:

6.18.1.1. FL 230 and Above: 20 NM.

6.18.1.2. Below FL 230: 10 NM.

6.18.1.3. Contingency operations below FL 230: 5 NM. Avoid gust fronts and winds preceding a rapidly moving thunderstorm.

6.18.1.4. Clear the top of a known or suspected severe thunderstorm by at least 2,000 feet altitude. Avoid gust fronts and winds preceding a rapidly moving thunderstorm.

6.18.1.5. Avoid the rain shaft and cloud base of thunderstorms and CBs using the criteria of 6.18.1.2. and 6.18.1.3. above. Do not fly under the anvil of a cumulonimbus cloud.

6.18.1.6. Avoid thunderstorms visually, by airborne radar, or by specific request of a ground-based radar with a weather painting capability. When relying exclusively on ground-based radar for weather avoidance and the ground controller is unable to provide avoidance instructions, attempt to maintain VMC by:

6.18.1.6.1. Changing routing.

6.18.1.6.2. Diverting to alternate.

6.18.1.6.3. Declaring an emergency and requesting priority assistance if unable to maintain VMC in an area of significant weather and the ground radar facility cannot provide weather avoidance service.

6.18.1.7. The use of ground-based radar as the primary means of thunderstorm avoidance should be used only to depart an area of significant weather. It should never be considered a normal avoidance procedure.

6.18.2. Takeoff and Landing. The size and intensity of thunderstorms or CBs are so variable that the aircraft commander must determine avoidance criteria to be used during takeoff and landing. Takeoff and landing may be made without regard to the criteria in 6.18.1. provided:

6.18.2.1. The thunderstorm or CBs and associated gust front, if present, can be avoided.

6.18.2.2. The distance from the thunderstorm or CBs is increased as soon as possible after takeoff to meet the criteria in 6.18.1.

6.18.2.3. A missed approach course from the missed approach point is available which will provide separation similar to that for departures.

6.18.2.4. The aircraft is not flown below thunderstorms, CBs, or through the rain shaft associated with these clouds. Takeoffs and landings should not be normally made into areas with reported wind shears.

6.18.3. Lightning Avoidance. Lightning occurs at all levels in a thunderstorm. The majority of lightning discharges never strike the ground but occur between clouds or within the same cloud at nearly all temperatures and altitudes. Lightning also occurs in the clear air around the top and sides of storms. Avoid prolonged flight in the conditions most favorable for lightning strikes including: OAT between +8 degrees C and -8 degrees C and in clouds, precipitation, or turbulence.

6.19. Fuel Planning. Use the appropriate performance sections of the Operations Manual for fuel planning. While flying at long-range cruise (LRC) at the cruise ceiling is the most conservative method and therefore encouraged, aircraft commanders may elect to fly at other speeds and altitudes deemed appropriate for the mission.

6.19.1. Add extra fuel:

6.19.1.1. When fuel is unavailable at en route stops; when compressed ground times during single-day, multi-sortie missions preclude refueling at each en route stop; or when en route refueling would delay or be detrimental to mission accomplishment.

6.19.1.2. When passengers or patients are on board, to recover at a suitable airfield from ETP at 10,000 feet MSL in the event of unpressurized flight.

6.19.2. Required Fuel At Destination. Minimum fuel overhead destination or alternate is 15,000 pounds. Land with a minimum of 10,000 pounds fuel remaining.

6.19.3. Fuel Conservation. Make every reasonable effort to conserve fuel. Some recommended methods are:

6.19.3.1. Normally for best fuel mileage, the aircraft should be flown within 2000 ft (above or below) of optimum altitude. Step climb if practical.

6.19.3.2. Fly missions at the most fuel conservative cruise speed option. On missions which are time rather than distance oriented, consider flying the lowest practical cruise option. Aircraft commanders are encouraged to fly long-range cruise airspeeds on other missions if practical.

6.19.3.3. Use idle thrust or two engine symmetrical power when practical for ground operation.

6.19.3.4. Cruise at the altitude that gives the best ground distance traveled for each pound of fuel consumed. As a rule of thumb, climb if ground speed is reduced less than 5 knots for each 1,000 feet of altitude increase. Descend if ground speed will increase more than 5 knots for each 1,000 feet of altitude decrease. Do not fly above cruise ceiling.

6.20. Authenticators and Classified Documents. Obtain and safeguard current authenticators and other classified materials required for the area being transited. Carry authenticators when flying into an ADIZ, participating in exercises, on overseas missions, deployments, and when specified in operation plans. The COMSEC material required depends on the theater of operation and user. The base COMSEC custodian has access to the AFKAG 44/AFKAG 14 and can assist in obtaining the material required for the mission. Base operations at AMC bases maintains the COMSEC material used on most missions.

6.21. Mission Folder. Develop a mission folder for each mission to ensure all predeparture information is available to aircrews. This folder will include the AFSOC Form 41, Flight Authorization, and other forms and information required for the mission.

6.22. Navigation Kits:

6.22.1. The aircraft commander will be issued a route navigation kit at the home station which will remain with the aircraft until its return. Kits should contain sufficient quantities of material to cover the complete round trip from the issuing station and return, plus appropriate materials to cover the theater of operation.

6.22.2. Segregate route navigation kits into two separate parts:

6.22.2.1. Part I. Sufficient material to cover the planned route trip and theater of operation.

6.22.2.2. Part II. For intertheater missions only. Maps, charts, and flight information publications for global operation, excluding items in Part I.

6.22.3. The COMAFSOF may augment kits as necessary to meet special operational requirements.

6.22.4. Minimum contents of route navigation kits will be in accordance with **Figure 6.3**. Commanders may modify the items as necessary for local training missions.

Figure 6.3. Route Navigation Kits.

ITEM (Applicable to Area of Operation)	Part I	Part II (Global)
FLIP Planning (Sections GP, AP/1, AP/2, AP/3, AP/4)	1	1
FLIP IFR Supplement	2	1
FLIP Flight Information Handbook	2	1
FLIP En Route Charts (High and Low)	2	1
FLIP Area Charts (Terminal)	1	
FLIP Instrument Approach Procedures (High and Low)	1	
Standard Instrument Departures (SIDs)	2	1
OPREP-3 Report Format	1	1
Maps and Charts	As Required	1 ea. GNC
FLIP VFR Supplement	1	
AF Form 72, Air Report (AIREP)	3	

NOTE: Oceanic Planning Charts (OPCs) for applicable theaters will be included in required maps and charts.

Section 6E—Preflight

6.23. EC-137D Preflight. When an aircrew assumes a preflighted aircraft or quick-turn, a thorough visual inspection will be performed, paying particular attention to areas affected by maintenance or servicing.

6.24. Maintenance Record. Review the Maintenance Record before applying power to the aircraft or operating aircraft systems. Ensure the USAF Fuel Identaplate is on board the aircraft.

6.25. One-Time Flights. An aircraft may be released for a one-time flight, with a condition which might be hazardous for continued use, if the aircraft is airworthy for one flight to another station. Waiver authority is HQ AFSOC/DO.

6.25.1. The chief of maintenance, the senior maintenance officer, or the chief of the repair team must first authorize the release.

6.25.2. After the maintenance release is obtained, contact AFSOC for flight authorization.

6.25.3. The maintenance release, AFSOC approval, and the aircraft commander's concurrence are all required before the aircraft can be flown to the specified destination.

6.26. Aircraft Servicing and Ground Operations:

6.26.1. Aircraft Refueling. Use primary fuel management IAW the aircraft operations manual whenever practical. Aircrew members qualified in refueling may perform refueling duties at austere locations or at stations without maintenance support. Maintenance personnel should be scheduled on

those missions where a need is anticipated. Two qualified personnel are required. Aircrews should not refuel except in cases when maintenance support is not readily available and the mission would be delayed.

6.26.2. Concurrent Ground Operations. Simultaneous aircraft refueling or defueling and cargo loading or maintenance operations is authorized IAW TO 00-25-172. Refueling or defueling with passengers or patients on board is authorized IAW TO 00-25-172.

6.26.3. Crash, Fire, and Rescue Protection. The aircraft engine fire extinguisher system fulfills the minimum requirements for fire protection during engine start. If available, position a portable fire extinguisher for added fire protection.

6.26.4. Aircrew/Maintenance Engine Run-ups. A mixed aircrew/maintenance engine run will not be accomplished.

6.26.5. Towing. Aircrew members normally will not participate in towing operations. The aircraft commander will coordinate with the senior maintenance person to ensure the towing supervisor and crew are qualified. At non-USAF installations, the aircraft commander must have approval from the airfield operations officer or manager prior to towing. The aircraft commander will ensure that the tow team supervisor briefs all personnel on their duties and the associated hazards. Proper checklists will be used. If any doubt exists as to the qualification of tow team personnel or the safety of the operation, make no attempt to tow the aircraft until qualified personnel can be located. Aircrew members normally will not act as the towing supervisor. Refer to Towing OI 10-104 for more specific guidance

6.27. Life Support Requirements:

6.27.1. Oxygen. Oxygen on board for takeoff will be sufficient to accomplish the planned mission IAW the Operations Manual. On missions with passengers, carry passenger oxygen kits (POK) if flight above FL 250 is anticipated. Ensure access to POKs is not blocked during flight. Distribute POKs and demonstrate their use prior to exceeding FL 250. The POK provides no protection when ambient air contains smoke or fumes.

6.27.2. Rafts. Ensure sufficient life rafts are on board to accommodate all passengers and aircrew members on overwater flights.

6.27.3. Life Preserver Units (LPUs). Ensure a sufficient quantity of life preservers is on board and available for all passengers and crewmembers for overwater flights. While overwater, LPUs will be available at the crewmember's station, and worn whenever below 2,000 feet overwater (except for takeoff and landing). For overwater missions carrying children and infants, ensure appropriate number and type of LPUs are on board.

6.27.4. Anti-exposure suits. The use of anti-exposure suits will be IAW AFSOCI 11-301, *Aircrew Life Support Program*.

6.28. Life Support Equipment Documentation. Life support will accomplish a thorough aircraft pre-flight inspection prior to each off station mission. Life support will, also, accomplish a thorough aircraft postflight inspection after each off station mission. Local training missions only require an aircrew pre-flight inspection prior to the first flight of the day. Aircrew members discovering equipment missing will make an entry in the aircraft maintenance forms.

6.29. IFF/SIF Operations:

6.29.1. Perform a ground check of the IFF/SIF before takeoff, using either the self-test or ground radar interrogation.

6.29.1.1. If self-test is unacceptable and radar facilities do not permit a ground check, takeoff is authorized if the IFF/SIF was operational on the previous mission. Accomplish an airborne check immediately after takeoff.

6.29.1.2. Aircraft will not depart with an IFF/SIF known to be inoperative. Exception: Single aircraft must have approval of ATC and aircraft commander.

6.29.2. Use the IFF/SIF IAW **Figure 6.4**.

6.29.2.1. IFF/SIF mode 1, 2, and 3/A codes, once set and transmitted, are unclassified and may be left in the transponder.

6.29.2.2. IFF/SIF mode 4 codes must be zeroed before leaving the aircraft.

6.29.3. An operational mode 4 is required. An operational check of the mode 4 will be made prior to takeoff (test equipment permitting). If the mode 4 checks bad or fails inflight, the IFF/SIF unit will be repaired prior to flight and/or aircraft landed for repairs except for the following:

6.29.3.1. Missions that are generated in the CONUS and do not plan to exit the CONUS ADIZ.

6.29.3.2. Non-training peacetime missions where cancellation or RTB for mode 4 failure would seriously degrade effectiveness (i.e. Presidential support, disaster relief, aeromedical evacuation, etc.).

6.29.3.3. Mission where the aircraft will not transit in an area where safe passage procedures are implemented.

6.29.4. Ground and inflight checks of the mode 4 are mandatory maintenance debrief items. Crews will annotate any failure or unsuccessful interrogation of the mode 4.

Figure 6.4. Worldwide IFF Chart.

IFF MODE	NATO	LANTCOM & NOPAC BETWEEN 170E & 150E	ALL OTHER AREAS
1	IAW ACP 160, NATO SUPPS & USAFER 60-17		IAW ACP 160, US SUPP-1 (C)
2	IAW ACP 160, NATO SUPPS		IAW ACP 160 US SUPP-1 (C) ANNEX A
3	AS DIRECTED BY ATC	2000 (BERMUDA: 2100)	AS DIRECTED BY ATC OTHERWISE IAW ACP 160 US SUPP-1 (C)
4		KEYED AND ON	

NOTES

1. Mode 4 is not required within the boundaries of the 48 contiguous states unless ADIZ penetration is anticipated.
2. Carry a keyer for use in the event of rerouting or diversion, except on local training missions.

6.30. Cargo Documentation:

6.30.1. Proper cargo documentation will accompany each load. The cargo manifest and DD Form 1384, Transportation Control and Movement Document (TCMD) and special handling documents as applicable, will be delivered to the aircraft before departure. The manifest will be one of the following:

- 6.30.1.1. Computer printed product.
- 6.30.1.2. 80/80 (Off-line Manifest) listing.
- 6.30.1.3. DD Form 1385, Cargo Manifest.

6.30.2. DD Form 2133, Joint Airlift Inspection Record, will accompany the manifest if required.

6.30.3. Special handling documents, DD Form 1387-2, Special Handling Data/Certification, and AF Form 127, Traffic Transfer Receipt, will accompany the manifest as applicable.

6.31. Dropped Object Prevention. 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 flight crew will:

- 6.31.1. Ensure the write-up is entered in the appropriate maintenance forms.
- 6.31.2. Notify the unit DO, unit safety officer, group command center as soon as practical. Include route of flight, altitude, and weather (i.e., turbulence, etc.).

6.32. Narcotics. Crewmembers will ensure narcotics and other unauthorized items are not smuggled on board the aircraft.

6.33. Cockpit Congestion/Loose Objects:

6.33.1. Hold the number of persons on the flight deck to the minimum commensurate with mission requirements.

6.33.2. Keep the flight deck area uncluttered and orderly for all flight and ground operations. Specifically:

6.33.2.1. Do not place any item (checklist, chart, etc.) on the center pedestal in a position that covers or hides from view any switch, light, or gauge.

6.33.2.2. Do not store on the flight deck any items not required for use or immediate reference inflight.

6.34. Passenger Policy. DoD 4515.13-R, Air Transportation Eligibility establishes criteria for passenger movement on DoD aircraft. It defines five categories of passenger travel: space-available, aeromedical evacuation, orientation, public affairs, and space-required. AFI 11-401, *Flight Management*, provides further guidance on orientation and public affairs travel. Refer to these publications directly for details not addressed in this instruction. In all cases, passengers will be manifested on a DD Form 96, Passenger Manifest. Refer to paragraph 3.3. for ACM policy.

6.34.1. Space-available. Allows authorized passengers to occupy seats on DoD aircraft after all space-required passengers have been accommodated. Required documentation is listed in DoD 4515.13-R. Passengers process through the passenger terminal. EC-137 aircraft may be used for space-available travel on a non-interference basis with unit DO approval.

