DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

AFI11-2KC-10V3_AFGM2016-01
29 JUNE 2016

MEMORANDUM FOR DISTRIBUTION C

FROM: HQ USAF/A3

SUBJECT: AFI 11-2KC-10 Volume 3, Guidance Memorandum

1. This Guidance Memorandum implements changes to AFI 11-2KC-10 Volume 3, *KC-10 OPERATIONS PROCEDURES*, and applies to all KC-10 units. Compliance with this memorandum is mandatory. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*. Route AF Forms 847 through appropriate OGV and functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW with the AF Records Disposition Schedule (RDS) located on the AF Portal at the Air Force Records Information Management System (AFRIMS) link. To the extent its directions are inconsistent with other Air Force publications, the information herein prevails, IAW AFI 33-360, *Publications and Forms Management*.

2. Replace Basic Crew FDP guidance (paragraph **3.7.1.1**) with the following:

3.7.1.1. Basic Crew FDP. The maximum FDP for a basic aircrew is 16 hours (12 hours when the autopilot pitch axis is inoperative or the autopilot cannot be coupled to the FMS). All tactical events will be accomplished within the first 14 hours of the FDP. Once an aircrew begins a basic FDP, only the appropriate waiver approval authority (see paragraph **1.4**) may extend to augmented day, regardless of aircrew composition.

3. Delete paragraphs **3.9.7.1** through **3.9.9.7**.

4. Replace existing MEL Waiver Authority guidance (paragraphs **4.3** through **4.3.4**) with the following:

4.3. Waiver Protocol. Waivers to operate with degraded equipment are granted on a case-by-case basis. The PIC determines the need for a waiver after coordinating with the lowest practical level of command. MEL waiver authority is as follows:

4.3.1. Training Missions. OG/CC or equivalent with mission execution authority.

4.3.2. MAJCOM Directed Missions. MAJCOM/A3 with mission execution authority. Initiate MEL waiver request with MAJCOM C2 agency.

4.3.2.1. AFRC Directed Missions. AFRC maintains C2 and waiver authority for AFRC directed missions prior to mobilization.

4.3.3. 618 AOC (TACC) Directed Missions. 18 AF/CC is the waiver authority for missions flown by both active duty and AFRC units (***NOTE:*** Includes HHQ inspections). Initiate MEL waiver request with 618 AOC (TACC).

4.3.4. Contingency Missions. Waiver authority is COMAFFOR (or equivalent) for the agency with C2, if not specified in the OPORD/Tasking Order.

5. Replace existing Stabilized Approach Guidance (paragraphs **5.12** through **5.12.6**) with the following:

5.12. Stabilized Approach. Unstable approaches are primary contributors to numerous military and civilian mishaps. Stabilized approaches are essential for the safe operation of aircraft and are mandatory. The following criteria define specific parameters that mitigate risk during this critical phase of flight. This philosophy requires aircrew to take immediate corrective actions to stabilize the approach when outside designated parameters. Although tactical approaches are inherently less constrained, they must still result in the aircraft arriving at a position in space in an appropriate configuration and within acceptable parameters that will permit a safe landing consistent with aircraft flight manual restrictions as well as performance manual assumptions and limitations.

5.12.1. The following stabilized approach criteria applies to all approaches and will be emphasized and briefed for every approach:

5.12.1.1. Aircraft is in landing configuration. Final flap configuration may be delayed but will be briefed.

5.12.1.2. Airspeed is appropriate for the configuration and conditions.

5.12.1.3. Sink rate is no greater than 1000 fpm. ***NOTE:*** Under certain conditions (weather, terrain, etc.) some approaches may require greater than a 1000 fpm descent rate. This increased sink rate will be briefed.

5.12.1.4. All briefings and checklists are complete unless contrary to T.O. guidance.

5.12.1.5. Aircraft is on the correct track.

5.12.1.6. Aircraft is in the correct bank angle to maintain proper approach track for instrument, circling, or visual approach.

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

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

5.12.1.8.1. Airspeed: +10/-5 kts from target

5.12.1.8.2. Bank Angle: +/- 15 degrees from target

5.12.1.8.3. Rate of Descent: +/- 300 FPM from target

5.12.2. The following criteria apply to all approaches:

5.12.2.1. At 1000 feet height above touchdown (HAT), the stable criteria in paragraph **5.12.1** apply.

5.12.2.1.1. If these criteria are not met at 1000 feet HAT, the pilot monitoring (PM) will announce the deviation and the pilot flying (PF) will take immediate corrective action. PM will state "1000, XXXX," where "XXXX" equates to a concise description of the unstable characteristic(s) which clearly relay to the PF what actions are required to return the aircraft to a stable platform. Example: "1000, 15 FAST".

5.12.2.1.2. If criteria are met, PM will state "1000, STABLE."

5.12.2.2. Between 1000 feet and 500 feet HAT:

5.12.2.2.1. Parameters are the same as those in paragraph **5.12.1**.

5.12.2.2.2. If these criteria are not maintained, the PM will announce the deviation using the "XXXX" format (Example: "15 FAST") and the PF will take immediate corrective action.

5.12.2.3. At 500 feet HAT:

5.12.2.3.1. Parameters are the same as those in paragraph **5.12.1**.

5.12.2.3.2. If criteria are met, PM will state "500, STABLE".

5.12.2.3.3. If unstable or not in final flap configuration at 500 feet HAT, the PM will call "GO AROUND" and the PF will execute a go-around.

5.12.2.4. From 500 feet HAT to the runway, if these parameters are exceeded the PM or any other crewmember will announce "GO AROUND" and the PF will execute a go-around.

5.12.3. NOT USED.

5.12.4. Descent Planning and Energy Management. Awareness of maneuver entry parameters and energy management is crucial to meeting the stabilized approach criteria

on every approach. Aircrews will ensure the aircraft is following the planned descent profile. All non-tactical descents should follow a normal descent profile IAW AFMAN 11-217 procedures and techniques in the absence of ATC or FLIP guidance. All tactical descents should follow published tactical procedures/profiles. When unforeseen interruptions alter the planned descent, immediately correct any deviations. It may be necessary to hold, request vectors, or take alternate actions in order to comply with the planned descent profile.

5.12.5. Visual Transition. It is imperative for aircrews to review the airfield environment. Identify key features such as approach light type, airfield lighting, geographic layout/configuration of runways, taxiways, ramps, etc. To the max extent possible, this study will take place during the crew mission briefing and reviewed again prior to descent.

5.12.6. Missed Approach/Go-Around. Aircrews will conduct a thorough briefing for anticipated missed approach/go-around scenarios. This briefing will include a discussion of specific crewmember duties. ***NOTE:*** Execute missed approach/go-around IAW Flight Manual and AFMAN 11-217 procedures.

6. Add the Communications Policy guidance (paragraph **5.13.1.1**)

5.13.1.1. Crews will ensure that the headset communications cord is connected through the oxygen mask communications cord during operations in all primary crew positions (including the ARO). Plugging the headset communications cord directly into the aircraft communications panel is not permitted.

7. Delete paragraph **6.15.2.3**.

8. Replace Special Departure Procedure (SDP) guidance (paragraph **6.16.2.4.1**) with the following:

6.16.2.4.1. Special Departure Procedure (SDP). SDPs are MDS-specific OEI escape procedures, and should be used for engine-out departure planning. View and print SDPs from the SDP website Watch List (contact OGV for username/password). Watch List airfields are constantly monitored/updated by the provider and account for all currently known obstacles and restrictions, including those in DoD FLIP and NOTAMs (***EXCEPTION:*** Temporary NOTAM obstacles of less than 180 days duration are not normally included). Ad Hoc SDPs for airfields not on the Watch List will be requested by the crew through OGV, who will then forward to HQ AMC/A3VK functional MDS representatives (***NOTE:*** Crews/units will not place Ad Hoc SDP requests directly with the provider via the website link or by any other means). Ad Hoc SDPs should normally be requested NLT 48 hours prior to scheduled departure. However, in some cases urgent short-notice requests can be coordinated by HQ AMC/A3VK. Ad Hoc SDPs are considered temporary in nature and once posted will remain on the website Watch List for a very limited time. HQ AMC/A3VK authorizes the use of Ad Hoc SDPs for a

maximum of seven (7) days after the analysis date on the SDP. Once expired, an Ad Hoc SDP must be re-requested through OGV and HQ AMC/A3V.

9. Replace Airlifting Hazardous Cargo guidance (paragraphs **6.30.1** and **6.30.2**) with the following:

6.30.1. PICs are responsible for ensuring that all procedures contained in AFMAN(I) 24-204, *Preparing Hazardous Materials for Military Air Shipment*, are complied with when airlifting hazardous cargo.