6.34.2. Aeromedical Evacuation. Defined as the movement of patients by air. Specific guidance on eligibility and documentation is contained in DoD 4515.13-R. USCINCTRANSCOM is the single manager for policy and procedure.

6.34.2.1. Restrictions. If tasked to conduct aeromedical evacuation, both pilots must be fully qualified. Air refueling may be performed if required for mission accomplishment after coordination with tasking authority. Simulated EPs are prohibited.

6.34.3. Orientation. AFI 11-401, *Flight Management*, contains specific details on the Air Force Orientation Flight Program. There are four categories of orientation flight: incentive flights, distinguished visitor flights, familiarization flights, and spouse orientation flights. Authorized participants and approval authority are contained in AFI 11-401, Table 1.1. Document authorization by letter and manifest on DD Form 96. Requests for approval will include the mission profile and mission events to be accomplished. Forward requests through stan/eval channels. Report annual orientation activity IAW AFI 11-401 and applicable supplements.

6.34.3.1. Restrictions.

6.34.3.1.1. For spouse orientation, comply with restrictions in AFI 11-401 and applicable supplements.

6.34.3.1.2. For other orientation categories, both pilots must be fully qualified. Group CC or COMAFSOF may approve air refueling on a case by case basis. Simulated EPs are prohibited.

All other mission events may be conducted IAW the profile approved by approval authority listed in AFI 11-401, Table 1.1.

6.34.4. Public Affairs Travel. Defined as travel in the interest of adding to the public understanding of DoD activities. AFI 11-401, *Flight Management*, contains specific details on the Air Force Public Affairs Flight Program. Authorized participants and approval authority are contained in AFI 11-401, Table 1.1. Document authorization by letter and manifest on DD Form 96. Requests for approval will include the mission profile and mission events to be accomplished. Forward requests through public affairs channels.

6.34.4.1. Restrictions. Both pilots must be fully qualified. Group CC or COMAFSOF may approve air refueling on a case by case basis. Simulated EPs are prohibited. All other mission events may be conducted as approved by approval authority. Passengers will be seated with belts fastened during threat maneuvers.

6.34.5. Space-required. DoD 4515.13-R lists several categories of passengers, not previously mentioned, who are authorized official travel on DoD aircraft.

6.34.5.1. Supported forces. A sub-category of space-required passenger defined by this instruction as US and foreign military personnel who are an integral part of the mission being performed. Approval is assumed by the mission tasking. Supported forces passengers must be properly manifested.

6.34.5.1.1. Restrictions. Both pilots must be fully qualified unless excepted by AFI 11-401, paragraph 1.12 (Requirements for Pilots in Dual-Controlled Aircraft). Simulated EPs are prohibited. There are no restrictions on mission events. Aircraft commanders will ensure that supported forces are briefed on the mission profile and mission events before flight.

6.34.5.2. Supporting forces. A sub-category of space-required passenger defined by this instruction as US and foreign military, DoD civilians, and US civilian employees under contract to the DoD, who directly support the mission or a deployment of an AFSOC unit. This may include, but is not limited to; maintenance, communications, intelligence, logistics, and flight test personnel, civilian contractors required for inflight checks or deployment support, FAA representatives, STS, and other military personnel who are on board to communicate/coordinate with other agencies. Off-station travel is documented by travel orders. Local flights will be documented by letter of authorization from the Group CC or COMAFSOF (Exception: Squadron Commanders may approve squadron assigned personnel). When frequent local flights are necessary, commanders may issue annual authorizations by name or AFSC as appropriate. When using this option, aircraft commanders will ensure that all restrictions in the following paragraph are complied with for each individual mission. Supporting forces must be properly manifested.

6.34.5.2.1. Restrictions. Both pilots must be fully qualified unless excepted by AFI 11-401, paragraph 1.12 (Requirements for Pilots in Dual-Controlled Aircraft). Simulated EPs are prohibited (Exception: EPs required for the purposes of a functional check flight or FAA flight evaluation are authorized. In this context, personnel on board are required for mission accomplishment. Limit personnel to absolute minimum required). Other mission events are authorized. Aircraft commanders will ensure that supporting forces are briefed on the mission profile and mission events before flight. EC-137D maintenance personnel travel as supporting forces but do not require FAs.

6.35. Military Customs Preclearance Inspection Program:

6.35.1. The military customs program (DOD 5030.49R and AFI 24-401/402/403/404) was developed to assist the DOD and other US Government agencies in the control of narcotics, contraband, and prohibited agricultural products, and to expedite entry of DOD personnel and material into the customs territory of the United States.

6.35.2. Military Customs Inspectors will accomplish this inspection immediately prior to departure and may conduct more than one preclearance inspection on CONUS bound aircraft. When security considerations necessitate deviation from this policy, mission planners must coordinate with the appropriate agency to ensure the mission is not jeopardized.

Section 6F—Departure

6.36. Checklists. Accomplish all checklists with strict discipline. A checklist is not complete until all items are accomplished.

6.36.1. The pilot flying the aircraft will initiate all checklists unless the operations manual or this instruction establishes another procedure.

6.36.2. The only pages (or inserts) authorized in checklist binders are EC-137D-series TO aircrew checklists, AFSOC approved checklists, briefing guides, and approved information guides. Units may construct locally approved inflight guides using AFSOC Form 54, AFSOC Flight Crew Information.

6.36.3. Make personal notes in pencil on checklists and briefing or information guides, if desired. Such notes must be current.

6.36.4. Abbreviated checklist items that do not apply to unit aircraft or mission may be lined out in pencil. Do not challenge these items during checklist accomplishment.

6.36.5. The flight engineer will read all checklists that apply to specific employment procedures.

6.37. Flight Deck Entry:

6.37.1. The following personnel are authorized to sit on the flight deck during takeoff, landing, and critical phases of flight.

6.37.1.1. Additional crewmembers (ACM) if seats are not required by primary crewmembers or flight examiners.

6.37.1.2. AFSOC mission observers.

6.37.1.3. Individuals approved by the mission commander. If no mission commander is required, the aircraft commander is the approval authority.

6.37.2. Passenger access to any primary crew position is prohibited.

6.38. TOLD Cards. The flight engineer will complete TOLD cards IAW this instruction, Volume 2 and the Operations Manual.

6.39. Departure Briefing. The pilot making the takeoff will brief the crew IAW the operations manual.

6.40. On-Time Takeoffs. Mission departures are considered "on time" if the aircraft is airborne no later than 0.2 hours after the scheduled takeoff time. Early departures are authorized provided local, down-range, and aircrew impact are evaluated and no adverse effect will result.

6.41. Departure Monitoring. The pilot not flying the aircraft will back up the pilot and report any deviations from the planned departure. When radar facilities are available, departures will be radar monitored to the maximum extent possible.

Section 6G—Enroute

6.42. Oxygen Requirements. Aircrew members will comply with the oxygen requirements specified in AFI 11-202 Volume 3.

6.42.1. Crewmembers occupying a crew station on the flight deck will have an oxygen mask connected and readily available for use before engine start and until engine shutdown. Prior to flight, crewmembers will accomplish a communications and operations check of their oxygen masks.

6.42.2. All crewmembers will use supplemental oxygen for flight when the cabin altitude exceeds 10,000 feet MSL. Walk-around bottles do not satisfy this requirement. When oxygen is not available to other non-crewmembers, flight between 10,000 - 13,000 feet MSL is authorized for a maximum of 3 hours, if required.

6.42.2.1. For flights at cabin altitudes between 10,000 and 18,000, 100 percent will be used. No prebreathing is required. Hydration is an important part of preventing decompression sickness and as such it is permissible to be off oxygen for up to 10 seconds to drink. If necessary, walkaround bottles may be used for personal relief.

6.42.3. Crewmembers who do not have access to the aircraft oxygen system will have a passenger oxygen kit (POK) readily available for pressurized flights above FL 250. Prior to flight, visually inspect the POK to ensure it contains an adequate supply of oxygen.

6.43. Flight Progress. Use all available navigational aids to maintain course centerline and positive fixing of the aircraft's position. Immediately report to the controlling ARTCC any malfunction or loss of navigation capability which degrades centerline accuracy.

6.44. Navigation Aid Capability:

6.44.1. North Atlantic Region and the US West Coast/Hawaii Route System. Aircraft must have an operable INS/GPS prior to airspace/track entry. Aircraft without this equipment must return to a station with maintenance capability or refile via routes specified in FLIP.

6.44.2. North Pacific (NOPAC) Region. Comply with the following procedures when transiting the Anchorage/Tokyo Oceanic CTA/FIRs on the NOPAC north route:

6.44.2.1. Westbound aircraft on the NOPAC north route experiencing loss of radar capability at any point shall, fuel permitting, refile a flight plan on another track or return to the nearest facility with radar maintenance capability.

6.44.2.2. Westbound aircraft on the NOPAC north route that have a single drift and groundspeed source and experience loss of that source at any point, may continue the NOPAC north route if the radar system is fully operable. Verify in flight that satisfactory returns are being received on all

ranges, particularly the longer ranges (100 NM or greater). If the radar system is marginal or inoperative, fuel permitting, refile a flight plan to another track or return to the nearest facility with maintenance capability.

6.45. CIRVIS (AFM 10-206) and Other Reports. Report all vital intelligence sightings from aircraft as indicated in the FLIP Planning or Flight Information Handbook (FIH).

6.46. Inflight Meals. The aircraft commander and the copilot will not consume meals within 90 minutes of each other, before or during flight, if the meals were procured from the same vendor and consist of the same menu.

6.47. Communications. Make all communications IAW FLIP or as directed by the controlling agency.

6.48. Inflight Emergency Procedures. Report deviations from directives that occur as a result of an emergency, IAW AFI 11-202 Volume 3 and this instruction.

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

6.48.2. Emergency Landing. Aircrews must be prepared to divert to the nearest suitable airfield.

6.48.3. 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. 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.

6.49. Continued Flight with Engine Loss. A flight may proceed on 3 engines to its destination if 2-engine capability exists, favorable operating conditions prevail both en route and at the point of intended landing, and a suitable alternate airfield is available at all times. If these conditions cannot be met, the flight will terminate at the nearest facility (preferably military) which, in the judgment of the aircraft commander, offers safe and favorable operating conditions.

6.50. Fuel Jettisoning. Fuel will not be jettisoned except for emergency conditions requiring gross weight reduction.

6.51. Medical Assistance. When a person on board the aircraft requires medical care, the aircraft commander 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 sex, approximate age, and the nature of the medical problem.

6.52. Weather Forecasts:

6.52.1. The primary contact for inflight weather assistance is the Pilot Meteorological Service (PMSV).

6.52.2. For aircraft flying into Europe, the preferred alternate contact for weather information east of 10 degrees west longitude is through Croughton USAF Global Command and Control Station (GCCS) to USAFE Weather Support Unit at Ramstein (USAFE Metro).

6.52.3. For aircraft flying into the Pacific theater, the preferred alternate contact for weather information west of 140 degrees west longitude is through the USAF GCCS to Hickam AFB, HI.

6.52.4. When operating outside the CONUS, monitor GCCS weather broadcasts. Times and frequencies are contained in the FLIP Flight Information Handbook. During contingency operations or exercises, use GCCS weather broadcasts to support silent ocean crossings.

6.52.5. Obtain latest weather prior to descent for landing at destination.

Section 6H—Arrival

6.53. Crew Coordination. The pilot flying the approach will brief the crew on the descent, approach, and landing IAW the operations manual. The other pilot will monitor the approach and report any deviations from prescribed procedures. Crewmembers will confine their activities to aircraft operation, descent and approach monitoring, and checklist accomplishment from the initial descent point to block in. Under no circumstances will crewmembers deviate from these duties, except for inflight emergencies.

6.54. Instrument Approach Minimums. Comply with guidance in AFI 11-202 Volume 3 Chapter 8. The EC-137D is a category "D" aircraft. Instrument approach visibility and, if required, ceiling minimums, will be as published, with the following exceptions:

6.55. Weather Below Minimums. See AFI 11-202 Volume 3 Chapter 8 and AFSOC SUP.

6.55.1. An aircraft commander may hold at a destination that is below landing minimums, but forecast to improve to, or above minimums, provided:

6.55.1.1. Fuel remaining is more than the fuel required to hold for the appropriate holding time and fly to the alternate, and weather for the alternate is forecast to remain at or above alternate minimums for the period, including holding time.

6.55.1.2. Destination weather is forecast to be at or above minimums before the excess fuel will be consumed.

6.55.2. When advised after beginning the descent to the final approach fix that weather conditions are below landing minimums, and a new or amended clearance has not been received, comply with AFI 11-202 Volume 3. The aircraft commander may elect to continue the approach.

6.56. Instrument Approach Procedures:

6.56.1. Fly instrument approaches to maintain proficiency and to positively identify arrival airports. Visual approaches are authorized to maintain visual landing proficiency. Use radar monitoring when feasible.

6.56.2. Fly a precision approach, if available, at night and during marginal weather. If PAR and ILS are available, fly one and use the other as a backup. Request PAR if prior notification is required. If PAR or ILS are not available, fly any available approved instrument approach. On training and eval-

uation flights pilots may fly nonprecision approaches or VFR traffic patterns to accomplish required training or evaluation requirements.

6.56.3. When a coupled approach is flown, assume manual control at or above published minimum altitude (MDA/DH). When accomplishing Flaps 25 approaches, assume manual control IAW the aircraft operations manual.

6.56.4. The only approved published instrument approaches are from DoD and NOAA. All other approaches are considered published only after TERPS review and approval by AFSOC/DO. Submit requests for review to the theater MAJCOM TERPS office, then forward their recommendations to AFSOC/DOV for AFSOC/DO approval.

6.56.5. If the minimum altitude is not adequately depicted on an instrument approach procedure chart and terrain clearance is not confirmed by ATC radar, continue to the initial approach fix at or above the minimum altitude depicted on the en route chart and complete the descent to the initial approach altitude in the holding pattern.

6.57. Radio Altimeter Procedures. Set the radio altimeters to the HAT or HAA for the approach being flown in accordance with the operations manual. Pilots will crosscheck radio altimeters during descent to ensure adequate terrain clearance is provided throughout the descent and maneuvering portion of the approach. Once established in a VFR traffic pattern, the radio altimeter may be set at the discretion of the pilot.

6.58. Wake Turbulence Avoidance. Pilots must exercise the discipline necessary to ensure wake turbulence avoidance criteria are observed during flight operations. Acceptance of a visual or contact approach clearance, or instructions to follow an aircraft, is acknowledgment that the pilot will maintain a safe interval for wake turbulence avoidance. Pilots will comply with guidance in DOD FLIP planning.

Section 6I—Postflight

6.59. Classified Material:

6.59.1. Maintain authenticators and other classified materials in the aircraft safe.

6.59.2. Remove classified information stored in the GPS, INS, or mission computers.

6.59.3. Clear all TRANSEC systems, such as secure voice and IFF.

6.59.4. In an emergency, destroy or damage classified material and equipment prior to crash landing, if possible.

6.60. Impoundment. If an aircraft is involved in a serious inflight incident, the aircraft commander should impound the aircraft immediately after landing and contact the AFSOC Command Center or controlling agency for further instructions.

Section 6J—Debriefing

6.61. Maintenance. The aircraft commander and the flight engineer complete the appropriate maintenance forms. Immediately after arrival, the aircraft commander and other pertinent crewmembers debrief

maintenance personnel on the condition of the aircraft, engines, avionics equipment, and all installed special equipment.

6.62. Weather. The aircraft commander or a representative will pass significant information to the appropriate weather agency.

6.63. Intelligence. Debrief intelligence when applicable.

6.64. Crew Debriefing. The aircraft commander will conduct a debriefing after each mission. The debriefing will include all applicable crewmembers so that common problems can be discussed and resolved. Crewmembers may be excused from the debrief at the discretion of the aircraft commander. Debriefings may be formal or informal, as the situation requires. The appropriate forms will be completed and procedures will be established to ensure the commander or operations officer reviews the forms as soon as practical after mission accomplishment.

6.65. Aircrew Notification Procedures. When transiting installations, the aircraft commander will establish a point of contact with the command post, base operations, or local airport manager, when the crew is billeted in off base quarters. The aircraft commander will be notified immediately in case of incident or emergency affecting the safety or security of the aircraft.

Section 6K—Miscellaneous Procedures

6.66. Customs, Immigration, and Agriculture Inspections:

6.66.1. Obtain Customs, Agriculture, and Public Health clearance, as required, prior to opening any doors, hatches, or windows, other than the left forward entry door, or enplaning and deplaning personnel.

6.66.2. Proceed directly from the aircraft to Customs, Immigration, or Agricultural inspection for processing when required by the inspector.

6.66.3. US military aircraft are sovereign. When cleared to overfly 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. USAF aircraft commanders 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.

6.66.3.1. Aircraft commanders will not permit the inspection of their aircraft by officials of any foreign government. If requested to do so, the aircraft commander and crew will deny access and seek aid from the senior AFSOC or other USAF representative, US Embassy, or consulate within the host nation. Customs or other officials will be informed of the above policy and requested to confirm their request through their own government and with US Department of State representatives. If necessary, the crew will seal the aircraft and the crew entered into crew rest, departure intentions will be canceled, until resolution of the matter by appropriate authority. Inform command and control authorities by the fastest available means should this situation occur.

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

6.66.3.2.1. In most cases, search attempts may be stopped by a statement of aircraft commanders to the foreign officials that the aircraft is sovereign and 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 who may honestly, but mistakenly, believe they have authority to search USAF aircraft.

6.66.3.2.2. If foreign authorities insist on conducting a search, aircraft commanders must negotiate to delay the search until contact is made with HQ USAF/XOXXI or the appropriate embassy. Aircraft commanders should unequivocally state that they have no authority to consent to the search and that they must relay the foreign request to these agencies for decision. Aircraft commanders should then notify these agencies of the foreign request by the most expeditious means available. Thereafter, aircraft commanders should follow instructions provided by the appropriate embassy and HQ USAF.

6.66.3.2.3. If foreign officials refuse to desist in their search request, aircraft commanders should indicate that they would prefer to fly the aircraft elsewhere (provided fuel and mechanical considerations permit a safe departure) and request permission to do so.

6.66.3.2.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, aircraft commanders should state that they protest the course of action being pursued and that they intend to notify both the appropriate American Embassy and HQ USAF of the foreign action. Aircraft commanders should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and appropriate embassy as soon as possible.

6.66.3.2.5. 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.

6.67. Border Clearance:

6.67.1. Normal Operations:

6.67.1.1. Border Clearance Responsibility. The border clearance responsibility will be as designated by the base or area command IAW AFI 24-401, *Custom-Europe*; AFI 24-402, *Customs-Pacific*; AFI 24-403, *Customs-Southern*; and AFI 24-404, *Customs-Domestic*; Border Clearance; Customs Program; and other United States Entry Requirements and Related Areas.

6.67.1.2. Aircraft Commander Responsibility. Border clearance is the responsibility of the aircraft commander, although many of the duties have been assigned to ground personnel and to the FA. The aircraft commander will ensure:

6.67.1.2.1. Crewmembers and passengers possess current passports and valid visas if required.

6.67.1.2.2. Crewmembers and passengers have current shot records or certificates of immunization.

6.67.1.2.3. Cargo entry documents are in proper order.

6.67.1.2.4. Departure or arrival to the US is through an air base where border clearance can be obtained.

6.67.1.2.5. Border clearance for aircraft cargo, passengers, crew and baggage, if required, is obtained before takeoff to a foreign area, or after arrival from a foreign area.

6.67.1.2.6. Aircraft spraying is accomplished, if required (see paragraph 6.68.).

6.67.1.2.7. En route to the US, the FA has distributed personal customs declarations to all passengers and crewmembers; has briefed passengers and crewmembers on customs regulations; and has prepared and compiled necessary border clearance forms for the aircraft commander's signature.

6.67.1.2.8. En route to the US, the base of intended landing is notified of any change in ETA, to ensure border clearance is accomplished as soon as possible after landing.

6.67.1.2.9. A Permit to Proceed is obtained when the mission requires an aircraft, which has landed in the US for customs clearance, proceed to another US base to obtain border clearance. The permit delays customs inspection of cargo, passengers, and crew until arrival at the offload station, saving intermediate offloading and reloading normally required for customs inspection. The Permit to Proceed is valid only to the airport of next landing, where the border clearance must be completed, or a new permit obtained. Do not make intermediate stops unless required by an emergency situation, or directed by AFSOC.

6.67.1.2.10. When an aircraft lands for a US border clearance, a US Customs representative normally meets the aircraft to obtain the required documents. Do not deplane passengers or crewmembers, unless necessary for safety. Do not unload until approved by customs and agriculture personnel or their designated representatives. This procedure applies to the initial landing in the US and all subsequent landings until crew, passengers, and cargo complete final border clearance.

6.67.2. Exercise and Contingency Operations:

6.67.2.1. General. Certain missions, which do not transit normal ports of entry or exit, require special procedures to expedite compliance with customs, public health, immigration, and agricultural requirements. A joint memorandum of understanding establishes procedures and waivers.

6.67.2.2. Implementation. Traffic and border clearing agencies implement all or part of the agreement as necessary for each operation. Inspection and clearance may be accomplished at the CONUS onload or offload base instead of the normal APOE, or at the foreign onload or offload base.

6.67.2.3. Customs Procedures:

6.67.2.3.1. Outbound. No requirement. Filing of CF Form 7507, General Declaration (Outward/Inward) is waived.

6.67.2.3.2. Inbound. Prepare one copy of the following documents before arrival.

6.67.2.3.2.1. CF 7507, General Declaration, (passenger list not required).

6.67.2.3.2.2. Cargo manifest.

6.67.2.3.2.3. For troops out of country less than 140 days.

6.67.2.3.2.3.1. Troop commander's certificate for examination of troop baggage.

6.67.2.3.2.3.2. One copy of DD Form 1854, US Customs Baggage Declaration, for each passenger not under command of the troop commander, to include observers, support personnel, civilians, news reporters, and crewmembers.

6.67.2.3.2.3.3. Upon arrival at a CONUS offload base, a Customs representative meets the aircraft and accepts the troop commander's certificate with respect to troop baggage. Individual baggage declarations are not required. The troop commander should have inspected troop baggage. Troops debark under the observation of the Customs representative with only a spot check of articles and baggage. The Customs officer may elect to make a more extensive inspection.

6.67.2.3.2.4. For troops who are out of the country 140 days or more:

6.67.2.3.2.4.1. One copy of DD Form 1854, US Customs Baggage Declaration, for each passenger. This includes observers, support personnel, civilians, news media personnel, and crewmembers. Personnel may use DD Form 1854 or CF 6059B when issued by the US Customs representative.

6.67.2.3.2.4.2. Upon arrival at a CONUS offload base, a Customs representative meets the aircraft and collects all declarations. Troops debark under the observation of the Customs representative, who may make discretionary examination of the baggage.

6.67.2.4. Public Health Procedures:

6.67.2.4.1. The aircraft commander ensures that all crewmembers and passengers are properly immunized.

6.67.2.4.2. Spray the aircraft, if required (see paragraph [6.68.](#)).

6.67.2.5. Immigration Procedures:

6.67.2.5.1. Outbound. No requirements.

6.67.2.5.2. Inbound. Submit the following to the Immigration inspector:

6.67.2.5.2.1. One copy of CF 7507, General Declaration (Outward/Inward).

6.67.2.5.2.2. One copy of DJ Form 92, Aircraft/Vessel Report.

6.67.2.5.2.3. One copy/set of DJ Form 94, Arrival/Departure Record, for each foreign national.

6.68. Insect and Pest Control (Aircraft Spraying):

6.68.1. Aircraft commanders will ensure required spraying is accomplished when required by the foreign clearance guide, and certify the spraying on CF 7507, or on forms provided by the country transited.

6.68.2. Use insecticide, Aerosol D-Phenotrin-2%, NSN 6840-1-067-6674 (or equivalent), to spray the aircraft.

6.68.2.1. Aerosol normally is dispersed at a flow rate of 10 seconds per 1,000 cubic feet. Direct the nozzle toward the ceiling of the compartment or space being sprayed. Do not spray any plastic surface or allow the spray to wet it.

6.68.2.2. Spray the cabin, cockpit, and other spaces accessible from within the aircraft after closing all doors, windows, hatches, and ventilation openings. Do not spray the aircraft with crew or passengers on board.

6.68.3. When seeing any insect or rodent infestation of the aircraft inflight, notify the destination CCC, base operations, or airport manager of the situation before landing so the proper authorities can meet the aircraft.

6.68.4. Upon arrival, do not open doors or hatches except to enplane officials required to inspect the aircraft for insect or rodent infestation. Do not onload or offload until the inspection is satisfactorily completed. This procedure may be altered to satisfy mission or local requirements, as arranged by the base air terminal manager.

6.69. Sensitive Mission Operations:

6.69.1. Certain missions require special flight planning procedures or deceptive measures. Use of these procedures will be directed by mission operating directives, COMAFSOC operations orders, or other tasking orders. Modification to normal procedures will be fully briefed to aircrews prior to execution of the operation. COMAFSOC or the COMAFSOF prior to execution must approve all missions of this type requiring coordination with non-AFSOC agencies.

6.69.2. The planning agency tasked with the mission will provide the aircrew with the following information:

6.69.2.1. Departure profile.

6.69.2.2. En route procedures to include tracks, ALTRV, MARSA, tanker rendezvous, and emergency divert procedures.

6.69.2.3. Arrival procedures.

6.69.2.4. All communication requirements.

6.70. "Due Regard" Procedures. When a unit commander authorizes a mission to be flown in international airspace and inflight operational requirements conflict with ICAO rules and procedures, the aircraft commander may make the decision to proceed using "due regard" procedures.

6.71. Hazardous Medical Equipment:

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

6.71.1.1. Electronic medical equipment produces electromagnetic interference (EMI) which is commonly beyond the limits specified by MILSTD461A and 462, and therefore can interfere with aircraft communication and navigational equipment.

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

6.71.2. Nonstandard electronic and oxygen equipment must be listed by manufacturer and model number in the current "Status Report on Medical Material Items Tested and Evaluated for use in the USAF Aeromedical Evacuation System, USAFSAM, Brooks AFB, TX."

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

6.71.3.1. Pararescue personnel must inform the aircraft commander when nonstandard electronic medical equipment is brought on board the aircraft.

6.71.3.2. The AC must be informed of the anticipated period of use of the equipment during the mission.

6.71.3.3. The AC must be alert for any interference with aircraft communication or navigation equipment during periods of use of this equipment.

6.71.3.4. When continuous use of the equipment is required throughout the duration of the mission, flight must be restricted to VFR conditions. Furthermore, exercise additional caution on night VFR missions to ensure there are no adverse effects on navigational equipment.

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

6.71.4.1. 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.

6.71.4.2. Pararescue personnel must continually monitor the operation of the equipment to detect possible malfunction during exposure to altitude.

6.72. Hazardous Material Procedures. The term "hazardous material" (reference AFJI 11-204) includes any material which, because of its quantity, properties, or packaging, may endanger human life or property. Procedures in this paragraph apply whenever aircraft carry DOD Hazard Class/Division 1.1, 1.2, or 1.3 explosives, DOT Class A and B poisons, etiological or biological research materials, radioactive materials requiring yellow III labels, and inert devices. Also included are DOD Hazard Class/Division 1.4 explosives, oxidizers, compressed gases, flammable solids and liquids, and corrosive liquids listed in AFJMAN 24-204, *Preparing Hazardous Materials For Military Air Shipments*.

6.72.1. Briefing. Reference AFMAN 24-204.

6.72.2. Cargo Documentation. Do not accept hazardous materials unless proper documentation, certification, and identification of cargo are provided. This includes transportation control number (TCN) entered correctly on both the cargo manifest and the DD Form 1387-2, Special Handling Data/Certification.

6.72.3. Flight Planning. The aircraft commander (unless specifically briefed otherwise):

6.72.3.1. Enters "Hazardous Cargo" and the mission number in the appropriate section of the flight plan. Use remarks section of DD Form 175, Military Flight Plan, and other information section of DD Form 1801, DOD International Flight Plan, and ICAO Flight Plan Form.

6.72.3.2. Plans the flight to minimize overflying heavily populated or otherwise critical areas.

6.72.3.3. Prepares a departure message. The remarks section of the departure message should include the following:

6.72.3.3.1. 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 [NEW] of Class A or B explosives).

6.72.3.3.2. Request for special support; e.g., isolated parking, security, technical escort teams, etc.

6.72.3.3.3. Inert devices (when applicable).

6.72.3.4. If 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, of the ETA and information listed in 6.74.3.3. above.

6.72.4. Before Engine Start. Ensure placards are removed. Give the controlling agency parking location, approximate engine start time, and verify that the fire fighting agency has the hazardous materials information. If not, request the following be relayed to the fire fighting agency:

6.72.4.1. DOT class of hazardous material on board and the DOD hazard class or division for explosive material on board.

6.72.4.2. Net Explosive Weight (NEW).

6.72.4.3. Request for isolated taxiing (if necessary).

6.72.4.4. Estimated time of departure (ETD).

6.72.5. En Route. Normal procedures apply. Avoid flying over metropolitan or otherwise critical areas.

6.72.6. Before Landing. Accomplish the following unless specifically prohibited by the theater commander or FLIP planning.

6.72.6.1. 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 ETA to announce that hazardous materials are on board and to verify that the appropriate base support agencies have received the departure message. If not, transmit the mission number, ETA, and information listed in 6.72.3.3. above.

6.72.6.2. If landing at a CONUS civil airport without a tower, give the above information to the nearest FAA flight service station.

6.72.6.3. Request the information be relayed immediately to base operations or the civil airport manager, crash or fire protection agency, and other support activities.