6.30.1.1. For more information regarding hazardous materials, refer to AFMAN(I) 24-204.

6.30.1.2. When hazardous materials are onboard, the boom operator will brief the aircraft commander on the following prior to engine start:

6.30.1.2.1. Each Hazard Class and associated weight.

6.30.1.2.2. Location in the aircraft.

6.30.1.2.3. Special/emergency handling procedures.

6.30.1.2.4. Venting requirements.

6.30.1.2.5. Restrictions on use of wireless/Bluetooth electronic equipment (IAW paragraph **5.9.2**).

6.30.2. Flight Planning. Based on the Hazardous Cargo Briefing, the PIC will:

6.30.2.1. Enter "Hazardous Cargo" and the mission identifier or flight number in the appropriate section of the flight plan. Use Remarks section of DD175, *Military Flight Plan*, and Other Information section of DD1801, *International Flight Plan, DoD*. Refer to the FCG for country specific requirements concerning over-flight when transporting hazardous materials cargo.

6.30.2.1.1. Annotate “Hazardous Cargo” on flight plans IAW AFJI 11-204 when transporting any of the following:

6.30.2.1.1.1. Division 1.1 through 1.3 explosives.

6.30.2.1.1.2. Toxic chemical ammunition (Compatibility Group K).

6.30.2.1.1.3. Highly toxic substances.

6.30.2.1.1.4. Division 6.2 infectious substances which require technical escorts and/or special protective equipment.

6.30.2.1.1.5. Nuclear Weapons.

6.30.2.1.1.6. Class 7 radioactive material (Yellow III label).

6.30.2.1.1.7. All other hazardous materials, except Class 9 and ORM-D when aggregate gross weight exceeds 1,000 pounds (454 kgs).

10. Delete paragraphs **6.56.5** through **6.56.8**.

11. Add Engine Run guidance (paragraph **6.60**):

6.60. Engine Runs. KC-10 crews may assist with engine runs (and engine motoring) when qualified maintenance personnel are not readily available and/or when mission requirements or operational necessity dictates. Home station OG/CC and MXG/CC (or designated representative) approval is required. Notification and coordination with the appropriate mission execution authority is highly recommended. ***NOTE:*** Engine runs will at no time interfere with accomplishment of primary crew duties, crew rest requirements, CDT/FDP limitations or ground/flight safety. Scheduling restrictions (paragraph **3.8**) and crew rest requirements (paragraph **3.10**) will be observed. In addition, the following procedures apply:

6.60.1. Special consideration should be accorded throttle settings above idle, as injury to personnel or damage to equipment could occur if in the engine inlet or blast pattern areas. See TO 1C-10(K)A-1 Section I for engine danger areas.

6.60.2. Ensure engine runs are accomplished only in designated areas suitable for typical KC-10 engine blast, which can dislodge thin asphalt/ramp surfaces and cause damage to aircraft, equipment, building structures or personnel.

6.60.3. Crewmembers will only occupy the flight station positions in which they are qualified. A full crew in-place is recommended.

6.60.3.1. An engine run qualified maintainer should be on the flight deck or in communication with the crew via interphone during engine run operations.

6.60.4. KC-10 crewmembers and maintenance personnel will comply with engine run procedures in job guide TO 1C-10(K)A-2-71CL-1, *Power Plant Ground Operations.* ***NOTE:*** For the purposes of this job guide, KC-10 crewmembers are considered "run qualified". Additionally, KC-10 crewmembers will comply with the applicable checklist steps in TO 1C-10(K)A-1 Section IV, Normal Procedures, prior to and after engine start (and/or engine motoring).

6.60.5. Observe all starter duty and engine operating limits in TO 1C-10(K)A-1 Section III.

6.60.6. Operate engine at ground idle for 5 minutes before advancing throttle to higher thrust levels.

6.60.7. Ensure main gear wheels are chocked, and parking brake is set and monitored prior to and during ground engine run operations.

12. Replace Arming of Crewmembers guidance (paragraphs **7.13** thru **7.13.7**) with the following:

7.13. Arming of Crewmembers. Crews are directed to be armed by the mission execution authority and/or applicable Special Instructions (SPINS). The PIC will determine which crewmembers will be armed (two crewmembers will be armed unless directed otherwise). All crewmembers will know who is armed. The following procedures apply when arming is directed:

7.13.1. Weapons Issue. Before departing home station, obtain weapons, ammunition and portable weapon storage container (i.e. ammo can, gun case, etc.). Crewmembers will be armed according to AFI 31-207, *Arming and Use of Force by Air Force Personnel*, and MAJCOM publications. If an armed crew member must leave the crew en route, transfer the weapon to another authorized crew member using AF Form 1297, *Temporary Issue Receipt.*

7.13.2. Wearing of Weapons. Wear weapons in an approved holster, concealed at all times to prevent identifying armed crewmembers. Weapons will be loaded and in "fire" mode (safety off) when worn. Do not wear weapons off the flight line except to and from the C2 agency, armories, and other facilities associated with aircrew activities.

7.13.2.1. AMC Passenger Terminal Procedures. Armed crewmembers must discreetly identify themselves to AMC passenger service personnel upon arrival at security checkpoints. One crewmember will present a valid set of crew orders, their military identification card, and AF Form 523, *USAF Authorization to Bear Firearms*, authorizing the carrying of concealed weapons. Once terminal personnel verify this, they will allow the crewmember to vouch for the remaining crewmembers. The entire crew will then proceed through the magnetometer without removing objects from their pockets. This will prevent passengers from determining which crewmembers are armed.

7.13.3. Weapons Storage In Flight. Crewmembers will be armed before beginning preflight, on-load or off-load duties, and until completion of all post-flight duties.

7.31.3.1. When no passengers are aboard that require arming, weapons may be stored in flight after a satisfactory stowaway check. Weapons will not be unloaded in flight before storing. Crewmembers will rearm before landing.

7.13.4. Weapons Storage on the Ground. The PIC will determine availability of secure storage facilities at all mission locations during mission planning. ***NOTE:*** The KC-10 is not equipped with a suitable secure weapons storage provision, container or gun box.

7.13.4.1. Secure storage available:

7.13.4.1.1. Store weapons and ammunition in the most secure facility available, normally the base armory.

7.13.4.2. Secure storage not available:

7.13.4.2.1. Non-stage aircrews. PIC will contact mission execution authority and/or refer to applicable SPINS for guidance.

7.13.4.2.2. Stage aircrews. Contact C2 for guidance.

7.13.5. NOT USED.

7.13.5.1. NOT USED.

7.13.5.2. NOT USED.

7.13.6. Crewmembers will ensure they are reissued the same weapons until mission termination at home station.

7.13.7. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels, if available. Do not hand-to-hand transfer loaded weapons to another crew member; place the weapon on a flat surface.

13. Add the following prohibited practice maneuver (paragraph **9.5.1.6**):

9.5.1.6. Practice receiver AAR emergency separations at GW 556.0K and above.

14. Replace Fuel Servicing Operations guidance (paragraph **12.4.1.10.1.6**) with the following:

12.4.1.10.1.6. Do not pull or reset circuit breakers during fuel servicing operations.

12.4.1.10.1.7. Maintain interphone contact between the flight deck and refueling team for duration of fuel servicing operations.

12.4.1.10.1.8. Establish a meeting point, take a head count, and brief all personnel on the egress plan in case of emergency. Meeting point should be upwind and out of the path of responding emergency vehicles.

12.4.1.10.1.9. Tune UHF1 or VHF1 to ground, tower, or emergency (guard) frequency.

15. Replace Lithium Battery guidance (paragraph **13.13.1** through **13.13.1.3**) with the following:

13.13.1. Lithium Batteries.

13.13.1.1. Metal Lithium batteries are non-rechargeable batteries also known as Primary Lithium batteries. When these batteries are packed IAW requirements of UN3090 and UN3091 (contained in equipment or packed with equipment) they will only be transported aboard KC-10 aircraft on AFMAN(I) 24-204 Chapter 3 authorized missions.

13.13.1.2. Lithium Ion/Polymer batteries are rechargeable batteries also known as Secondary Lithium batteries. When packed IAW requirements of UN3480 and UN3481 (contained in equipment or packed with equipment) these batteries may be transported IAW AFMAN (I)24-204 without restriction. The cells are limited to 20 wattage hours and batteries are limited to 100 wattage hours.

13.13.1.3. In all cases, aircraft Halon fire extinguishers are suitable for lithium battery transport. However, these extinguishers will only act to contain the fire, not extinguish it. This will be briefed to the PIC.

16. Replace Contingency Fuel guidance (paragraph **14.3.3** and **14.4.11.3**) with the following:

14.3.3. For all missions other than local training missions, calculate 15 minutes of contingency fuel using destination gross weights. ***NOTE:*** Up to one hour of additional contingency fuel may be calculated for active air refueling legs on Coronet/Dual Role missions. Local training missions are not required to carry contingency fuel; however, if carried it will not exceed 15 minutes. Contingency fuel is not considered reserve fuel since it can be consumed at any point during the mission. Contingency fuel will be included in the initial RRFL calculation.