6.72.7. Parking:

6.72.7.1. DOD requires aircraft carrying DOD Hazard Class or Division 1.1, 1.2, explosives, DOT Class A poisons, and certain biological agents and munitions be parked in areas isolated from personnel. Aircraft commanders 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. When identification is acknowledged, the host is solely responsible for selecting the parking area. Should host procedures be questionable, submit trip reports or HRs, as appropriate, to document such occurrences.

6.72.7.2. The military host is responsible for placarding aircraft. For non-military installations, the briefing to the aircraft commander will include placarding requirements and, if required, placards will be furnished at the onload base. The shipper must make prior arrangements with the airport manager for shipments of hazardous materials requiring placarding. The shipper is responsible for cargo identification, fire-fighting procedures, and isolated parking requirements.

6.72.8. **Unscheduled Landing Due to Inflight Emergency.** Transmit unclassified information to the appropriate air traffic control facility as follows:

6.72.8.1. Nature of emergency and intent to land.

6.72.8.2. Aircraft position and ETA.

6.72.8.3. Number of personnel and location in aircraft.

6.72.8.4. Fuel on board.

6.72.8.5. That hazardous materials are on board, location of the cargo, and applicable information listed in 6.72.3.3. above.

6.72.9. **After Unscheduled Landing.** Contact the AFSOC Command Center or theater ALCC by telephone, HF radio, or message, giving arrival notice, hazardous materials' information, and other pertinent information as required.

6.73. Electronic Devices. The use of electronic devices is as specified in AFI 11-202 Volume 3 Chapter 2. For electronic devices not listed, the user will provide the aircrew a letter from the Aeronautical Systems Division, Deputy for Engineering (ASD/ENACE) certifying the device is approved for airborne use. If the aircrew detects any interference from an electronic device used on board the aircraft, the use of this device will be discontinued for the duration of the flight.

6.73.1. Restrictions and cautions regarding the use of electronic devices must be a standard part of passenger briefings aboard all DOD transport aircraft

6.73.2. Wing or group commander, or COMAFSOF, may waive the provisions of AFI 11-202 Volume 3 for news media video and recording equipment providing the following conditions are met:

6.73.2.1. If the equipment has been tested, certified interference free, and been so labeled by ASD/ENACE.

6.73.2.2. If the equipment has not been tested, use is restricted to VMC.

6.74. Search and Rescue Satellite-Aided Tracking (SARSAT). SARSAT is an international satellite system for Search and Rescue (SAR). It consists of a constellation of six satellites in polar orbit and a network of earth stations which provide distress alert and location information to appropriate rescue authorities anywhere in the world for users in distress.

6.74.1. **Ground Segment.** The SARSAT ground segment consists of Local User Terminals (LUTs) which receive and process alert data information from the satellites, compute the position of the distress signal and relay the information to one of thirteen Mission Control Centers (MCC). The MCC in turn distributes the information to the appropriate Rescue Coordination Center (RCC), a search and rescue point of contact, or another MCC. The MCC reports all SARSAT alert data to the appropriate SAR authority. The SARSAT satellites detect beacons broadcasting on 121.5, 243.0, and 406.025 MHz.

6.74.2. **Frequencies.** SARSAT is divided into two systems to detect emergency beacons. The first system broadcasts on the 121.5/243.0 MHz frequencies and works with Emergency Locator Transmitters (ELTs) and Emergency Position Indicating Radio Beacons (EPIRBs) at those frequencies. This system is limited to a circular area within a 2,000 mile radius of a ground station. The second system on the 406.025 MHz frequency provides monitoring for the entire earth. An analog signal is emitted

from the 121.5/243.0 MHz beacon, and a digital signal is transmitted from a 406.025 MHz beacon. In areas without LUT coverage, signals from 121.5/243.0 MHz beacons cannot be received. However, this is not the case with the 406.025 MHz system, as the satellites have a memory unit which stores the signals for relay to the next available LUT, giving it a truly global capability.

6.74.3. Local User Terminals (LUTs). The current SARSAT system consists of 25 LUTs in 14 countries, including 4 in the United States. Although 121.5/243.0 MHz LUT coverage is nearly worldwide, much of the southern hemisphere, including most of the African continent, is not covered. During contingencies in those areas, mission planners should be aware that the RCC at Langley AFB maintains two LUTs which may be deployed. The deployable unit is a camper-sized van and antenna trailer designed for transport worldwide aboard cargo aircraft.

6.75. Inappropriate Charges. IAW the DOD Foreign Clearance Guide, Europe, Forward 3, Section I (Aircraft Entrance Requirements) aircrews should not pay inappropriate charges. Inappropriate charges include landing and parking at government airports and air navigation or overflight fees. Aircrews, when asked to pay inappropriate charges, should do the following:

6.75.1. Advise local host nation authorities (e.g. airport officials) that the above charges are inappropriate for US Government aircraft and the aircrew cannot pay these bills.

6.75.2. Contact the USDAO/American Embassy representative at the airport or at the American Embassy, if possible (NOTE: At remote locations, this contact may not be feasible). Follow guidance provided by USDAO/American Embassy personnel.

6.75.3. In absence of USDAO/American Embassy guidance, and if local authorities state that payment is a condition of departure, aircrews should do the following:

6.75.3.1. Mark inappropriate charges on bill as invalid fees.

6.75.3.2. Annotate bill with the remark: "PAID UNDER PROTEST."

6.75.3.3. Aircrews should obtain a copy of the bill with the signature of the person accepting moneys and note the amount paid.

6.75.3.4. Retain signed copy of bill for home station finance office.

Chapter 7

AIRCRAFT SECURITY

7.1. General. This chapter provides guidance on aircraft security and unlawful seizure (hijacking) of AFSOC aircraft. Aircrews must make every reasonable effort to resist an aircraft hijacking. Resistance may vary from dissuasion to direct physical confrontation, including the use of weapons. Aircrews will not release information concerning hijacking attempts or identify armed aircrew members to the public.

7.2. Security. AFSOC aircraft are priority C resources. This security priority designation applies to operational aircraft, wherever they may be located, worldwide. Some aircraft contain equipment and documents which require protection per DOD 5200.1/AFI 31-401, *Managing The Information Security Program*. Requirements for protection of the aircraft in a transient status at US and foreign bases are found in DOD 5200.1 and AFI 31-401.

7.3. Procedures. The planning agency must ensure that adequate en route security is available. Aircraft commanders are best able to determine what protection is needed. The amount of protection required will vary, depending on the location and ground time. Aircraft commanders will receive a threat assessment and security capability evaluation briefing at home station, and receive updates at en route stops. Aircraft commanders will assess the situation and take the following actions, if necessary:

7.3.1. Area Patrol. Request area patrol coverage from local security forces. If local authorities request payment for this service, use AF Form 15, United States Air Force Invoice.

7.3.2. Aircrew Surveillance. Direct armed crewmembers to remain with the aircraft and maintain surveillance over aircraft entrances and activities in the vicinity of the aircraft.

7.3.3. Departure Without Crew Rest. If local security forces are unacceptable or unavailable, the aircraft commander may waive crew duty time limitations and depart as soon as possible for a base listed as reliable.

7.3.4. Unauthorized Entry. If, in the aircraft commander's judgment, the aircraft needs to be locked and sealed to detect unauthorized entry:

7.3.4.1. Prior to departing the aircraft for crew rest, ensure the aircraft is closed and doors are sealed. Secure all hatches and doors. Close and seal the entrance door with a metal lock or other controllable device which will prevent and detect unauthorized entry.

7.3.4.2. Wipe the immediate area around the lock clean to help investigate forced entry. If the lock is damaged or has been tampered with, notify the appropriate local authorities, the controlling agency, and inspect the aircraft thoroughly.

7.3.4.3. Coordinate with the local base operations representative on procedures for servicing the aircraft while the crew is away. If a padlock is used, the key or combination will be left with base operations or the representative for personnel required to service or perform maintenance inside the aircraft.

7.4. Protective Standards for Aircraft Carrying Distinguished Visitors (DV). This paragraph applies specifically to aircraft transporting DVs Code 4 or above. Aircraft commanders are responsible for aircraft security at en route stops.

7.4.1. DOD Installations. Notify the base security police 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.

7.4.2. Non-DOD Installations. Contact the airport manager or installation commander to arrange for aircraft security. If available security is inadequate, purchase additional security using AF Form 15.

7.4.3. Locking or Sealing. Lock the aircraft during all missions remaining over night (RON).

7.5. Arming of Crewmembers. When directed, at least one crewmember on the flight deck and one crewmember in the cabin compartment will carry weapons.

7.5.1. Issue. Before departing home station, authorized crewmembers will obtain weapons, ammunition, lock, and key. Crewmembers must present a current AF Form 523, USAF Authorization To Bear Firearms, to be issued a weapon. Crewmembers will be reissued the same weapon until the mission terminates at home station. If an armed crewmember must leave the crew en route, transfer the weapon to another authorized crewmember, using AF Form 1297, Temporary Issue Receipt.

7.5.2. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels if available. To transfer a loaded weapon to another crewmember, place the weapon on a flat surface. Do not use a hand-to-hand transfer.

7.5.3. Wearing of Weapons. Wear weapons in a holster, concealed at all times to protect the identity of armed crewmembers. Do not wear weapons off the flight line, except to and from the CCC, armories, and other facilities associated with aircrew activities such as base operations, fleet service, cargo or passenger terminals, flight line cafeterias, snack bars, etc.

7.5.4. Weapons Storage Inflight. Crewmembers will be armed before beginning preflight or onload duties. When no passengers are on board and after a satisfactory stowaway check, weapons may be stored in the safe inflight. Crewmembers will rearm before landing. Weapons need not be unloaded before being placed in the 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 safe.

7.6. General Hijacking Guidance. The hijacking of an AFSOC aircraft could create a serious international incident and jeopardize the safety of passengers and property. 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. Crews must resist all attempts to hijack their aircraft. Resistance may vary from simple discouragement to direct physical attack with weapons. Detection of potential hijackers before they board the aircraft is the best solution to the problem.

7.6.1. Acceptance of Passengers. The host station passenger processing and manifesting facility should conduct anti-hijacking inspections. Do not board passengers unless the aircraft commander is fully satisfied with these inspections. Exception: Passengers may be anti-hijack inspected at the aircraft by the aircrew.

7.6.2. Aeromedical Procedures. Medical facility commanders are responsible for anti-hijacking inspection of patients. When patients are delivered to the aircraft by civilian sources, the aircrew will perform required inspections before departure.

7.6.3. Arms and Ammunition. Passengers will not carry weapons or ammunition on their person or in hand-carried baggage on board an aircraft except special agents and guards of the Secret Service or State Department, and other individuals specifically authorized to carry weapons.

7.6.3.1. Take every precaution to prevent accidental discharge of weapons. If guards or couriers must clear their weapons, ask them to:

7.6.3.1.1. Move to a safe, clear area at least 50 feet from any aircraft, equipment, or personnel before unholstering or unslinging their weapons.

7.6.3.1.2. Clear weapons in accordance with standard safety procedures.

7.6.4. Troops and deadhead crewmembers will not retain custody of ammunition on an aircraft but will turn it in to the troop commander or aircraft commander. Troops may carry unloaded weapons and ammunition on board the aircraft during combat operations. When the situation dictates, weapons may be loaded at the order of the troop commander or team leader.

7.7. Ground Resistance. When the aircraft is on the ground, well planned and executed actions by ground forces and the crew provide the best opportunities to thwart a hijacking. Crewmembers (including ACMs) will know who is armed.

7.7.1. Initial Action. Delay movement of the aircraft to provide time for ground forces and the aircrew to evaluate the situation and coordinate their efforts.

7.7.2. Communications. Establish communications with ground agencies using radios, IFF/SIF equipment, or any covert means available.

7.7.3. Delaying Actions. Continue to delay until, in the judgment of the aircraft commander, further delay may result in homicidal attempts by the hijacker.

7.7.4. Positive Detainment. The aircraft will be detained or disabled when:

7.7.4.1. Requested by the aircraft commander.

7.7.4.2. Directed by COMAFSOC or higher for national security.

7.7.5. Local Procedures. The aircraft commander will review local ground support anti-hijacking procedures at en route bases before departure.

7.8. Inflight Resistance. After an aircraft is airborne, success in thwarting a hijacking attempt depends on the resourcefulness of the crew. Take advantage of any opportunity to regain control of the aircraft or influence the conduct of the flight.

7.8.1. If the hijacker does not permit the use of the radio and the aircraft is under positive control of an ATC facility, attempt to communicate by using the transponder/IFF/SIF.

7.8.2. Notify crew and passengers of the situation as soon as practical for maximum assistance against the hijacker.

7.8.3. Be as negative to all the hijacker's demands as possible. Initial response to the hijacker should leave the issue in doubt. Try to calm the hijacker. Get the hijacker to talk.

7.8.4. Convince the hijacker intermediate stops are necessary for fuel, maintenance, or other problems and these stops must be at US military installations because of incompatibility of fuel and starting units at other airfields. After landing, try to discharge passengers. Use ground forces to regain control of the aircraft.

7.8.5. Give reasons for not complying with the hijacker's demands; for example, inability to communicate with foreign sources (radio frequency or language problem), dangers from surface-to-air missiles, antiaircraft fire, or armed intercept by hostile aircraft.

7.8.6. Propose favorable alternatives; for example, landing in a neutral rather than unfriendly nation.

7.8.7. As a last resort:

7.8.7.1. Simulate emergencies to deceive the hijacker into believing a forced landing is necessary.

7.8.7.2. Depressurize at altitude to immobilize the hijacker.

WARNING: Since the hijacker's symptoms of hypoxia are unpredictable, this procedure could have serious consequences.

7.8.7.3. Use weapons against the hijacker.

7.9. Covert Communications. If in-the-clear radio transmissions are not possible:

7.9.1. To report "Am being hijacked," set transponder to Mode 3, Code 7500. When unable to change the transponder setting or when not under radar control, transmit a radio message which includes the phrase "(aircraft call sign) transponder seven five zero zero."

7.9.2. Controllers will acknowledge Code 7500 by asking the pilot to verify it. An affirmative response or no reply from the pilot indicates confirmation. Controllers will not ask further questions; they will flight follow, respond to pilot requests, and notify appropriate authorities.

7.9.3. After the start of a hijacking, the aircrew may indicate to the air traffic controller that in-the-clear communications are not possible (the hijacker is in the cockpit) by using the word "TRIP" after the aircraft call sign prefix (THORN "TRIP" 33). The controller should respond using the word "TRIP" in the aircraft call sign. Use of the word "TRIP" in the aircraft call sign by the controller prior to its use by the aircrew asks the aircrew if clear communications are possible. In this situation, the aircrew response should include the word "TRIP" only if clear communications are not possible. After an aircrew has advised ATC that clear communications are not possible, ATC will limit radio transmissions to the minimum essential ATC functions until advised otherwise by the aircrew.

7.9.4. When controllers receive a hijacking report in the clear, they assign Code 7500 to the aircraft. The pilot may still change to Code 7700 later, if necessary.

7.9.5. To report "Situation appears desperate; want armed intervention," change from Code 7500 to 7700. When unable to change the transponder setting or when not under radar control, transmit "(aircraft call sign) transponder seven seven zero zero."

7.9.5.1. Remain on 7500 for at least 3 minutes or until receiving controller confirmation of Code 7500 from the controller, whichever is sooner, before changing to Code 7700.

7.9.5.2. Controllers treat aircraft squawking Code 7700 and not in radio contact with the ground as having an in-flight emergency and will follow their appropriate emergency procedures.

7.9.6. To report "Situation still desperate; want armed intervention and aircraft immobilized," leave full flaps down after landing or lower full flaps while on the ground and transmit "(aircraft call sign) flaps are down."

7.9.7. To report "Leave alone-do not intervene," retract flaps after landing and transmit "(aircraft call sign) flaps are retracted." Pilots who retract flaps after squawking Code 7700 should return to Code 7500 and remain on Code 7500 for the next leg of the hijacked flight unless the situation changes again. Transmit "(aircraft call sign) back on seven five zero zero" to emphasize that intervention is no longer desired.

7.10. Forced Penetration of Unfriendly Airspace:

7.10.1. Procedures. Procedures in this paragraph should prevent hostile actions against an aircraft which penetrates the boundary of an unfriendly nation as a result of a hijacking. Comply with instructions received by radio or from an interceptor. Without instructions comply with the following before entering unfriendly airspace:

7.10.1.1. Maintain an altitude between 10,000 and 25,000 feet MSL, if possible.

7.10.1.2. Fly the most direct course to the destination demanded by the hijacker, unless the hijacker insists on another route.

7.10.1.3. Transmit MAYDAY on 243.0, 121.5, or 2182.

7.10.1.4. Squawk Mode 3, Code 7700.

7.10.2. Destruction of Classified Material. Try to destroy all classified documents and equipment on board the aircraft before landing in an unfriendly nation.

Chapter 8

INFLIGHT REFUELING PROCEDURES

8.1. General. Inflight refueling procedures are found in the EC-137D Operations Manual, Volume 2.

Chapter 9

FLYING TRAINING POLICY

9.1. General. This chapter outlines procedures, requirements, and restrictions for training and evaluation missions. See AFI 11-401, AFI 11-202V1, AFI 11-202V2, and Volume 1 and 2 of this instruction for additional information.

9.2. Instructor or Flight Examiner Briefings. Before all training and evaluation missions, instructors or flight examiners brief their crew on the mission profile, training requirements, and objectives or evaluation requirements.

9.2.1. Instructor Pilot Briefings. Brief the items in **Figure 9.1**.

Figure 9.1. Training and Evaluation Flight Briefing.

DESCRIPTION AND PURPOSE OF MISSION

Type of training - upgrade, proficiency, evaluation, etc.
 Overall training objectives.
 Training requirements for individual crewmembers.
 Risk Assessment

MISSION REQUIREMENTS

Aircraft fuel load, departure time, mission duration.
 Personal equipment, flashlight, FCIF review, publication currency.
 Weather.
 General mission profile, airwork, airfields.
 Emergency Egress/Evacuation

INFLIGHT DUTIES

Radio discipline, outside vigilance
 Sabotage and stowaway checks, anti-hijacking, aircraft security

CREW COORDINATION

Instructor and student responsibilities.
 Simulated emergency procedures.
 Touch-and-go landing procedures.

9.3. Debriefing. After all training flights, instructors will:

9.3.1. Review and critique student performance.

9.3.2. Review training requirements fulfilled for each student and aircrew member (all aircrew members should understand thoroughly what training was accomplished).

9.3.3. Answer technical questions.

9.3.4. Preview the objectives of the next mission.

9.3.5. Complete training paperwork.

9.4. Simulated Emergency Flight Procedures:

9.4.1. Practice emergencies which require simulating an engine shutdown, or placing switches in other than their normal positions or an abnormal configuration, only during training, evaluation, or currency flights when an instructor or flight examiner pilot is in one of the pilot seats. Instructor pilot candidates who occupy a pilot seat and are under the supervision of a flight examiner pilot, not in a pilot seat, may practice simulated emergency procedures during initial or requalification upgrade evaluations to instructor pilot. This applies to all maneuvers in [Figure 9.2](#), unless otherwise specified in the restrictions. Preface all simulated emergencies with the word "simulated" and terminate simulated emergencies when an actual emergency arises.

9.4.2. Simulated EPs are prohibited with passengers on board. Exception: EPs required for the purposes of a functional check flight or FAA flight evaluation are authorized. In this context, personnel on board are required for mission accomplishment. Limit personnel to the absolute minimum required.

9.4.3. Conduct simulated emergency flight procedures IAW AFI 11-202 Volume 3 and this instruction. Use a realistic approach 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 pattern requiring special sequencing is anticipated.

9.4.4. Request "option approach" prior to initiating an approach when a landing or low approach option is desired. (Example: "Request ILS option approach.")

9.4.5. Training maneuver restrictions for specific flight maneuvers and missions are listed in [Figure 9.2](#).

9.5. Touch-and-Go and Stop-and-Go Landings:

9.5.1. Touch-and-Go Landings. Authorized only on designated training, evaluation, or currency missions.

9.5.1.1. Touch-and-go landings may be performed by:

9.5.1.1.1. Instructor pilots, instructor pilot candidates on initial or requalification instructor evaluations, or flight examiner pilots in either pilot seat.

9.5.1.1.2. Any pilot from either seat providing an instructor pilot, instructor pilot candidate on initial or requalification instructor evaluation, or flight examiner pilot is in the other seat.

9.5.1.2. Touch-and-go landings are authorized when crosswind component corrected for RCR is within the recommended zone of the landing crosswind chart. Ceiling and visibility (RVR) must be at least 300 feet and 3/4 mile (40).

9.5.1.3. Touch-and-go landings are not authorized when normal wake turbulence criteria is not met or, when intercepting or crossing the flight path of a heavy jet while performing an approach or landing.

9.5.1.4. The minimum runway for touch-and-go landings is 8,000 feet.

9.5.2. Stop-and-Go Landings are not authorized.

Figure 9.2. Training Maneuver Restrictions.

MANEUVER	RESTRICTIONS
Actual Engine Shutdown and Airstart	One engine may be shut down at not lower than 5000 feet AGL during daylight VMC.
Simulated Engine Failure	Authorized in night VMC and daylight IMC if the weather is at or above circling minimums and the altitude is no lower than 300 feet AGL. On takeoff, initiate simulated engine failures at or above V ₂ speed. Landings may be accomplished with one engine simulated inoperative. In a touch and go situation use all 4 engines, and rotate at not less than V _{ref} + 10, for the touch and go takeoff. During the touch and go takeoff, simulate engine failure at no lower than V _{ref} + 10.
Simulated Engine Failure at V ₁ Speed	Authorized in daylight VMC. May only be performed in the left seat by a current and qualified pilot. Authorized only during an FAA flight evaluation or dedicated training sortie in preparation for the evaluation (2 training sorties maximum per pilot).
Simulated Emergencies (other than simulated engine failure)	Initiate at not lower than 300 feet AGL.
Go-Around or Missed Approach	Minimum altitude is 500 feet AGL when aircraft, equipment, or personnel are on the runway. Initiate VFR go-arounds no lower than 100 feet AGL when practicing simulated emergencies other than simulated engine failures. Initiate practice instrument missed approaches no lower than the minimum altitude for the approach.
Simulated Engine-Out Go-Around or Missed Approach	Initiate simulated engine-out go-arounds at not lower than 200 feet AGL. Initiate simulated engine-out missed approach at not lower than the minimum altitude for the approach. Use all engines if below 200 feet AGL.
Simulated Two Engine Out Landing	Authorized in daylight VMC. Simulate failure of the second engine at not lower than 1000 feet AGL. Simulate failure of symmetrical engines only. Use all four engines for go-around or missed approach.

MANEUVER	RESTRICTIONS
Simulated Engine-Out, Rudder-Out Go-Around	Authorized in daylight VMC. Simulate failure of the rudder at not lower than 1000 feet AGL. Flown only to a go-around.
Jammed Stabilizer	Authorized during daylight VMC. Simulate and remain at not lower than 5000 feet AGL.
Approach to Stalls	Authorized in daylight VMC. Initiate at not lower than 5000 feet AGL or 5000 ft above a cloud deck.
Steep Turns	Authorized in daylight VMC. Initiate at not lower than 5000 feet AGL or 5000 feet above a cloud deck. Use a maximum bank angle of 45 degrees.
TC or Cross Bleed Start	Authorized only in uncongested areas. Controlling agency clearance is required for engine run-up.
Circling Approaches	Fly at 25 degree flap configuration. Maintain 25 degree flap maneuvering speed until aircraft is aligned with the landing runway.

9.6. Special Maneuvers. The following maneuvers or procedures are prohibited in the aircraft and may only be practiced in the flight simulator.

- 9.6.1. Aborted takeoffs.
- 9.6.2. Dutch rolls.
- 9.6.3. Emergency descents.
- 9.6.4. Full stalls.
- 9.6.5. Landing with pitch trim cutout.
- 9.6.6. No flap landings.
- 9.6.7. Simulated engine out takeoffs.
- 9.6.8. Simulated hydraulic system loss by turning off engine driven or electrical hydraulic pumps.
- 9.6.9. Simulated jammed stabilizer landings.
- 9.6.10. Split flap landings.
- 9.6.11. Simulated runaway trim malfunctions.
- 9.6.12. Simulated two engine out go arounds. Simulated two engine out landings must be confined to symmetrical engines.
- 9.6.13. Unusual attitudes.

9.7. Simulated Instrument Flight. Do not use a hood or other artificial vision restricting devices for any phase of flight. Simulated instrument flight may be flown and logged without use of a vision restricting device.

Chapter 10

STANDARD OPERATING PROCEDURES

10.1. Local Operating Procedures.

Chapter 11

FLIGHT ENGINEER PROCEDURES AND FORMS

11.1. General. This regulation supplements the aircraft Operations Manual and applicable technical orders (T.O.s) EC-137D flight engineers will comply with procedures and duties specified in this instruction. With the exception of ferry flights, or when operating IAW the minimum equipment lists (MEL) or configuration deviation lists (CDL), these items need not be briefed and will be performed as normal procedures. The aircraft commander may assign other duties to the flight engineer as necessary.

11.2. Functional and Acceptance Check Flights (FCC and ACF). All mission qualified flight engineers are authorized to perform FCC and ACF duties IAW T.O. 1-1-300; AFSOCR 66-2, *Functional Check Flight Procedures*; and applicable aircraft checklists.

11.3. In-Process Inspections. All flight engineers must be aware of their responsibility to perform in-process inspections. During the assembly or reassembly of an item at those stages where further assembly will prevent the required inspection of the item, an in-process inspection will be performed. The in-process inspection will be documented. Engineers should be familiar with T.O.s 00-20-1, 00-20-5, 00-25-175.

11.4. Refueling and Defueling. The flight engineer may refuel and defuel when maintenance personnel are unavailable. If ground support personnel are not available, the aircraft commander will designate other crewmembers to assist the flight engineer.

11.5. Aircraft Systems and Forms Management.

11.5.1. The flight engineer will monitor aircraft systems during all phases of flight and ground operations. Notify the pilot of all abnormal indications and take action as required. When noting a malfunction during takeoff roll that may be cause for an abort, the malfunction should be called out clearly and precisely by stating, for example 'Engine Failure No. 2.'

11.5.2. The flight engineer will assist the pilot in maintaining AFTO Forms 781 and aircraft and maintenance forms. After each flight, ensure discrepancies (if any) are entered. Review all discrepancies and ensure clear, detailed entries are made. Attend maintenance debrief if requested by maintenance personnel to further clarify aircraft discrepancies.

11.6. Flight Monitoring. The flight engineer will assist with flight monitoring and will notify the pilot when any of the following are noted:

11.6.1. Deviation of more than 200 feet from the assigned altitude.

11.6.2. Aircraft configuration is incorrect for the maneuver being performed.

11.7. Additional Inflight Duties. The flight engineer will:

11.7.1. Maintain outside vigilance when cockpit duties allow.

11.7.2. Monitor the primary radio and interphone system in terminal control areas, and monitor other radios as directed by the aircraft commander.

11.7.3. Monitor airspeed during all phases of flight.

11.7.4. Obtain ATIS information when possible.

11.7.5. Transmit departure and arrival message to appropriate agencies

11.7.6. Ensure engine limitations are maintained during all phases of ground and flight operations.

11.8. Checklists. When the pilot initiates a checklist, read and ensure timely completion of all checklist items.

11.9. Takeoff and Landing Data (TOLD) Cards. Compute TOLD cards for takeoff prior to the Before Starting Engines Checklists using the aircraft Operations Manual or approved tabulated data. Record computed data IAW the aircraft Operations Manual.

11.9.1. On missions requiring two flight engineers, the second engineer (scanner) may assist in TOLD card and weight and balance computations. The engineer at the FE panel will verify all data prior to departure or arrival.

11.9.2. Computed data must equal or exceed the requirements of this regulation and the aircraft operations manual.

11.9.3. Following the initial takeoff and landing, only affected speeds need be recomputed if favorable conditions afford an additional margin of safety in all other areas. Recompute TOLD data for gross weight decreases of 10,000 lbs., for pressure altitude changes of 1000 feet, and for temperature changes of 5 degrees C.

11.10. Cockpit Voice Recorder (CVR). Consider data recorded on CVR tapes as classified. Erase CVR tape after each flight and prior to leaving the aircraft. CVRs may be rendered inoperative for overseas missions. Use the following procedures to erase the CVR tape after landing.

11.10.1. After the aircraft is on APU or external power and parking brake is set, press the CVR erase button a minimum of two seconds.

11.11. Engine Condition Monitoring Log (ECM). For the ECM program to be reliable, it is necessary to take engine readings as often and as accurately as possible. The ECM log will help ensure the engines are capable of producing full takeoff thrust, since most operations only require reduced takeoff thrust.

11.11.1. During each flight, complete an Inflight Data Sheet (IFDS, number 8-42207-1) IAW the instructions printed on the inside front cover of the ECM log. Only one reading is required during each flight, regardless of the length of the flight. On flights of 4 hours or longer, the taking of additional readings is highly recommended. The ECM program becomes more effective as the number of readings increases. As mission requirements permit, record in-flight engine instrument readings at cruise thrust during any cruise leg below 42,000 feet and above 15,000 feet. Readings below 20,000 feet are less reliable for trend analysis. However, if mission restrictions only allow altitudes between 15,000 and 20,000 feet, record the readings at best available altitude. Readings taken below 15,000 feet cannot be used for trend analysis.

11.11.2. When restrictions preclude the requirements in paragraph [11.11.1](#) (e.g., inflight turbulence, local trainer below 15,000 feet, etc.), provide an IFDS to maintenance and indicate the date flown, hours flown, and reason for non-accomplishment in the remarks block on the IFDS.