14.4.11.3. Contingency. For missions other than local training missions, calculate 15 minutes of contingency fuel. ***NOTE:*** Up to one hour of additional contingency fuel may be calculated for active air refueling legs on Coronet/Dual Role missions. Local training missions are not required to carry contingency fuel; however, if carried it will not exceed 15 minutes. In all cases, this fuel is to compensate for unforeseen circumstances during any phase of flight (i.e. unforecasted weather, launch delay, etc.). Contingency fuel will not be considered reserve fuel since crews may burn some or all of their contingency fuel at any time during the mission. Compute using planned destination gross weight at 10,000 feet. Use the Three-Engine Holding Table with a 25-degree bank angle.

17. Replace Decompression Fuel guidance (paragraph **14.4.8**) with the following:

14.4.8. Decompression (Depressurization) Fuel. Additional fuel may be required to allow for a loss of cabin pressurization at any point along the planned route, an emergency descent to 10,000 feet MSL, and continued flight to the nearest suitable emergency airfield. ***NOTE***: Depressurization fuel requirements will be planned for recovery at 10,000’ MSL. However, for flights where the total number of individuals on

board is less than or equal to the total number of operational flight crew oxygen system stations, actual altitude flown to recovery airfield may be higher, crew oxygen quantity (duration) permitting. See TO 1C-10(K)A-1 Section I, Part 11 and AFI 11-202V3, *General Flight Rules*, for further guidance.

18. Replace ETP guidance (paragraph **14.4.8.2.1.2.1**) with the following:

14.4.8.2.1.2.1. TIME in hours (ETP-FSAF) = $\frac{\text{DISTANCE (LSAF-FSAF)}}{\text{(WF2 – WF1) + 2TAS}}$

19. Delete paragraphs **14.4.8.3** through **14.4.8.3.2.1**.

20. This memorandum becomes void after one year from the date of the memorandum, upon publication of an Interim Change, or rewrite of the affected publication, whichever occurs first.

21. AMC POC for this Guidance Memorandum is Maj Cory Benton, HQ AMC/A3VK, DSN 779-7848, email: cory.benton@us.af.mil.

JOHN W. RAYMOND, Lt Gen, USAF
Deputy Chief of Staff, Operations

BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-2KC-10, VOLUME 3

30 AUGUST 2011

Flying Operations

KC-10 OPERATIONS PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at **www.e-publishing.af.mil** for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AMC/A3VK

Certified by: AF/A3O-A
(Col Jeffrey R. McDaniels)

Supersedes: AFI11-2KC-10V3, 18 January 2006

Pages: 202

This instruction implements Air Force Policy Directive (AFPD) 11-2, *Aircraft Rules and Procedures* and references AFI 11-202, Volume 3, *General Flight Rules*, as well as Air Force Tactics Techniques and Procedures (AFTTP) 3-3.KC-10. It establishes policy for the operation of the KC-10 aircraft to safely and successfully accomplish worldwide mobility missions. This instruction applies to all commanders, operations supervisors, and aircrew assigned or attached to all flying activities of commands operating KC-10 aircraft. It applies to Air Force Reserve Command (AFRC) units, but does not apply to the Air National Guard (ANG). This publication may be supplemented at any level, but all direct Supplements must be routed to the OPR of this publication for coordination prior to certification and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records* and disposed of in accordance with the *Air Force Records Disposition Schedule (RDS)* located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. This publication requires the collection and or maintenance of information protected by the Privacy Act (PA) of 1974. The authorities to collect and or maintain the records prescribed in this publication are Title 10 *United States Code*, Chapter 857 and Executive Order 9397, *Numbering System for Federal Accounts Relating to Individual Persons*, 30 Nov 1943, as amended. Forms affected by the PA have an appropriate PA statement. System of records notice F011 AF XO, *Aviation Resource Management System* (ARMS) (December 26, 2002, 67 FR 78777) applies. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF IMT 847, *Recommendation for Change of Publication*; route AF IMT 847s from the field through the appropriate functional's chain of command. The use of the name or mark of any specific manufacturr, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUPPORTING INSTRUCTIONS: KC-10 Aircraft Configuration AFI 11-2KC-10, Volume 3, Addenda A.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. In order to conform to MAF 11-MDS-Vol 3 template, several paragraphs are no longer in use and results in substantial renumbering. This rewrite adds iridium phone restrictions and exception (**2.5.12.1.**, **2.5.12.2.**); adds Mission Essential Personnel (MEP) exclusion (**3.4.3**); tactical Flight Duty Period (FDP) (**3.7.1.1.**, **3.7.1.2.**); adds AFRC exception (**3.7.1.5.2.1**); replaces deadhead with MEP (**3.7.4**); clarifies Duties Not Including Flying (DNIF) restriction (**3.8.3**); adds 4 hour rule (**3.11.2.4**); replaces Additional Crew Member (ACM) with MEP (**3.16**); revises Minimum Equipment Listing (MEL) verbiage (**4.2**); revises checklist insert verbiage (**5.1.1**); adds guidance on boom operators forward seat during receiver Air-to-Air Refueling (AAR) (**5.2.2**); removes CAPSTONE from EXCEPTION (**5.9.1**); adds iridium phone guidance (**5.9.4**); revises advisory calls and associated tables (**5.11**); adds stabilized approach guidance (**5.12**); adds Crew Resource Management (CRM) guidance (**5.14**); revises sterile cockpit guidance (**5.14.3**); adds CRM Enhancement exercise (**5.14.5**); use of Automation (**5.15**); revises fuel jettison verbiage (**5.20**); ASAP (**5.33**); revises terminal Area Navigation (RNAV) procedures (**5.35**); adds requirement to obtain theater specific information (**6.3.1.**, **6.3.1.2.**); revises electronic aircrew publication guidance (**6.4**); replaces Integrated Management Tool (IMT) account with Global Decision Support System (GDSS2) account (**6.7**); removes ATP-56B from mission kit (**6.10.1**); adds training/evaluation briefing requirement (**6.12.8**); adds data verification guidance (**6.15.2**); adds performance data computer (slipstick) verbiage (**6.16**); adds notes (**6.16.2.2.**, **6.16.2.3.**); designates all KC-10 sorties operationally necessary (**6.16.2.4**); revises SDP verbiage (**6.16.2.4.1**); adds note (**6.16.2.4.3**); adds guidance for freezing fog (**6.21.2**); adds thunderstorm caution (**6.21.3**); adds note (**6.21.6**); adds hazard identification and mitigation briefing (**6.23**); replaces Life Support with Aircrew Flight Equipment (**6.27**); adds unit move guidance (**6.31.1**); adds aircraft category information (**6.42.1**); revises missed approach climb gradient requirements (**6.42.2**); adds variable visibility/ceiling guidance (**6.42.3.5**); revises verbiage for continuing approach (**6.42.10**); revises unscheduled landings verbiage (**6.44**); adds insecticide caution (**6.47.1.1**); adds note (**6.47.1.2**); replaces Life Support with Aircrew Flight Equipment (**6.50**); renumbers paragraphs (**7.7**, **7.8**); adds transponder guidance (**7.11**); revises AMC Form 97 guidance (**8.4**); adds N/A MEP (**9.1.1**); revises briefing requirements (**9.6**); adds Joint Service Aircrew Mask verbiage (**10.3.2.1**); revises work degradation guidance (**10.5.7**, Table **10.1**); adds Prolonged Loss of Contact guidance (**11.1.1**); renumbers paragraphs (**11.2.**, **11.3.**, **11.4.**, **11.5.**); revises Precision Area Navigation (PRNAV) guidance (**11.5.4**); adds RNAV 1/RNAV 2 restriction (**11.5.5**); adds aircraft recovering away from Main Operating Base (MOB) guidance (**12.5**); revises Form 18 guidance (**12.6**); revises performance data computer (slipstick) guidance (**12.8.**, **12.8.2.**); adds non-standard cargo procedures (**13.2.1.4.1**); removes references to unused aircraft configurations (**13.3.1.**, **13.3.2.**); adds hand carried items note (**13.3.2**); adds Aerial Port Expeditor restriction (**13.4.1.1.2**); adds fleet service checklist (**13.4.1.4**); adds food removal guidance (**13.4.2.9**); adds pillow and blanket distribution procedures (**13.4.2.10**); adds body fluid/bio-hazard clean-up guidance (**13.5.4**); revises meal service guidance (**13.5.5**); adds notification requirement (**13.6.3**); revises weight and balance guidance (**13.8**); adds Peck and Hale guidance (**13.13.6**); consolidates fuel conservation guidance (**14.2**); adds fuel planning

procedures (**14.3**); adds unusable fuel (**14.4.7.1**); adds hold down and early descent fuel guidance (**14.4.7.2.**, **14.4.7.3.**); includes AF Form 4091 procedures previously in Chapter 12 (**14.5**); clarifies Aircraft Commander (AC) Supervision of AAR (**15.2.9**); removes obsolete information and substantially revises (**Ch 16**, **Ch 17**); removes reference to Patient Support Pallet (**20.9**).