11.11.3. Use Zulu date and time. Upon reaching cruise altitude and speed, set cruise EPR (same EPR on all engines) and let speed and engines stabilize for five minutes.

11.11.4. To fool proof the ECM and maintenance logs, put the ECM log number in the "Remarks" block of the E-Systems maintenance log. Transcribe the date and sortie number from the E-Systems maintenance log onto the "Flt. No." on the ECM log.

11.12. Weight and Balance. Weight and balance will be completed before flight when an aircraft has been loaded in a manner for which no previous valid weight and balance form is available. These forms serve as a certificate of proper weight and balance. The flight engineer is responsible for completing the weight and balance forms. Approved tabulated CG% charts may be used during multiple traffic patterns (e.g., local proficiency sorties).

11.13. Flight Planning.

11.13.1. Check or perform the following on all flights:

11.13.1.1. Runway and taxiway loading restrictions.

11.13.1.2. Fuel planning.

11.13.1.3. Obstacle criteria.

11.13.1.4. PPR requirements.

11.13.1.5. Aircraft maintenance status.

11.13.1.6. Weather forecast.

11.13.1.7. Training requirements.

11.13.1.8. Attend aircraft commander's brief at designated briefing time.

11.13.1.9. Coordinate show time at aircraft and Coordination of fuel should be done with maintenance supervisor or CFS supervisor if the maintenance supervisor is not available.

11.13.2. Check or perform the following on all local proficiency flights.

11.13.2.1. Review recall procedure (BOLD FACE) for immediate action items.

11.13.2.2. When other than standard ramp load is required, coordinate the fuel load with maintenance supervisor or CFS supervisor if the maintenance supervisor is not available.

11.13.3. Check or perform the following on all off station flights.

11.13.3.1. Check the trip kit and ensure it contains the information listed on the index page. Replace missing or obsolete forms, regulations, FCIS'S, etc.

11.13.3.2. Plan fuel load for mission duration and compare to preplanned setup sheet.

11.13.3.3. Compute the weight and balance form for the planned offload/onload requirements.

11.13.4. Check or perform the following on all inflight refueling missions.

11.13.4.1. During inflight refueling missions verify fuel onload and ensure fuel does not exceed the 90% chart.

11.13.4.2. Verify TACAN paired frequency for rendezvous.

11.14. Aircraft Preflight for Alert Aircraft Launches. When the alert aircraft is launched with a short notice, as a minimum complete asterisk items in normal procedures section of aircraft operations manual. If maintenance has already performed the "power on" portion of preflight, verify switch positions and proceed with Preliminary Cockpit Preparation.

11.15. Towing Procedures . Flight engineers will may act as a tow team member, tow supervisor or tow vehicle operator if they are trained and qualified IAW OI 10-104, *Towing Procedures*.

11.15.1. During towing operation, shut the APU off prior to any part of the aircraft entering a hanger and do not restart the APU until the aircraft is completely clear of the hanger.

Chapter 12

FLIGHT ATTENDANT FORMS AND PROCEDURES

12.1. General. This chapter outlines specific operational procedures for flight attendant (FA).

12.2. Responsibilities. The FA is the direct contact between the US Air Force and the passenger. FA primary responsibilities are to act as the aircraft commander's cabin representative, provide cabin service, instruct passengers in the use of emergency equipment when required, direct and control passengers under emergency conditions, and maintain cabin cleanliness. On multi-FA crews, the first FA acts as FA supervisor and assigns specific duties and responsibilities to each FA.

12.3. FA Standards.

12.3.1. When making contact off base, FAs must wear Service Dress, FA uniform, or business attire (business suit with tie, conservative civilian dress, blazer with dress slacks or skirt).

12.3.2. Ensure that you present a professional, courteous, and helpful image, without compromising the safety of both passengers and crew.

12.4. Premission Duties:

12.4.1. Contact the aircraft commander or current operations for draft itineraries and cabin service requirements. Get advance funds from the CINC's fund or mission contact officer.

12.4.2. Call or visit the mission contact officer to determine cabin service requirements. Get the name of the onboard contact. Complete applicable portions of the AMC Form 409, **Air Passenger Specialist Mission Planning Worksheet**. Determine crew meal requirements.

12.4.3. Procure needed supplies (food, beverages, special requirements). Retain all receipts.

12.4.4. Arrange / accomplish aircraft loading. If possible load the day prior to departure, if aircraft availability and maintenance scheduling permits.

12.5. Preflight Duties. The first FA on EC-137D aircraft will assign FA positions and duties, and conduct an FA briefing.

12.5.1. Prepare meals as required.

12.5.2. Perform applicable preflight checklists. Check that applicable passenger information cards are properly distributed.

12.5.3. Pick up passenger manifests. Turn in any required border clearance forms.

12.5.4. Coordinate baggage loading. If carrying space available passengers, perform anti-hijacking inspections as directed by the aircraft commander.

12.5.4.1. Inspect baggage in an area well away from the aircraft

12.5.4.2. Load baggage to preclude inflight passenger access (except for carry-on baggage).

12.5.4.3. Inspect carry-on baggage prior to boarding passengers.

12.5.5. Coordinate passenger boarding. Ensure that a correct copy of the passenger manifest is given to the passenger terminal or ground servicing representative.

12.5.6. Before takeoff, brief passengers as directed by the aircraft commander.

12.6. Passenger Handling. Keep the crew informed of all passenger problems, unusual requests, etc.

12.7. Border Clearance. Customs, immigration, and agriculture require certain forms for border clearance. The FA is the custodian for these and other required forms. Ensure required forms are aboard aircraft prior to takeoff. Distribute forms to the crew and passengers and ensure completion prior to landing. Deliver the forms to the proper individuals at en route and terminating stations.

12.8. En Route and Postflight Duties. Monitor the passenger cabin. Assure passenger safety and comfort. Ensure all loose items are stowed during critical phases of flight.

12.8.1. Attend to passenger needs, as required.

12.8.2. Attend to cockpit crew needs when passenger service duties permit.

12.8.3. Complete border clearance forms as required.

12.8.4. Assist with passenger deplaning and baggage offload or transfer. Ensure passengers do not inadvertently leave required baggage or personal items on the aircraft.

12.8.5. Clean passenger cabin, lavatories, and galley areas.

12.8.6. Arrange or procure food and beverages required for subsequent mission legs.

12.9. FA Procedures. The following procedures apply regarding the disposition of excess consumable products on each mission.

12.9.1. Upon termination, the first FA will annotate the method of disposal of leftover items on the reverse side of the AMC Form 410, **Mission Expense Record**. The FA will list all items designated for charity. If the onboard contact accepts the leftovers, "All leftovers were given to the contact" will be annotated on the reverse side of the AMC Form 410 and will ensure that the aircraft commander is aware of the circumstances concerning the disposal of leftovers.

12.9.2. All Perishable items not used will be disposed of in appropriate trash containers prior to leaving the aircraft.

12.9.3. Under no circumstances will either perishable or non-perishable items purchased for the official party be consumed by crew members or ground support personnel, or taken from the airplane for personal use.

12.9.4. Cleaning crews should not approach the aircraft until all passengers and their baggage have departed the area. Civilian clothing may be worn.

12.9.5. Blankets and pillowcases will be changed if they are soiled during a mission. At the end of the mission, change all blankets and pillowcases that have been used.

12.9.6. If a passenger is misbehaving/mistreating the aircraft (i.e. feet on the bulkhead, sitting on the armrests, etc.) notify the contact and let them handle the individual.

12.10. AMC Form 409, Air Passenger Specialist Mission Planning Worksheet :

12.10.1. Purpose - This form is designed to assist the FA in organizing passenger requirements. The reverse side of the form is a checklist to help inventory mission supplies.

12.10.2. Procedures - Record details received from the contact officer on the front of the form. Use the reverse as a premission and preflight check-off list.

12.11. AMC Form 410, Mission Expense Record:

12.11.1. Purpose - This form is used to record all expenses related to passenger services. No purchase for personal use, may appear on the mission AMC Form 410. Obtain separate receipts or subtract applicable items.

12.11.2. Procedures - Separate AMC Form 410 will be used for passenger and crew meals. On CIC-SOC missions, passenger and crew meals may be combined.

12.11.3. If unable to get a receipt from a vendor, prepare an itemized list of purchases. Sign and date this list.

Chapter 13

COMMUNICATIONS SYSTEMS OPERATOR PROCEDURES AND FORMS

13.1. General . This instruction establishes procedures for Air Force Special Operations Command (AFSOC) Communication Systems Operators (CSO) and prescribes the forms used in accomplishing their duties. It applies to all AFSOC CSOs flying on AFSOC-owned or AFSOC-chartered aircraft. The terms Communications Systems Operator (CSO) and Radio Operator (RO) may be used interchangeably in this and other publications. In addition to the duties established in applicable technical orders and other directives, CSOs will comply with the procedures and duties in this regulation. The aircraft commander may assign other duties as necessary. The CSO will:

13.1.1. Attend crew briefings to obtain all pertinent information on purpose, route of flight, mission objective, and communications requirements. Record pertinent mission information on the locally produced communications worksheet.

13.1.2. Coordinate communications requirements, frequencies, and any special procedures necessary to ensure optimum communications coverage is provided.

13.1.3. Sign out and maintain control of all COMSEC and classified documents required by the CSO during the mission. Encode, decode, and authenticate messages as required. Use authentication systems to identify friendly units. Ensure all COMSEC and classified materials are returned to proper storage facilities.

13.1.4. Preflight all communications equipment to ensure satisfactory operation.

13.1.5. Ensure IFF/SIF Modes II and IV are set IAW mission requirements.

13.1.6. Maintain continuous communications with appropriate air traffic control agencies, mission command, and control agencies, and other mission/support aircraft as necessary. Use secure communications to the maximum extent possible. Mission tasking will control when and where secure communications are utilized.

13.1.7. Provide a documented record of all pertinent events during the mission using AFSOC Form 55, **Airborne Radio Log**.

13.1.8. Troubleshoot and repair/swap malfunctioning communications equipment inflight and at locations where qualified ground maintenance personnel are not available. Communications equipment repair is limited to the scope of the appropriate aircraft technical order or equipment documentation.

13.1.9. Initiate and maintain communications with command authorities during mission events. Establish and maintain communications with other agencies, including ATC, as directed by the aircraft commander.

13.1.10. Establish emergency communications through the use of national or international procedures when directed by the pilot.

13.1.11. Zeroize all cryptographic devices and clear classified frequencies prior to leaving the aircraft.

13.1.12. Configure and operate secure voice, anti-jam voice/data systems, self-contained navigation system (SCNS), data-burst terminals (DBT), digital message data group (DMDG), airborne computerized communications terminals (ACCT), and other computer/data devices as required.

13.2. Aircraft Interphone and Radio. The CSO will monitor the primary radio, normally UHF/VHF, and interphone at all times except when the use of HF or SATCOM precludes monitoring these radios. The CSO will notify the pilot before leaving and when returning to their duty station.

13.3. Communications Procedures. Communications procedures used during all phases of a mission are directly related to the type of mission being flown. Each CSO will be knowledgeable of operational environments described below:

13.3.1. Communications Checks. Communications checks made during preflight, enroute and post-flight will be IAW ACP 121, US Sup-2. It is the responsibility of all CSOs to be cognizant of their OPSEC requirements prior to making any communications checks.

13.3.2. Allied Communications Publication (ACP) 121 series, as supplemented, prescribes procedures for HF communications between aircraft and ground stations for most circumstances. All CSOs must be proficient in the use of these ACPs in addition to ACP 122, 131, 135, 160 (US Sup 1C), and Joint Army Navy Air Force Publication (JANAP) 146. Ensure long-range communications, normally HF, are established prior to departing VHF/UHF range.

13.3.3. Communications necessary to support covert or sensitive operations dictate the CSO blend in with certain existing or mobile ground stations and avoid attracting attention to the mission. CSOs will use "ground" style communications procedures IAW ACP 125, instead of ACP 121 US Supp-2, when flying in a tactical (mission) environment and will make every effort to avoid identifying their station as an aircraft. Long-range communications channels will be as directed by the mission controlling authority.

13.3.4. Communications Reports. Forward all ATC communications and associated air reports (AIREP) to ICAO aeronautical stations in accordance with FLIP General Planning, FLIP charts, and FLIP Flight Information Handbook (FIH). ICAO HF en route position reporting must be IAW FIH and applicable FLIP documents. Pass C² and all other operational communications through the USAF HF/SSB Global Command and Control System (GCCS) or the dedicated command and control station assigned by the mission controlling authority.

13.3.5. Classified Transmissions. If classified transmissions are made during a flight, power **SHALL** remain applied to the Cockpit Voice Recorder for at least 30 minutes after the final classified transmission is completed.

13.4. AFSOC Form 55, Airborne Radio Log. The CSO will complete a single AFSOC Form 55 for each day's flight or flights.

13.4.1. Radio logs are normally unclassified, however, if classified information is entered into the radio log, it must be properly marked. Complete the log IAW [Attachment 1](#). File completed unclassified logs chronologically in a transitory file. Dispose of logs IAW AFMAN 37-139. Classified logs will be handled and stored IAW current security directives. Maintaining log entries is the lowest mission priority.

13.4.2. An execution checklist may be used on certain flights. Annotate times in the appropriate blocks, if an execution checklist is used. If the execution checklist is unclassified, it may be attached to the radio log in lieu of duplicate log entries. If the execution checklist is classified, do not attach it to the radio log unless the radio log is also classified. A separate radio log will be maintained at all times.

13.4.3. Airborne Radio Log may be completed electronically or by hand (manually). When completed manually, it should be filled out using non-erasable type ink. Complete this form as follows:

13.4.3.1. Log Heading : Complete the entire log heading for page 1. Headings of subsequent pages need only contain call sign, date, page number, mission, and operator's name(s).

13.4.3.1.1. Date . Enter the current Zulu date.

13.4.3.1.2. Tactical Callsign . Enter the tactical/mission call sign. If not applicable, enter N/A. If entry of a tactical/mission call sign by itself would make the log classified, enter N/A.

13.4.3.1.3. ATC Callsign . Enter the normal ATC voice call sign.

13.4.3.1.4. Mission or Route . Enter point of departure and destination if other than departure point. Plain language, FAA, or ICAO identifiers may be used. LOCAL may be used for training missions originating and terminating at home station. If the departure or destination is classified, use the mission code name.

13.4.3.1.5. Tail Number . Enter the aircraft tail number, not the aircraft serial number.

13.4.3.1.6. Squadron . Enter unit to which the aircraft is assigned.

13.4.3.1.7. Personnel On Board . Enter the total number of souls on board (crewmembers and passengers).

13.4.3.1.8. Takeoff . Enter Zulu time for takeoff (AFTO Form 781).

13.4.3.1.9. Land . Enter Zulu time for landing (AFTO Form 781).

13.4.3.1.10. Total Time . Enter the total flight time (AFTO Form 781).

13.4.3.1.11. Page __ of __ Pages . Enter the page number. Each sheet of paper, front and back, is considered one page.

13.4.3.1.12. Aircraft Commander . Enter the aircraft commander's rank and last name.

13.4.3.1.13. Operator . Enter rank and last name of the CSO(s).

13.4.3.2. Time . Enter the GMT (Zulu) time the transmission is completed and acknowledged. For events that warrant noting, but no transmission is completed, enter the time you make the log entry.

13.4.3.3. To/From . If you are initiating the call, enter the station called in the upper left portion of this block followed by a slant bar (/). If you are called, place the slant bar near the middle of the block and the call sign of the calling station in the right lower portion of this block. Enter NOTE for all notes or comments not involving a radio transmission.

13.4.3.4. Frequency :

13.4.3.4.1. Enter the radio frequency used for HF, VHF, and UHF calls unless the frequency is classified. Use the assigned designator for classified frequencies. Unclassified designators, if assigned, may also be used.

13.4.3.4.2. Enter SATCOM for all calls made over the SATCOM system.

13.4.3.4.3. Enter LOG for all notes or comments that do not involve a radio transmission.

13.4.3.5. Message/Remarks :

13.4.3.5.1. The first entry will be the statement "ON WATCH" followed by the CSO's signature. The last entry will be the statement "OFF WATCH" followed by the CSO's signature. On augmented missions, only the CSO sitting in the seat for takeoff is required to sign on and off watch. If other CSOs make log entries, they will place a double slash (//) at the end of the MESSAGE/REMARKS entry and initial the entry.

13.4.3.5.2. CSOs may exchange watch by using ON WATCH/OFF WATCH entries. The CSO on watch at the end of the radio day will make an entry indicating the end of the current radio day and a separate entry for the start of the new radio day. The end of the radio day, (midnight Zulu) is designated 2400Z, and 0001Z is the beginning of the new radio day. Radio log entries will read "2400 NOTE LOG End RADAY" and "0001 NOTE LOG Begin RADAY."

13.4.3.6. Abbreviations and operating signals (ACP 131), FLIP abbreviations and other aeronautical related abbreviations may be used in radio log entries. Use brackets, [], to enclose important information, simulated transmissions, transmission summaries, or any other information necessary in the log, but not actually transmitted over the radios. Otherwise, enter sent or received information verbatim.

13.4.3.7. Entry Corrections . Entry corrections may be made electronically or manually. Electronic and manual corrections may be made to the same document as required.

13.4.3.7.1. Electronic Corrections. Electronic corrections may be made as required at any time before mission completion.

13.4.3.7.2. Manual Corrections. Make manual corrections to the form by lining out the incorrect portion and initialing at the end of the lined out portion. Enter the correct information immediately after the lined out portion.

13.5. Communications Worksheet. Each flying squadron will develop a local communications worksheet specifically oriented to its mission. The CSO will complete this locally produced communications worksheet for all flights, IAW local instructions. The local communications worksheet must be designed to be used both during mission planning and inflight as a guide. At the completion of each mission this form may be destroyed.

13.6. Frequency Listing. Attachment 2 contains a listing of frequencies that are commonly used. This list contains search and rescue and Citizen Band frequency conversion table.

13.7. Weather Forecasts . For all flights outside the local area, the CSO will obtain the destination and alternate (if applicable) forecasts, to include pressure altitude and temperature, before reaching the equal time point and one hour prior to ETA. When marginal weather is expected, provide the pilot with earlier

forecasts and timely updates, to include alternate landing fields. Whenever SIGMETs are received from any source, contact the nearest USAF weather facility to determine mission applicability.

13.8. Communications Systems Operator Information Guides (CSOIG). CSOIGs are used to consolidate communications information, procedures, policies, etc. for quick reference during mission planning, preflight, inflight, and postflight duties. CSOIGs will be overprinted on AFSOC Form 54, AFSOC Flight Crew Information Guide. Group Stan/Eval is the approval authority for unit CSOIGs. Each unit maintaining these guides will review them annually for currency and document the review.

Figure 13.1. Radio Frequencies.

SEARCH AND RESCUE (SAR) FREQUENCIES

<u>Frequency</u>	<u>Usage</u>	<u>Mode (1)</u>	<u>Authority</u>
251.9 MHz	Operational and Training	V	RFA(2)
252.8 MHz	Operational and Training	V	RFA
259.0 MHz	Operational and Training	V	RFA
381.0 MHz	Operational and Training	V	RFA
46.85 MHz	Operational and Training	V	RFA

DISTRESS AND EMERGENCY FREQUENCIES

<u>Frequency</u>	<u>Usage</u>	<u>Mode (1)</u>	<u>Authority</u>
2.182 MHz	Aero/Maritime Survival Craft	V	Joint Publication 3-50 Volume 1 / AFMAN 33-120
2.670 MHz	USCG Emergency Coordination	V	AFMAN 33-120(3)
3.0235 MHz	International Scene of Action SAR	V	Joint Publication 3-50 Volume 1
4.835 MHz	AF Crash Boats (general)	V,CW	AFMAN 33-120
5.680 MHz	Intl Scene of Action SAR	V	Joint Publication 3-50 Volume 1
5.717 MHz	Canadian MACS SAR	V	Canadian IFR Supplement
8.364 MHz	For Use Internationally By Survival	CW	Joint Publication 3-50 Volume 1 1Craft Stations
121.5 MHz	Intl Aeronautical Emergency	V	Joint Publication 3-50 Volume 1 / AFMAN 33-120
123.1 MHz	NATO/ICAO Scene of Action	V	Joint Publication 3-50 Volume 1
138.45 MHz	ARRS Scene of Action	V	AFMAN 33-120
138.78 MHz	Scene of Action	V	AFMAN 33-120

DISTRESS AND EMERGENCY FREQUENCIES

156.8 MHz	Maritime Mobile VHF Radio-telephone	FM	Joint Publication 3-50 Volume 1/ Service As A Distress, Safety, And AFMAN 33-120 Calling (Channel 16)
243.0 MHz	Intl Aeronautical Emergency	V	Joint Publication 3-50 Volume 1/ AFMAN 33-120
282.8 MHz	Intl Scene of Action SAR	V	Joint Publication 3-50 Volume 1/ AFMAN 33-120

AIR/SHIP/AIR CALLING FREQUENCIES

<u>Frequency</u>	<u>Usage</u>	<u>Mode (1)</u>	<u>Authority</u>
4.182 MHz	May be used by any aircraft to commu- nicate with stations (ships) in the mari- time mobile service	V	RR 1178(4)
6.273 MHz		V	RR 1178
8.364 MHz		CW	RR 1178
12.546 MHz		V	RR 1178
16.728 MHz		V	RR 1178
22.245 MHz		V	RR 1178

CITIZEN BAND (CB) FREQUENCY CONVERSION TABLE (5)

<u>Channel</u>	<u>MHz</u>	<u>Channel</u>	<u>MHz</u>	<u>Channel</u>	<u>MHz</u>	<u>Channel</u>	<u>MHz</u>
1	26.965	11	27.085	21	27.215	31	27.315
2	26.975	12	27.105	22	27.225	32	27.325
3	26.985	13	27.115	23	27.235	33	27.335
4	27.005	14	27.125	24	27.245	34	27.345
5	27.015	15	27.135	25	27.255	35	27.355
6	27.025	16	27.155	26	27.265	36	27.365
7	27.035	17	27.165	27	27.275	37	27.375
8	27.055	18	27.175	28	27.285	38	27.385
9	27.065	19	27.185	29	27.295	39	27.395
10	27.075	20	27.205	30	27.305	40	27.405

AN/ARC-513 VHF-FM NONTACTICAL PRESET FREQUENCIES

<u>Channel</u>	<u>MHz</u>	<u>Usage</u>
Guard 1	156.800	International Maritime Distress (Channel 16)
Guard 2	153.800	Mountain Search and Rescue
1	154.920	State Police (Clemars)
2	155.280	Inter-Hospital Emergency System
3	155.340	Emergency Medical Service
4	156.300	Coast Guard Intership/Interplane
5	156.650	Coast Guard Bridge-to-Bridge
6	162.400	National Wx Bureau Regional (RCV only)
7	162.550	National Wx Bureau Regional (RCV only)
8	164.050	Federal Aviation Agency (Sector Control)
9	168.625	National Fire Emergency (Airborne)
10	168.500	Bureau of Land Management
11	172.600	US Dept of Interior (Aircraft Safety)

NOTES:

1. Modes are V for voice, CW for International Morse Code and FM for VHF/FM.
2. The USAF RFA list is the authority for the use of these frequencies.
3. AFMAN 33-120 and Joint Publication 3-50 Volume 1 explain the use of these frequencies, which are authorized in the RFA or the ITU Radio Regulations (see note 4).
4. The International Telecommunications Union (ITU) Convention of 1959 promulgated Radio Regulations (RR 994, 999, 1107, and 1323) which permit the use of frequencies for general air-to-ship communications uses.
5. In order to be on the correct frequency, ensure HF equipment is set to AM, not Upper Side Band (USB).
6. Emission is amplitude modulation (AM) only.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoD 4515.13-R, *Air Transport Eligibility*

DoD 5200.1, *DoD Information Security Program Joint Pub 3-50, National Search and Rescue Manual Volume 1*

AFMAN 10-206, *Operational Reporting*

AFPD 11-2, *Aircraft Rules and Procedures*

AFI 11-202 Volume 1, *Aircrew Training Program*

AFI 11-202 Volume 2, *Aircrew Standardization/Evaluation Program*

AFI 11-202 Volume 3, *General Flight Rules*

AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Material*

AFI 11-215, *Flight Manuals Procedures*

AFMAN 11-217, *Instrument Flying*

AFI 11-2EC-137V1, *EC-137 Aircrew Training*

AFI 11-2EC-137V2, *EC-137 Aircrew Evaluation Criteria*

AFI 11-301, *Life Support Training*

AFI 11-401, *Flight Management*

AFI 23-202, *Buying Petroleum Products and Other Supplies and Services Off-Station*

AFJMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*

AFI 24-401, *Customs - Europe*

AFI 24-402, *Customs - Pacific*

AFI 24-403, *Customs - Southern*

AFI 24-404, *Customs Domestic*

AFI 31-101, *Physical Security Program*

AFI 31-401, *Information Security Program*

AFI 31-405, *Foreign Clearance Guide*

AFMAN 33-120, *Radio Frequency (RF) Spectrum Management*

AFMAN 37-139, *Records Disposition Schedule*

AFI 37-160 V7, *The Air Force Publications and Forms Management Program - Publication Libraries and Sets*

AFI 37-160V8, *The Air Force Publications and Forms Management Program - Developing and Processing Forms*

AFI 48 - 123, *Medical Examination and Standards*

AFMAN 91-201, *Explosives Safety Standards*

AFI 91-202, *Hazardous Air Traffic Report (HATR) Program*

AFI 91-204, *Investigating and Reporting US Air Force Mishaps*

AFSOCI 11-301, *Aircrew Life Support (ALS) Program*

Abbreviations and Acronyms

AC—Aircraft Commander

ACL—Allowable Cabin Load

ACM—Additional Crewmember

ADSC—Active Duty Service Commitments

AF—Air Force (as used on forms)

AFI—Air Force Instruction

AFORMS—Air Force Operations Resource Management System

AFSOC—Air Force Special Operations Command

AFSOCI—Air Force Special Operations Command Instruction

AFSOCR—Air Force Special Operations Command Regulation

ALS—Aircrew Life Support

AMC—Air Mobility Command

ARCP—Air Refueling Control Point

ARCT—Air Refueling Control Time

ASSR—Airfield Suitability and Restrictions Report

ATC—Air Traffic Control

BAQ—Basic Aircraft Qualification

BMC—Basic Mission Capable

C2—Command and Control

CC—Commander

CCC—Command and Control Center

CDD—Crew Duty Day

CDT—Crew Duty Time

CF—Customs Form (as used on forms)

CINCSOC —Commander-in-Chief, Special Operations Command
COMAFSOC—Commander Air Force Special Operations Command
COMAFSOF—Commander Air Force Special Operations Forces
COMSEC—Communications Security
CONUS—Continental United States
CSO —Communications Systems Operator
CVR—Cockpit Voice Recorder
DD—Department of Defense (as used on forms)
DNIF —Duties Not Including Flying
DO—Operations Officer
DOC—Designed Operational Capability
DOD—Department of Defense
DOT—Training Office
DV—Distinguished Visitor
ECM—Engine Condition Monitoring
EMI—Electromagnetic Interference
EP—Emergency Procedure
ETA—Estimated Time of Arrival
ETD—Estimated Time of Departure
ETE—Estimated Time Enroute
ETIC—Estimated time in commission
ETP—Equal Time Point
ERO—Engine Running Offload
ESA—Emergency Safe Altitude
FA—Flight Attendant (previously IPSS)
FAA—Federal Aviation Administration
FCF—Functional Check Flight
FCIF—Flight Crew Information File
FIH—Flight Information Handbook
FLIP—Flight Information Publication
HQ AFSOC—Headquarters Air Force Special Operations Command
HQ AFSOC/DOV—Headquarters Air Force Special Operations Command Aircrew Stan/Eval

HQ AMC—Headquarters Air Mobility Command

HQ USAF—Headquarters United States Air Force

HQ USSOCOM —Headquarters US Special Operations Command.

IAW—In Accordance With

IFF/SIF —Identify Friend or Foe/Selective Identify Frequency

IFR—Instrument Flight Rules

IMC—Instrument Meteorological Conditions

IPSS—Inflight Passenger Service Specialist

IRC—Instrument Refresher Course

JSOTF—Joint Special Operations Task Force

LPS—Local Proficiency Sortie

MAJCOM—Major command

MARSA—Military Authority Assumes Responsibility for Separation of Aircraft

MC—Mission Capable

MDA—Minimum Decision Altitude

MDH—Minimum Decision Height

MDS—Mission design series

MEA—Minimum Enroute Altitude

MSA—Minimum Safe Altitude

MEL—Minimum Equipment Listing

MR—Mission Ready

MSL—Mean Sea Level

MX—Maintenance

NEW—Net Explosive Weight

NC—Noncurrent

OAT—Outside Air Temperature

OI—Operating instruction

OPCON—Operational Control

OPR—Office Of Primary Responsibility

PAA—Primary Aircraft Assigned

PCS—Permanent Change Of Station

PIC—Pilot In Command

POK—Portable Oxygen Kit

RO—Radio Operator

SARSAT—Search And Rescue Satellite Aided Tracking

SATCOM—Satellite Communications

SCA—Self-Contained Approach

SID—Standard Instrument Departure

TDY—Temporary Duty

TOLD—Take Off and Landing Data

UNQ—Unqualified

USSOCOM—US Special Operations Command

VFR—Visual Flight Rules

VMC—Visual Meteorological Conditions

WX—Weather

Terms

Aircraft Coordinator—Individual assigned to HQ USSOCOM. Responsible for scheduling and coordination of missions supporting CINCSOC.

Aircrew Coordinator—Mission liaison between user and aircrew.