Chapter 1—GENERAL INFORMATION **14**

1.1. General. 14

1.2. Applicability. 14

1.3. Key Words Explained. 14

1.4. Deviations and Waivers. 14

1.5. Supplemental Procedures. 15

1.6. Local Supplement Coordination Process. 15

1.7. Improvement Recommendations. 15

1.8. Definitions. 15

1.9. Aircrew Operational Reports. 15

Chapter 2—COMMAND AND CONTROL **16**

2.1. General. 16

2.2. Execution Authority. 16

2.3. Pilot-in-Command (PIC) Responsibility and Authority. 16

2.4. Mission Clearance Decision. 17

2.5. Operational C2 Reporting. 17

2.6. Mission Commander (MC). 20

2.7. DUAL ROLE Procedures. 20

2.8. C2 Agency Telephone Numbers. 21

2.9. Close Watch Missions. 21

2.10. Law Enforcement Support. 21

2.11. Enroute Maintenance Support. 21

Chapter 3—AIRCREW COMPLEMENT/MANAGEMENT **22**

3.1. General. 22

3.2. Aircrew Complement. 22

Table 3.1. Aircrew Complement. 22

3.3. Aircrew Member Qualification. 22

3.4. Pilots. 23

3.5. Not used. 23

3.6. Boom Operators and Flight Engineers. 23
3.7. Aircrew Management. 23
3.8. Scheduling Restrictions. 26
3.9. Fatigue Countermeasures Management Program. 26
3.10. Crew Rest/En Route Ground Time. 27
3.11. Alerting Procedures. 29
3.12. Stage Management. 30
3.13. Standby Force Duty. 31
3.14. Orientation Flights and Incentive Flights. 32
3.15. Interfly. 32
3.16. Mission Essential Personnel (MEP). 32
3.17. Mission Mobility Observers (MMO). 33
3.18. Flight Attendants on Distinguished Visitor Missions. 33

Chapter 4—AIRCRAFT OPERATING RESTRICTIONS 35

4.1. Objective. 35
4.2. Minimum Equipment List (MEL) Policy. 35
4.3. Waiver Protocol. 36
4.4. Technical Assistance. 37
4.5. Not Used. 37
4.6. Not Used. 37
4.7. Not Used. 37
4.8. One Engine Inoperative Ferry Flights. 37
4.9. Gear Down Flight Operations. 37
4.10. Fuel System Limitations. 37
4.11. Slat Profile Flights. 38
4.12. Not Used. 38
4.13. Passenger Seat Limitations. 38
4.14. Fall Protection. 38

Chapter 5—OPERATIONAL PROCEDURES 39

5.1. Checklists. 39
5.2. Duty Station. 39
5.3. Flight Station Entry. 39
5.4. Takeoff and Landing Policy. 39

	5.5.	Landing Gear and Flap Operating Policy.	40
	5.6.	Outside Observer/Jump Seat Duties.	40
	5.7.	Seat Belts.	40
	5.8.	Aircraft Lighting.	40
	5.9.	Portable Electronic Devices.	40
	5.10.	Tobacco Use on Air Force Aircraft.	41
	5.11.	Advisory Calls.	41
Table	5.1.	Climb Out Advisory Calls.	41
Table	5.2.	Descent Advisory Calls.	41
Table	5.3.	Non-Precision Approach Advisory Calls.	42
Table	5.4.	Precision Approach Advisory Calls.	42
	5.12.	Stabilized Approach.	43
	5.13.	Communications Policy.	44
	5.14.	Crew Resource Management (CRM)/Threat and Error Management.	45
	5.15.	Use of Automation.	46
	5.16.	Transportation of Pets.	47
	5.17.	Alcoholic Beverages.	47
	5.18.	Runway, Taxiway, and Airfield Requirements.	47
	5.19.	Aircraft Taxi and Taxi Obstruction Clearance Criteria and Foreign Object Damage (FOD) Avoidance.	48
	5.20.	Fuel Jettison Procedures.	49
	5.21.	Aircraft Speed.	50
	5.22.	Bird/Wildlife Aircraft Strike Hazard (BASH) Programs.	50
	5.23.	Functional Check Flights (FCFs), Acceptance Check Flights (ACFs) and Operational Check Flights (OCFs).	51
	5.24.	Participation in Aerial Events.	52
	5.25.	Traffic Alerting and Collision Avoidance System (TCAS).	52
	5.26.	Not Used.	52
	5.27.	Not Used.	52
	5.28.	Not Used.	52
	5.29.	Aircraft Recovery from Unprepared Surfaces.	52
	5.30.	Not Used.	52
	5.31.	Not Used.	52

5.32. Aircrew Fatigue. 52
5.33. Aviation Safety Action Program (ASAP). 52
5.34. Air Driven Generator (ADG) Checks. 52
5.35. Terminal Area RNAV Procedures. 53

Chapter 6—AIRCREW PROCEDURES **54**

Section 6A—Pre-Mission 54
6.1. Aircrew Uniform. 54
6.2. Personal Requirements. 54
6.3. Pre-Mission Actions. 55
6.4. Aircrew Publications Requirements. 56
Table 6.1. Aircrew Publications. 56
6.5. Airfield Review. 57
6.6. Aircrew Intelligence Briefing. 57

Section 6B—Predeparture 57
6.7. Global Decision Scheduling System 2 (GDSS2) Account. 57
6.8. Flight Crew Information File (FCIF). 57
6.9. Flight Crew Bulletins (FCB). 58
6.10. Mission Kits. 58
6.11. Route Navigation Kits. 60
Table 6.2. Route Navigation Kit Contents. 60
6.12. Briefing Requirements. 60
6.13. Call Signs. 62
6.14. Instrument Flight Rules. 62
6.15. Flight Plan/Data Verification. 62
6.16. Departure Planning. 63
6.17. Weather Minimums for Takeoff use Table 6. 66
Table 6.3. Weather Minimums for Takeoff. 66
6.18. Alternate Planning. 66
6.19. Departure Alternates. 67
6.20. Destination Requirements (for filing purposes). 67
6.21. Adverse Weather. 68
6.22. Operational Risk Management (ORM). 70

Section 6C—Preflight 70

6.23. Hazard Identification and Mitigation. 70

6.24. AFTO Forms 781 Series. 70

6.25. Aircraft Servicing and Ground Operations. 70

6.26. Aircraft Recovery Away from Main Operating Base (MOB). 70

6.27. Aircrew Flight Equipment Requirements. 71

6.28. Fleet Service. 71

6.29. Cargo Documentation. 71

6.30. Airlifting Hazardous Cargo. 71

6.31. Handling of Classified Cargo, Registered Mail, Mission Capable Parts (MICAP), Very, Very Important Part (VVIP), Forward Supply System (FSS) Shipments, and Courier Material. 72

Section 6D—Departure 73

6.32. On Time Takeoffs. 73

6.33. Not Used. 73

Section 6E—En route 73

6.34. Flight Progress. 74

6.35. In-Flight Meals. 74

6.36. Communications Instructions Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports. 74

6.37. Communications. 74

6.38. In-Flight Emergency Procedures. 74

6.39. Need for Medical Assistance. 75

6.40. Weather Forecasts. 75

Section 6F—Arrival 75

6.41. Descent. 75

6.42. Instrument Approach Procedures. 76

6.43. Not Used. 78

6.44. Unscheduled Landings. 78

6.45. Maintenance. 78

6.46. Border Clearance. 79

6.47. Insect and Pest Control. 82

Section 6G—Miscellaneous 83

6.48. Dropped Objects. 83
6.49. Cockpit Voice Recorder (CVR). 83
6.50. Aircrew Flight Equipment and Dash 21 Equipment Documentation. 83
6.51. Passenger Restrictions. 84
Table 6.4. Personnel / Lavatory Requirements. 84
6.52. Airfield Data Reports. 85
6.53. Impoundment of Aircraft. 85
6.54. Wake Turbulence Avoidance. 85
6.55. Overflying En Route Stops. 85
6.56. Classified Equipment and Material. 86
6.57. Cockpit Congestion and Loose Objects. 86
6.58. Not Used. 87
6.59. Use of Forward Entry Ladder. 87

Chapter 7—AIRCRAFT SECURITY **88**

7.1. General. 88
7.2. Security. 88
7.3. Air Force Installation Security Program. 88
7.4. Standby Aircraft Security. 88
7.5. En-route Security. 88
7.6. Detecting Unauthorized Entry. 89
7.7. Preventive Measures. 90
7.8. Preventing and Resisting Hijacking. 91
7.9. Initial Response. 92
7.10. In-Flight Resistance. 92
7.11. Communications Between Aircrew and Ground Agencies. 93
7.12. Forced Penetration of Unfriendly Airspace. 93
7.13. Arming of Crewmembers. 93
7.14. Force Protection. 94

Chapter 8—OPERATIONAL REPORTS AND FORMS **95**

8.1. General. 95
8.2. AF Form 457, USAF Hazard Report. 95
8.3. AF Form 651, Hazardous Air Traffic Report (HATR). 95
8.4. AMC Form 97, AMC In-Flight Emergency and Unusual Occurrence Worksheet. 96