Additional Crewmember (ACM).—An individual possessing valid aeronautical orders who is required to perform in-flight duties and is assigned in addition to the normal aircrew complement required for a mission.

AFKAI—Contains the worldwide USAF voice call sign list and the specific assignment of each to USAF, JCS, Army, Navy, unified and specified commands, and certain Executive, State Department, and DOD activities.

Airborne Mission Commander—The individual given the responsibility to accomplish part of the overall operation.

Air Force Special Operations Command—Major command of assignment for 2 SOF members.

Air Refueling Control Point (ARCP)—For inflight refueling, the planned geographic point over which the receiver arrives in the precontact position with respect to the assigned tanker.

Air Refueling Control Time (ARCT)—The planned time that the receiver and tanker will arrive over the ARCP.

Allowable Cabin Load (ACL)—The maximum payload which can be carried on a mission. It may be limited by the maximum takeoff gross weight, maximum landing gross weight, or by the maximum zero fuel weight. Maximum through load is limited to that which can be carried on the critical leg of a route segment.

Basic Aircraft Qualification—Crews or crewmembers qualified and current to fly the unit aircraft only on non-mission sorties.

Basic Aircraft Qualification Aircrew Member—An aircrew member who has satisfactorily completed qualification training in the basic aircrew position and maintains aircraft currency IAW this instruction.

Basic Mission Capable Aircrew Member—An aircrew member who has satisfactorily completed mission qualification and is maintaining 50 percent of the applicable mission qualification currency requirements of this instruction.

Border Clearance—Those clearances and inspections required to comply with federal, state, and local agricultural, customs, immigration, and immunization requirements.

Category I Route—Any route that does not meet the requirements of a category II route, including low level and overwater routes.

Category II Route—Any route on which the position of the aircraft can be accurately determined by the overhead crossing of a radio aid (NDB, VOR, TACAN) at least once each hour with positive course guidance between such radio aids.

CEOI—Communication electronic operating instructions.

Command and Control Center (CCC)—An agency used by a commander to plan, direct, or control operations. Each CCC provides supervision, guidance, and control within its assigned area of responsibility. For the purpose of this instruction, CCCs include the AFSOC Command Center, AMC Command Center, Command Post (CP), Air Mobility Elements (AME), Airlift Coordination Centers (ACC), Combat Control Teams (CCT), AFRES Headquarters Command Post (AFRES HQ CP), NGB Field Support Center, and ARC wing or group operations centers and command posts.

Commander Air Force Special Operations Forces (COMAFSOF)—The commander designated by USCINCSOC 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 USCINCSOC for management of CONUS-deployed AFSOF or to the respective SOC/CC for management of AFSOF theater-assigned AFSOF and is responsible to COMAFSOF for monitoring and management of AFSOF operating within the specific area of responsibility.

Communications Systems Operator—A non-rated aircrew member specially trained to operate aircraft communication systems.

Contingency Mission—A mission operated in direct support of an operation plan, operation order, disaster, or emergency.

Continuing Mission—A mission where the aircraft and crew transits home station, either as an enroute stop or to remain over night, then continues on with the same mission and on the same flight orders.

Conversion Training—Training accomplished when changing between same design, but different series, aircraft. The amount of training needed for qualification does not warrant attendance at a formal qualification course.

Deadhead Time—Duty time accrued by crewmembers in a passenger or ACM status.

Degraded Equipment—Aircraft systems that are less than fully operational. Guidance on these systems is given in the MEL.

DV Mission—Any mission carrying a DV code 6 or higher.

EC-137D—Boeing 707-300 series airplane specifically modified to support USSOCOM and its

subordinate commands.

EEFI—Essential elements of friendly information.

Emergency Safe Altitude (ESA)—An altitude that provides one thousand feet (2000 feet in mountainous terrain) above the highest obstacle within 10 NM of the proposed route of flight.

Equal Time Point (ETP)—The point along a route at which an aircraft may either proceed to destination or first suitable airport, or return to departure base or last suitable airport in the same amount of time based on all engines operating.

Event—A training item to be accomplished. Multiple events may be completed and logged during a sortie unless specifically excluded elsewhere in this instruction.

First FA—Qualified FA for all missions.

Flight Attendant (FA)—Crewmember specially trained in passenger handling and safety. Crew position previously named to Inflight Passenger Service Specialist Flight Attendant.

Forward Operating Base (FOB)—An airfield without full support facilities used during mission operations for an undetermined and sometimes extended period of time.

Hazardous Cargo or Materials—Explosive, toxic, caustic, nuclear, combustible, flammable, biologically infectious, or poisonous materials that may directly endanger human life or property, particularly if misused, mishandled or involved in accidents (AFJI 11-204, AFMAN 24-204, TO 11N-20-11).

Joint Special Operations Task Force (JSOTF)—A joint task force composed of special operations units from more than one Service, formed to carry out a specific special operation or prosecute special operations in support of a theater campaign or other operations. The joint special operations task force may have conventional or special operations units assigned or attached to support the conduct of specific missions.

Inflight Refueling—For the purpose of this instruction, airborne fuel onload (simulated or actual) by EC-137D receiver aircraft.

Inflight Passenger Service Specialist—Crewmember specially trained in passenger handling and safety. Crew position renamed to Flight Attendant.

Instructor Certified Events—Training given to an aircrew member that requires an instructor to certify the student's attainment of the required proficiency and knowledge levels as specified in courseware and, if appropriate, AFSOC Forms 672. Instructor certified events are documented on AF Form 1381, **USAF Certification of Aircrew Training**.

Interfly—Intermixing of crewmembers from different units in the same aircrew or unit aircrews flying aircraft assigned to another unit.

Maintenance Codes:—

Fully Mission Capable (FMC).

Partially Mission Capable (PMC).

+ M (Maintenance).

+ S (Supply).

+ B (Both).

Not Mission Capable (NMC).

+ M (Maintenance).

+ S (Supply).

+ B (Both).

Minimum Equipment Listing (MEL)—Listing of all equipment necessary for flight or dispatch.

Minimum Enroute Altitude (MEA)—An altitude which provides terrain clearance and limits threat detection in the low level route structure. Compute MEA by adding 500 feet to the elevation of the highest obstacle within 3 NM of centerline of each leg. Legs may be broken into segments for MEA computations, depending on terrain differential or threats.

Minimum Safe Altitude (MSA)—An intermediate altitude which will provide additional terrain clearance above MEA. Compute MSA by adding 1000 feet to the elevation of the highest obstacle within 3 NM of the centerline of each leg.

Military Authority Assumes Responsibility for Separation of Aircraft (MARSAs)—A condition whereby the military services involved assume responsibility for separation between participating aircraft in the air traffic control (ATC) system.

Mission—The movement of the aircraft from a designated point of origin to a designated destination as defined and identified by an assigned mission identifier in the schedule, mission directive, operation order, operation plan, or fragmentary order.

Mission Ready—Crews or crewmembers fully qualified and current to perform the unit mission.

Mission Ready Crewmember—Crewmember who has successfully completed appropriate qualification, and is maintaining qualification currency requirements of this instruction.

Mission Design and Series (MDS) for aircraft—The first letter identifies the mission of the aircraft (i.e. A, E, H, M). The second letter and subsequent numbers identify the design of the aircraft (i.e. C-137, C-141, F-15). The last letter identifies the series of aircraft (i.e. B, C, D, U).

Operational Control (OPCON)—Authority to direct accomplishment of a mission. The planning, routing, scheduling, and control of missions is called movement control.

Operational Mission—A mission which has as a primary purpose the direct support of contingencies, or HQ USSOCOM and its subordinate commands.

Operating Weight—Basic aircraft weight plus weight of crewmembers, crew baggage, steward's equipment, emergency and extra equipment.

Payload—The combined weight of passengers, baggage, and cargo carried on a mission.

Primary Aircraft Assigned—Type of aircraft authorized to a unit for performance of its operational mission.

Quick Turn—A set of procedures designed to expedite the movement of selected missions by reducing ground times at en route or turnaround stations

Second FA—Qualified FA to augment first FA.

Self-Contained Approach (SCA).—An approach conducted using self-contained, onboard navigation systems.

Special Mission Evaluation—Training given in a specific mission area/task that requires a flight evaluation.

Alert Force, Aircraft, or Crews—Designated aircraft and crews capable of being launched in less than the normal alert-to-takeoff time period.

Station Time—A specified time at which aircrew, passengers, and material are to be in the aircraft and prepared for flight. Passengers will be seated and loads tied down. Aircrews will have completed briefing and aircraft preflight inspection prior to station time. Normally, station time will be 30 minutes prior to takeoff time.

Supported Forces—Space required passengers consisting of US and foreign military members who are on board as an integral part of the mission being performed.

Supporting Forces—Space required passengers consisting of US and foreign military, DoD civilians, and US civilian employees under contract to the DoD, who directly support the mission or deployment of an AFSOC unit.

Total Flying Time—Total time for all aircraft flown in military service to include student time. Time accumulated must be in the aircrew member's current rating (e.g. pilot).

Training Mission—A mission where the main goal is to train aircrew and doesn't qualify as an operation mission.

Training Status—A deficient status in which a crewmember must fly under the supervision of an instructor when occupying a primary crew position. Once deficient items are corrected, the crewmember is removed from training status.

Zero Fuel Weight (Actual)—The actual zero fuel weight is the weight of an aircraft plus the weight of the cabin load (cargo, and passengers), without fuel.

Zero Fuel Weight (Maximum)—That weight expressed in pounds where an addition to the aircraft gross weight can be made only by adding fuel in wing tanks. This value is referred to as "Structural Limit Wing Fuel."

Attachment 2

IC 99-1 TO AFI 11-2EC, VOLUME 3, EC-137D OPERATIONS PROCEDURE

1 DECEMBER 1999

SUMMARY OF REVISIONS

This interim change (IC) 99-1 corrects the Airfield Review to use KC-135 suitability codes and restrictions in paragraph 6.5; adjusts crew composition for Inflight Refuel in Figure 3.1. EC-137D Crew Complement. See the last attachment of the publication, IC 99-1, for the complete IC. A bar (|) indicates revision from the previous edition.

6.5. Airfield Review. Aircraft commanders and other appropriate crewmembers will review all appropriate publications (e.g., FLIP, Jeppesen, HQ AMC Airfield Suitability and Restriction Report (ASRR) etc.) to determine airfield suitability. Crewmembers will review the HQ AMC Airfield Suitability and Restriction Report (ASRR) for any mission that will land/operate away from home station. If available, review the airport qualification audiovisual program. Crews will check the suitability codes and, if possible, adhere to all restrictions for an airfield. Since the EC-137 aircraft is not identified in the ASRR, KC-135 restrictions will apply. If a restriction applies to KC-135 aircraft, AFSOC EC-137 crews must comply. Waiver authority for ASRR restrictions is AFSOC/DO. Process waivers through stan/eval channels. See AFI 11-202 Volume 3, Chapter 2 and the AFSOC SUP to Volume 3.

NOTE: HQ AMC updates the ASRR on the internet between formal publications. Updates may be found at www.safb.af.mil:81/hqamc/directorates/amcdo/doa/doas.htm

Figure 3.1. EC-137D Crew Complement.

TYPE CREW	AC	CP	FE	FA	CSO
Basic (1)	1	1	1	2	1
Augmented (1,2)	2	1	2	3	2
Inflight Refuel (IFR) (1)	1	1	1		
Augmented IFR (1,2,3)	2	1	2	3	2

NOTES:

1. An FA is only required when passengers are carried. One FA (First FA qualified) is required if 21 or less passengers are carried. Two FAs (one of which is First FA qualified) are required for more than 21 passengers. Mission and/or passenger requirements may dictate up to four FAs. Unit DO will determine CSO and FA requirements for each mission.
2. The aircraft commander must be instructor or flight examiner qualified on DV Code 6 or higher missions.
3. Required if any IFR events are planned after 14 hours CDT. Requires two IFR qualified aircraft commanders.

Attachment 3

IC 2001-1 TO AFI 11-2EC, VOLUME 3, EC-137D OPERATIONS PROCEDURES

19 APRIL 2001

SUMMARY OF REVISIONS

This interim change (IC) 2001-1 corrects the Actual Engine Shutdown and Airstart, and Simulated Engine Failure restrictions in **Figure 9.2**. Training Maneuver Restrictions. See the last attachment of the publication, IC 2001-1, for the complete IC. A bar (|) indicates revision from the previous edition.

Figure 9.2. Training Maneuver Restrictions.

MANEUVER	RESTRICTIONS
Actual Engine Shutdown and Airstart	One engine may be shut down at not lower than 5000 feet AGL during daylight VMC.
Simulated Engine Failure	Authorized in night VMC and daylight IMC if the weather is at or above circling minimums and the altitude is no lower than 300 feet AGL. On takeoff, initiate simulated engine failures at or above V2 speed. Landings may be accomplished with one engine simulated inoperative. In a touch and go situation use all 4 engines, and rotate at not less than Vref + 10, for the touch and go takeoff. During the touch and go takeoff, simulate engine failure at no lower than Vref + 10.
Simulated Engine Failure at V1 Speed	Authorized in daylight VMC. May only be performed in the left seat by a current and qualified pilot. Authorized only during an FAA flight evaluation or dedicated training sortie in preparation for the evaluation (2 training sorties maximum per pilot).
Simulated Emergencies (other than simulated engine failure)	Initiate at not lower than 300 feet AGL.
Go-Around or Missed Approach	Minimum altitude is 500 feet AGL when aircraft, equipment, or personnel are on the runway. Initiate VFR go-arounds no lower than 100 feet AGL when practicing simulated emergencies other than simulated engine failures. Initiate practice instrument missed approaches no lower than the minimum altitude for the approach.
Simulated Engine-Out Go-Around or Missed Approach	Initiate simulated engine-out go-arounds at not lower than 200 feet AGL. Initiate simulated engine-out missed approach at not lower than the minimum altitude for the approach. Use all engines if below 200 feet AGL.
Simulated Two Engine Out Landing	Authorized in daylight VMC. Simulate failure of the second engine at not lower than 1000 feet AGL. Simulate failure of symmetrical engines only. Use all four engines for go-around or missed approach.

MANEUVER	RESTRICTIONS
Simulated Engine-Out, Rudder-Out Go-Around	Authorized in daylight VMC. Simulate failure of the rudder at not lower than 1000 feet AGL. Flown only to a go-around.
Jammed Stabi- lizer	Authorized during daylight VMC. Simulate and remain at not lower than 5000 feet AGL.
Approach to Stalls	Authorized in daylight VMC. Initiate at not lower than 5000 feet AGL or 5000 ft above a cloud deck.
Steep Turns	Authorized in daylight VMC. Initiate at not lower than 5000 feet AGL or 5000 feet above a cloud deck. Use a maximum bank angle of 45 degrees.
TC or Cross Bleed Start	Authorized only in uncongested areas. Controlling agency clearance is required for engine run-up.
Circling Approaches	Fly at 25 degree flap configuration. Maintain 25 degree flap maneuvering speed until aircraft is aligned with the landing runway.