8.5. Report Violations, Unusual Events, or Circumstances. 97
8.6. Petroleum, Oil, and Lubricants (POL) - Aviation Fuels Documentation. 99
8.7. AF Form 4091, Flight Engineer's Worksheet. 103
8.8. AMC Form 54, Aircraft Commander's Report on Services/Facilities. 103
8.9. AMC Form 196, Aircraft Commander's Report on Crew Member. 103
8.10. AMC Form 43, Transient Aircrew Facilities Report. 104
8.11. AF Form 3578, Tanker Activity Report. 104
8.12. Not Used. 104
8.13. Not Used. 104
8.14. Operation Forms for Boom Operators. 104

Chapter 9—TRAINING AND OPERATING LIMITATIONS 105

9.1. Passengers on Training Missions. 105
9.2. Touch-and-go Landing Limitations. 105
9.3. Training on Operational Missions. 106
9.4. Simulated Emergency Flight Procedures. 106
9.5. Flight Maneuvers. 106
9.6. Briefing Requirements. 107
9.7. Simulated Instrument Flight. 107
9.8. Operating Limitations. 107
9.9. Not Used. 108
9.10. Not Used. 108
9.11. Not Used. 108
9.12. Maintenance Opportune Training. 108

Chapter 10—AIRCREW OPERATIONS IN CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR THREAT ENVIRONMENT 109

10.1. Overview. 109
10.2. Understanding the CBRN Threat. 109
10.3. CBRN Passive Defense Measures. 109
10.4. Flight Operations. 112
10.5. Ground Operations. 113
Table 10.1. Task Time Multipliers. 114
Table 10.2. Ten-Foot Rule Time Standards (Source: AFMAN 10-2602). 116

Chapter 11—NAVIGATION PROCEDURES 117

11.1. General. 117
11.2. Operations in International/Territorial Airspace. 117
11.3. Navigation Databases. 118
11.4. Oceanic Flight. 119
11.5. Navigation Capability. 120

Chapter 12—FLIGHT ENGINEER / AIRCREW MAINTENANCE SUPPORT PROCEDURES 122

12.1. General: 122
12.2. Responsibilities. 122
12.3. Authority to Clear a Red X. 122
12.4. Aircraft Servicing and Ground Operations. 122
12.5. Aircraft Recovery Away from Main Operating Base (MOB). 124
12.6. Aircraft Structural Integrity Program. 124
Table 12.1. AFTO Form 18 Receiver Types. 126
12.7. Engine Performance Monitoring. 126
12.8. Performance Data Computations. 128
12.9. In-Flight Fuel Management/Monitoring. 129
12.10. General Navigation Duties. 129
12.11. Not Used. 130
12.12. Weight and Balance. 130
12.13. In-Flight Troubleshooting. 130

Chapter 13—CARGO AND PASSENGER PROCEDURES 131

13.1. General. 131
13.2. Responsibilities for Aircraft Loading. 131
13.3. Emergency Exits and Safety Aisles. 132
13.4. Pre-Mission Duties. 133
13.5. Passenger Handling. 135
13.6. En Route and Post-Flight Duties. 138
13.7. Loaded Weapons. 138
13.8. Weight and Balance. 138
13.9. Cargo Validation On/Offloading Procedures and Format. 139
13.10. Emergency Airlift of Personnel. 139
13.11. Rucksacks. 139
13.12. Not Used. 140

13.13. Cargo and Material Handling Equipment (MHE) Issues. 140

Chapter 14—FUEL PLANNING AND CONSERVATION 142

14.1. General. 142

14.2. Fuel Conservation. 142

14.3. Fuel Planning Procedures. 143

14.4. Fuel Requirements. 144

14.5. AF Form 4091 Procedures. 147

14.6. Computer Flight Plan. 149

Table 14.1. PFPS/ACFP DRAG INDEX VALUES. 149

Chapter 15—AIR REFUELING 150

15.1. General. 150

15.2. AAR Limitations. 150

15.3. Communications Failure. 152

15.4. Operational Reporting. 153

15.5. Military Assumes Responsibility for Separation of Aircraft (MARSA) Applicability for AAR. 153

15.6. Altitude Reservation (ALTRV). 153

15.7. Receiver Pilot Responsibilities. 154

15.8. Tanker Pilot Responsibilities. 155

15.9. ATC Clearance. 156

15.10. Emergency AAR. 156

15.11. AAR with Commercial or non-USA military Aircraft. 157

15.12. Coronet East Mission Over Flights in France. 157

Chapter 16—MISSION PLANNING 158

16.1. General. 158

16.2. Briefings. 158

16.3. Mission Debriefing. 158

Chapter 17—EMPLOYMENT TRAINING 159

17.1. General. 159

17.2. Responsibilities. 159

17.3. Tactics Simulator Training. 159

17.4. Tactics Flight Training. 159

Table 17.1. Simulator/Aircraft Tactical Maneuver Limitations. 160

Chapter 18—AIRCRAFT FORMATION **162**

18.1. General. 162

18.2. Specified Times. 162

18.3. Weather Minimums. 162

18.4. Ground Operations. 162

18.5. Communications and Radio Procedures. 162

18.6. Launch, Departure, and Level-Off. 163

18.7. En Route Formation. 165

18.8. Lost Wingman Procedures. 165

18.9. Formation Position Changes. 167

18.10. Formation Break-Up and Recovery. 169

18.11. Mission Debriefing and Critique. 169

Chapter 19—AIRDROP OPERATIONS **170**

19.1. General. 170

Chapter 20—AEROMEDICAL EVACUATION **171**

20.1. Mission. 171

20.2. Operational Control and Reporting of Aeromedical Evacuation Forces. 171

20.3. Alerting Procedures. 171

20.4. Pilot in Command Responsibilities. 172

20.5. Boom Operator Responsibilities. 172

20.6. Aeromedical Evacuation Crew Responsibilities. 172

20.7. Ground Operations. 173

20.8. Aircraft Refueling. 173

20.9. Aircraft Configuration. 173

20.10. Passengers and Cargo. 174

20.11. Crash/Fire/Rescue. 175

20.12. AE Call Sign/Use of Priority Clearance. 175

20.13. Load Message. 175

20.14. Not Used. 175

20.15. Floor Loading Procedures. 175

Figure 20.1. Floor Loading. 176

Chapter 21—SEARCH AND RESCUE OPERATIONS **177**

21.1. General. 177

Chapter 22—EMERGENCY NUCLEAR AIRLIFT 178

22.1. General. 178

ATTACHMENT 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 179

Attachment 2—AF FORM 4095, KC-10A LOAD PLANNING WORKSHEET INSTRUCTIONS 198

Attachment 3—AF FORM 4096, KC-10 RESTRAINT COMPUTATION WORKSHEET INSTRUCTIONS 200

Attachment 4—FORMATION BRIEFING GUIDE 201

Chapter 1

GENERAL INFORMATION

1.1. General.

1.1.1. This Air Force Instruction (AFI) provides policy for operating the KC-10 aircraft. It is an original source document for many areas, but for efficiency, restates information found in aircraft flight manuals, flight information publications (FLIP), and other Air Force directives. When guidance in this AFI conflicts with another basic/source document, that document takes precedence. For matters where this AFI is the source document, waiver authority is In Accordance With (IAW) paragraph **1.4** For matters where this AFI repeats information in another document, follow waiver authority outlined in the basic/source document.

1.1.2. Unit commanders and agency directors involved with or supporting KC-10 operations shall make current copies of this AFI available to appropriate personnel. Transportation and Base Operations passenger manifesting agencies will maintain a current copy of this AFI.

1.2. Applicability. This AFI applies to aircrew members, support personnel, and managers involved with employing KC-10 aircraft.

1.3. Key Words Explained.

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

1.3.2. "Should" indicates a preferred, but not mandatory, method of accomplishment.

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

1.3.4. **"NOTE"** indicates operating procedures, techniques, etc., considered essential to emphasize.

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

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

1.4. Deviations and Waivers. Do not deviate from policies in this AFI except when the situation demands immediate action to ensure safety. The Pilot in Command (PIC) is vested with ultimate mission authority and is responsible for each course-of-action they choose to take.

1.4.1. Deviations. The PIC shall report deviations or exceptions taken without a waiver through command channels to the Chief, Major Command (MAJCOM) Stan/Eval.

1.4.2. Waivers. Unless otherwise directed, waiver authority for contents of this instruction is the MAJCOM/A3/DO with mission execution authority. For TRANSCOM/AMC operational missions under Operational Control (OPCON) of 18 Air Force, 18 AF/CC is the waiver authority. For aircrews that change Operational Control (CHOP) to a COCOM, the COMAFFOR is the waiver authority.

1.4.2.1. Permanent waivers affect theater unique circumstances and are enduring in nature. List MAJCOM/A3/DO-approved permanent waivers in the MAJCOM supplement (see para **1.5**).

1.4.2.2. Long-term waivers affect multiple aircraft/multiple missions but are not permanent in nature (expire at a specific date/time). Initiate waivers to deviate from provisions in this AFI with HQ AMC Stan/Eval.

1.4.2.3. Short-notice waivers are for specific missions in execution. PICs shall use the Waiver Protocol procedure in **Chapter 4** to secure MAJCOM/A3/DO approval for short-notice waivers.

1.5. Supplemental Procedures. This AFI is a basic directive. Each user MAJCOM or operational theater may supplement this AFI according to AFPD 11-2, *Aircraft Rules and Procedures*, and AFI 33-360, *Publications and Forms Management.* Stipulate unique MAJCOM procedures (shall not be less restrictive than this basic document) and publish MAJCOM/A3/DO-approved permanent waivers in the MAJCOM supplement.

1.5.1. Combined Command Operations. Plan and conduct all operations that include forces from multiple MAJCOMs using provisions in this AFI. Do not assume or expect aircrews to perform MAJCOM theater unique procedures without owning MAJCOM/A3/DO approval and advance training.

1.5.2. Coordination Process. Forward MAJCOM approved supplements (attach AF Form 673, *Request to Issue Publication*) to AMC/A3V, 402 Scott Dr., Unit 3A1, Scott AFB IL, 62225-5302.

1.6. Local Supplement Coordination Process. Operations Group commanders (OG/CCs) shall define local operating procedures to this instruction in a unit supplement. OG/CCs shall obtain MAJCOM approval prior to releasing their supplement. Send an electronic copy of the approved version to AMC/A3V.

1.7. Improvement Recommendations. Send comments and suggested improvements to this instruction on an AF Form 847, *Recommendation for Change of Publication*, through channels to AMC/A3VK, 402 Scott Drive Unit 3A1, Scott AFB IL, 62225-5302 or post to the AMC 847 Program SharePoint **https://cs.eis.af.mil/aircrewpubs/AMC%20847%20Program/default.aspx** IAW procedures in AFI 11-215, *USAF Flight Manuals Program (FMP)* and MAJCOM Supplement.

1.8. Definitions. Find explanations or definitions of terms and abbreviations commonly used in the aviation community in Code of Federal Regulations (CFR) Title 14, Part 1; *DoD FLIP General Planning*, Chapter 2; and Joint Pub 1- 02, *The DoD Dictionary of Military and Associated Terms*. See **Attachment 1** for common terms used in this instruction.

1.9. Aircrew Operational Reports. The reporting requirements in this instruction are exempt from licensing IAW paragraph **2.11.10** of AFI 33-324, *The Information Collections and Reports Management Program: Controlling Internal, Public, and Interagency Air Force Information Collections.*

Chapter 2

COMMAND AND CONTROL

2.1. General. The Mobility Air Forces (MAF) command and control (C2) network consists of the following C2 centers: 618 Air and Operations Center (AOC) (Tanker Airlift Control Center) (TACC), Pacific Air Forces (PACAF) or United States Air Forces Europe (USAFE) Air and Space Operations Centers (AOCs), Air National Guard (ANG) Readiness Center, Air Force Reserve Command (AFRC) Command Center, theater AOCs, Air Mobility Division (AMD), Joint Operational Support Airlift Center (JOSAC), Special Air Missions Division, Office of Assistant Vice Chief of Staff, USAF (CVAM), Unit Command Posts, Air Mobility Control Centers (AMCC), Contingency Response Groups (CRG), Contingency response Elements (CRE), and Special Tactics Teams (STT). C2 centers are action agents for the MAF commander with execution authority (operational control) over mobility missions/forces.

2.2. Execution Authority. Headquarters commanders with command authority over MAF resources hold execution authority for directed missions. Commanders with execution authority formulate plans, allocate assets, and approve missions through a local command post or C2 element. OG/CCs serve as execution authority for local training missions. The pilot in command will execute missions operating outside normal communication channels (use last known mission orders or best course of action).

2.2.1. Off-Station Trainer (OST). Refer to MAJCOM Instruction for procedures and requirements.

2.2.1.1. AFRC Current Operations (AFRC/A3OO) is approval authority for AFRC Unit Equipped (UE) OSTs.

2.3. Pilot-in-Command (PIC) Responsibility and Authority. SQ/CCs shall designate an aircraft commander (AC), instructor pilot (IP), or evaluator pilot (EP) as the PIC for all flights, on a flight authorization form, IAW AFI 11-401, *Aviation Management*, and applicable supplements. PICs are:

2.3.1. In command of all persons aboard the aircraft.

2.3.2. Vested with authority to accomplish the assigned mission. The PIC shall only fly events authorized in the mission tasking unless, in the PIC's judgment, an emergency condition demands otherwise. Fly unscheduled training events (for example, Air-to-Air Refueling (AAR) or transition training) only after obtaining approval of the execution authority.

2.3.3. The final mission authority and will make decisions not assigned to higher authority.

2.3.4. The final authority for requesting or accepting aircrew or mission waivers.

2.3.5. Responsible for passing mission progress reports (at least daily) to C2 agents.

2.3.6. Responsible for interaction between aircrew members and mission support personnel and will establish a point-of-contact (POC) with the appropriate C2 agent prior to entering crew rest. Local C2 agents are responsible for coordinating mission support requirements on the PIC's behalf.

2.3.7. Responsible for the welfare of aircrew members, Mission Essential Personnel (MEP), passengers, and the safe accomplishment of the mission.

2.4. Mission Clearance Decision. The execution authority and PIC shall make the mission clearance decision. In all cases, final responsibility for the safe conduct of the mission rests with the PIC. If a PIC elects to delay a mission, that mission will not depart until the conditions that generated the decision to delay improve or are resolved. Further, no execution authority may task another PIC to take the same mission under the same conditions.

2.4.1. Only re-route or divert a mission when authorized by the execution authority, to resolve an emergency, or if required due to insufficient fuel or en route or terminal weather conditions.

2.4.2. The agent that directed the re-route or divert shall ensure the aircraft is capable of executing departure, en route, and destination arrival procedures.

2.4.3. The PIC will notify the appropriate C2 agent of any aircraft or aircrew limitation that may preclude re-route or divert.

2.4.4. When a C2 agent directs a PIC to fly to an alternate airfield, the agent will ensure existing and forecast weather for the alternate, Notices to Airmen (NOTAMs), and airfield information from the Global Decision Support System (GDSS)/GDSS2/Airfield Suitability and Restrictions Report (ASRR), is suitable. If the alternate becomes unsuitable while en route, coordinate with the C2 agent for other suitable alternates. The PIC is final authority for accepting a suitable alternate. A C2 agent will alert customs and all appropriate ground service agencies to prepare for arrival.

2.5. Operational C2 Reporting.

2.5.1. Stations With MAF C2 Agency. Local MAF C2 agents will enter mission data (arrival, departure, and advisory messages) in the MAF C2 system.

2.5.2. Stations Without MAF C2 Agency. Transmit mission data (arrival, departure, and advisory messages) to the controlling C2 agency by any means available (preference in the following order DSN, HF, Iridium Phone). For critical C2 communications, i.e. aircraft waiver request, maintenance delay, etc., voice communications are the primary method.

2.5.3. Enroute Reporting.

2.5.3.1. Make the following enroute calls to 618 AOC (TACC):

2.5.3.1.1. Airborne call when departing from a location without an AMC presence.

2.5.3.1.2. Maintenance call whenever aircraft alpha status changes to code 3.

2.5.3.1.3. On aeromedical evacuation (AE) missions, not later than 1 hour prior to landing, to update arrival time and provide AF IMT 3858, *C-130/C-141 Aeromedical Evacuation Mission Offload Message* information.

2.5.3.1.4. Uncoordinated aircraft interceptions via the most expeditious means available, after complying with guidance in the flight information handbook. When an airborne report is not accomplished, PICs must directly notify 618 AOC (TACC) upon landing. In all cases ensure local C2 and Intel agencies are informed.

2.5.3.2. CONUS. Periodic "ops normal" calls/transmissions are not required; however, the controlling C2 agency may increase reporting requirements.

2.5.3.3. OCONUS. MAJCOM C2 agencies will specify increased reporting procedures through a communications plan in the OPLAN, OPORD, FRAG, Mission Directive, or FLIP. Aircrews will maintain listening watch in accordance with the communications plan within aircraft equipment capabilities (e.g. HF-Automatic Link Establishment (HF-ALE), Iridium Phone).

2.5.4. Aircraft Status/Maintenance Discrepancy Reporting. PICs shall report aircraft system malfunctions that traditionally require extensive trouble shooting as soon as feasible. Contact arrival C2 agency if available, otherwise contact MAJCOM C2 for relay.

2.5.5. AAR Mission Reports.

2.5.5.1. Tanker AAR Report. On operational missions, pilots will provide the following information after a tanker AAR to MAJCOM C2. Under normal circumstances, send only one off-load message, completed after the final AAR for the mission. Under abnormal circumstances such as receiver diverts, unsuccessful AAR, insufficient off-load, or anything else that impacts the overall success of the mission, send a report as soon as practical.

2.5.5.1.1. Call Sign.

2.5.5.1.2. Fuel off-loaded.

2.5.5.1.3. Mission status.

2.5.5.1.4. Next station.

2.5.5.1.5. Estimated time of arrival (ETA).

2.5.5.2. Receiver AAR Report. On operational missions, report the following AAR information to the destination C2 agency after landing. C2 agencies will enter the information in the MAF C2 system for missions under their control. The MAJCOM C2 agency will enter the data for all missions. Include all scheduled AARs not accomplished.

2.5.5.2.1. AAR track.

2.5.5.2.2. Scheduled On-load.

2.5.5.2.3. Actual On-load.

2.5.5.2.4. Reason Code.

2.5.5.2.5. Additional Comments.

2.5.5.3. Reason Codes. Reason codes indicate the outcome of air refueling activity. Codes are normally used when a problem or situation affects the successful accomplishment of the air refueling. The Reason Code "AC" will be used when air refueling was complete without delay or mission impact. Additional comments are mandatory for all reason codes except AT, WX, and AC.

2.5.5.3.1. RO - Receiver Operations.

2.5.5.3.2. RM - Receiver Maintenance.

2.5.5.3.3. RW - Receiver Weather.

2.5.5.3.4. TO - Tanker Operations.

2.5.5.3.5. TM - Tanker Maintenance.

2.5.5.3.6. TW - Tanker Weather.

2.5.5.3.7. AT - Air Traffic Control.

2.5.5.3.8. WX - Air Refueling Track Adverse Weather.

2.5.5.3.9. AC - Air Refueling Complete.

2.5.6. "Thirty Minute" Out Call. Transmit a UHF or VHF arrival advisory to the destination C2 agency approximately 30 minutes prior to arrival. Provide Estimated Time in Blocks (ETB).

2.5.7. Integrated Flight Management (IFM) Sorties. On IFM sorties the flight managers (FM) will be the C2 conduit for aircrews. For critical C2 communications, voice communications are the primary method.

2.5.7.1. Position Reporting on IFM Missions. IFM missions transiting oceanic flight information regions (FIRs) need to add the phrase "Pass to Hilda" to Air Traffic Control (ATC) position reports. Crews may also use the ARINC frequencies listed in the aircrew flimsy for C2 phone patch requirements. Use ARINC phone patch only after exhausting normal communication methods.

2.5.8. High Frequency (HF) Communications. HF is the primary means of access to the worldwide C2 network.

2.5.8.1. The secondary HF radio should be operated in Automatic Link Establishment (ALE) mode to support voice contacts between the PIC and MAJCOM C2. ***NOTE:*** Run the ALE system in the silent mode during flights where pilots use the HF radio system for communication with ATC.

2.5.9. Not Used.

2.5.10. Not Used.

2.5.11. DV Messages. Airborne unclassified messages originated by DV passengers may be transmitted at the discretion of the PIC.

2.5.12. Iridium Phone. Iridium phones may be used for communications between aircrews and command and control agencies when beyond-line of sight C2 is required and other line of sight communications do not provide proper security or timeliness. For more information refer to AMC Iridium Satellite Phone CONOPS for Aircrews, **https://www.my.af.mil/gcss-af/USAF/AFP40/d/1075662991/Files/editorial/Iridium%20Satellite%20Phone%20CONOPS.pdf?channelPageId=s6925EC1341A60FB5E044080020E329A9&programId=t6925EC2D96790FB5E044080020E329A9**.

2.5.12.1. Turn off Iridium phones within 25 feet of ground refueling operations.

2.5.12.2. Turn off Iridium phones during takeoff, tanker/receiver AAR, approach, and landing. ***EXCEPTION***: If operational necessity requires use of the Iridium phone

during tanker AAR, the phone should be removed from the cradle and used with the portable antenna only.

2.6. Mission Commander (MC).

2.6.1. Unit commanders shall designate a MC when more than two aircraft are assembled to perform missions away from home station. Unit commanders should consider appointing a MC for special, high-visibility missions (i.e. CAPSTONE, DV2, etc.). The MC has overall responsibility and is the final authority for decisions that impact mission execution. The MC shall properly coordinate mission details. For flight-managed sorties, the MC shall coordinate any special mission planning requirements with the IFM mission allocator not later than 24 hours prior to mission execution.

2.6.1.1. For MAJCOM-tasked missions, MAJCOM/A3/DO will coordinate and designate a lead planning agency when more than one unit is involved in an AAR, airdrop, or tactical airland operation. For AMC-tasked missions, the planning agency is 618 AOC (TACC). The OG/CC for the lead planning agency will designate an MC. The MC will be a rated (normally field grade) officer qualified in the type mission.

2.6.1.2. For fighter moves, a planner in the tasked unit(s) will coordinate tanker support with Air Combat Command (ACC) Air Operations Squadron (AOS) and provide tanker flight planning based on ACC AOS/AODX produced profile.

2.6.2. During MAJCOM AOS planned moves, the tanker MC is the final authority and shall ensure tanker aircrew members have properly coordinated mission details for the deployment IAW AFI 11-207, *Combat Aircraft Delivery*.

2.6.2.1. The MC will ensure all collocated aircrew members attend required briefings. The MC and all tanker aircrew members will attend the appropriate MAJCOM AOS/Delivery Control Officer (DCO) pre-takeoff briefing. The PIC may excuse boom operators and flight engineers from required briefings for preflight duties. Cover tanker specific information in the pre-takeoff briefing to coordinate all takeoff, formation, en route, AAR, and recovery requirements between tanker and receiver aircraft.

2.6.2.2. When non-collocated, the MC (in conjunction with the lead planning agency) will ensure non-collocated aircrew members receive applicable information, to include rendezvous, formation, abort, and recovery procedures.

2.7. DUAL ROLE Procedures.

2.7.1. A valid DUAL ROLE contains the following:

2.7.1.1. A MAJCOM-validated AAR requirement. 618 AOC (TACC)/XOOK must receive validated requirement NLT 14 days before mission start date to ensure proper mission support.

2.7.1.2. The user must have a MAJCOM validated and 618 AOC (TACC)/XOB approved cargo requirement of at least six pallets of cargo, not including baggage.

2.7.2. Since DUAL ROLE is primarily an AAR mission, the tanker pilot must first meet the AAR requirement without regard to accommodating ancillary cargo capability.

2.7.3. AMC does not guarantee DUAL ROLE ancillary cargo movements and will not expend additional tanker sorties or hours to refuel a DUAL ROLE KC-10 (i.e. force extension) for the purpose of moving ancillary cargo.

2.8. C2 Agency Telephone Numbers. Crewmembers may use the 618 AOC (TACC) toll-free number, 1-800-AIR-MOBL or DSN 312-779-0320 to contact other offices within the 618 AOC (TACC), including flight managers.

2.9. Close Watch Missions. Close Watch missions (for example, Combat Search and Rescue (CSAR); Aeromedical Evacuation (AE), PHOENIX BANNERs) receive special C2 attention. PICs will promptly notify appropriate C2 agency of delays, aborts, or other events that affect on-time departure. Provide the C2 agent the estimated time in commission (ETIC), planned ETD, and estimated time of arrival (ETA) within 10 minutes of the event or as soon as safety allows.

2.10. Law Enforcement Support. It is the policy of the Department of Defense (DoD) to cooperate with civilian law enforcement officials to the maximum extent practicable. AFI 10-801, *Assistance to Civilian Law Enforcement Agencies*, provides the policies and procedures service members must follow when supporting federal, state, and local civilian law enforcement agencies. Coordinate all civilian law enforcement authorities' requests for assistance through appropriate C2 channels.

2.11. Enroute Maintenance Support. 618 AOC (TACC)/XOCL will support all mobility aircraft requests for parts and/or maintenance assistance on TRANSCOM/AMC missions. Refer to paragraph **2.8** for 618 AOC (TACC) telephone numbers.

Chapter 3

AIRCREW COMPLEMENT/MANAGEMENT

3.1. General. This chapter provides guiding principles to form/manage mobility aircrews. Commanders at all levels shall follow these policies to form aircrews and to develop aircrew-related work/rest schedules that optimize efficiency of mobility forces engaged in worldwide operations.

3.2. Aircrew Complement. SQ/CCs shall form aircrews based on fragmentation order/mission directive, Crew Duty Time (CDT) and Flight Duty Period (FDP) requirements, aircrew member qualifications, and other constraints to safely accomplish the mission tasking. **Table 3.1** below summarizes crew position requirements for different crew types.

3.2.1. The minimum aircrew member complement for a local training flight is an aircraft commander, pilot/copilot, flight engineer, and a boom operator. When a mission requires more than one aircrew member at a position, the SQ/CC will determine whether an instructor and non-mission ready (NMR) crewmember meet mission requirements.

3.2.2. SQ/CCs shall form augmented aircrews for missions planned to take longer than a basic CDT. Augmenting aircrew members must be current, qualified, and Mission Ready (MR) IAW AFI 11-2KC-10V1, *KC-10 Aircrew Training.* ***EXCEPTION:*** A Non-Mission Ready (NMR) pilot may augment provided the other two pilots are MR IP's. SQ/CC shall augment an aircrew for the full Flight Duty Period (FDP). The MAJCOM/A3/DO may augment aircrews while the flight is underway. (see paragraph **3.7**, Aircrew Management, for more on CDT/FDP.)

Table 3.1. Aircrew Complement.

Crew Position	Crew Complement	
	Basic	**Augmented**
Aircraft Commander	1	2
Pilot/Copilot	1	1
Flight Engineer	1	2
Boom Operator	1	2/3

3.3. Aircrew Member Qualification. An aircrew member will be qualified, or in qualification training, to perform duties as a primary aircrew member.

3.3.1. Senior leaders who complete a Senior Officer Course (SOC) (restricted AF Form 8, *Certificate of Aircrew Qualification*) or orientation for a Senior Staff Familiarization flight may occupy a primary crew position when under direct instructor supervision. Refer to AFI 11-401, *Aviation Management*, for procedures and requirements governing senior leader flying.

3.3.1.1. Senior Officers who complete the SOC must adhere to the restrictions listed in their AF Form 8, *Certificate of Aircrew Qualification.*

3.3.2. Crewmembers who complete the Senior Officer Course will log "FP" for Flight Authorization Duty Code on the AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document.*

3.3.3. Crewmembers who complete a Senior Staff Familiarization flight will log "OP" for Flight Authorization Duty Code on the AFTO Form 781.

3.4. Pilots. An instructor pilot (IP) must supervise non-current or unqualified pilots regaining currency or qualification (direct IP supervision during critical phases of flight). ***EXCEPTION*:** FTU instructors comply with AFI 11-2KC-10 Volume 1 and published FTU syllabi.

3.4.1. SQ/CCs shall augment the PIC for missions over 16 hours Flight Duty Period (FDP) and designate those additional pilots authorized to perform PIC duties. The PIC shall brief the aircrew on the plan to transfer PIC duties.

3.4.2. Initial qualification pilots enrolled in a MAJCOM approved training course may accomplish tanker/receiver AR under IP supervision.

3.4.3. Missions With Passengers. Only current and qualified pilots (possessing an AF Form 8) will occupy pilot seats with passengers on board (N/A MEP).

3.4.3.1. A non-current but qualified pilot may fly with passengers on board if under direct IP supervision.

3.4.3.2. Pilots shall not fly touch-and-go landings with passengers or hazardous cargo on board. Touch-and-go landings are authorized with Mission Essential Personnel (MEP) on board.

3.5. Not used.

3.6. Boom Operators and Flight Engineers. A non-current or unqualified boom operator or flight engineer may serve as a primary aircrew member on any mission when supervised by a qualified instructor or flight examiner (direct supervision for critical phases of flight).

3.6.1. SQ/CC will include two boom operators on planned cargo operations.

3.6.2. When a mission will have more than 40 passengers on board, SQ/CC will ensure the aircrew compliment includes an extra (passenger-qualified) boom operator or aircrew member able to fulfill passenger-handling role. SQ/CC shall form aircrews with three boom operators when the total number of passengers exceeds 40 and multiple air refuelings are anticipated.

3.6.3. A NMR boom operator may be used as an augmentee provided a fully qualified and instructor boom operator are on board. The instructor boom operator shall supervise the NMR boom operator during portions of the mission the NMR boom operator performs primary crew duties.

3.7. Aircrew Management. SQ/CCs and en route C2 agents shall ensure work/rest cycles permit an aircrew adequate time to safely accomplish mission duties and personal time for rest.

3.7.1. Flight Duty Period (FDP). FDP is the period of time starting at mission report time and ending immediately after the aircrew completes the final engine shutdown of the day. SQ/CCs shall form aircrews based on worst-case FDP in the mission directive. Once enroute, the mission directive or C2 agent will inform the PIC of expected FDP at show time.

Reduce FDP when the autopilot pitch axis fails after departure IAW information below. If the autopilot fails after departure, consider mission requirements and determine the best course of action to preclude further mission delays due to reduced FDP. The best course of action may include diverting to an airfield with maintenance capability. Contact C2, coordinate intentions, and comply with limitations.

3.7.1.1. Basic Crew FDP. The maximum FDP for a basic aircrew is 16 hours (12 hours when the autopilot pitch axis is inoperative or the autopilot cannot be coupled to the FMS). All tactical events will be accomplished within the first 14 hours of the FDP. Once an aircrew begins a basic FDP, only MAJCOM/A3/DO may extend to augmented day regardless of aircrew composition (MAJCOM/A3/DO shall augment basic crew to extend FDP).

3.7.1.1.1. When extended en route ground times, non-optimum routing/winds, weather delays or other extenuating circumstances will increase a basic to an augmented FDP, a PIC with an augmented crew may accept an augmented FDP as long as:

3.7.1.1.1.1. The C2 agent or PIC discovers the extenuating circumstances before the first takeoff of the day.

3.7.1.1.1.2. The PIC verifies all augmenting aircrew members can get adequate rest en route.

3.7.1.1.2. A PIC with a basic crew may seek MAJCOM/A3/DO (mission execution authority) approval to extend the FDP as much as 2 hours to complete a scheduled mission. Only use this provision to recover from unscheduled/unplanned en route delays. C2 agents shall not ask PICs to exercise this option.

3.7.1.2. Augmented Crew FDP. Maximum FDP for an augmented aircrew is 24 hours (16 hours when the autopilot pitch axis is inoperative or the autopilot cannot be coupled to the FMS). All tactical events will be accomplished within the first 18 hours of the FDP. SQ/CC need only augment the pilot portion of the aircrew when the autopilot pitch axis is inoperative.

3.7.1.2.1. SQ/CC will augment an aircrew when FDP exceeds 16 hours and the mission profile will allow augmenting aircrew members adequate time to rest en route. As a minimum, the mission profile must provide the following:

3.7.1.2.1.1. No more than 2 intermediate stops after 14 hours of FDP (each receiver AAR shall count as an intermediate stop).

3.7.1.2.1.2. Mission profile shall include at least one 6 hour leg or two 4 hour legs. ***NOTE:*** If the mission profile includes at least one 5 hour leg or two 3 hour legs the maximum FDP will be 18 hours. (All other restrictions still apply).

3.7.1.2.1.3. The PIC shall validate planned leg times based on actual conditions.

3.7.1.3. Not Used.

3.7.1.4. Flight examiners administering evaluations will not exceed an augmented FDP.

3.7.1.5. Training, Tactical, Joint Airborne/Air Transportability Training (JA/ATT), and Functional Check Flights/Acceptance Check Flights (FCFs/ACFs) FDP:

3.7.1.5.1. 16 hours (12 hours when the autopilot pitch axis is inoperative or the autopilot cannot be coupled to the FMS). Conduct the mission as follows:

3.7.1.5.2. Complete all mission-related events (i.e., FCF/ACF checks, transition events, or tactical events) during the first 12 hours of the FDP. ***EXCEPTION:*** FTU missions and flight evaluations.

3.7.1.5.2.1. AFRC crews may perform all mission-related events on local training missions provided their time from start of CDT/FDP does not exceed 16 hours.

3.7.1.5.2.1.1. Crew duty time (CDT) and FDP include both military duty and civilian work. CDT and FDP begin when an individual reports for their first duty period (military or civilian).

3.7.2. Crew Duty Time (CDT). CDT is that period of time an aircrew may perform combined ground/flight duties. Plan the mission so aircrew members may complete post-mission duties within maximum CDT. An aircrew member may perform mission-related duties for other missions when approved by member's home station SQ/CC or equivalent. Maximum CDT is 18+00 hours for a basic aircrew and 24+45 hours for an augmented aircrew.

3.7.3. Except as outlined below, CDT/FDP begins 1 hour after aircrew alert notification. SQ/CC or equivalent may task aircrew members to perform other duties before they begin flight-related duties or MAJCOM/A3/DO may authorize a C2 agent to alert an aircrew member early: begin CDT/FDP when the first aircrew member reports for those duties.

3.7.3.1. Crews may self-alert with C2 (618 AOC (TACC) for AMC and AMC gained missions) concurrence prior to entering crew rest. The PIC must coordinate (618 AOC (TACC) approval required for AMC and AMC-gained missions) the self-alert time before entering crew rest. Begin CDT/FDP when the first aircrew member reports for duty.

3.7.3.2. CDT/FDP Extensions. See AFI 11-202V3.

3.7.4. Mission Essential Personnel (MEP) Time. IAW AFI 11-401, *Aviation Management*, MAF aircrew members may travel as additional crewmembers (not required for the mission being flown but required for follow-on missions) as MEP. MEP will not be listed on the AFTO Form 781, will not log time, and will not accrue OFDA credit. Crewmembers may travel as MEP for a maximum of 24 hours. OG/CC or equivalent may approve crewmembers to travel as MEP in excess of 24 hours.

3.7.4.1. Current/qualified aircrew members may perform primary aircrew duties after traveling in MEP status, provided they do not exceed a basic FDP (FDP starts at report time for flight in MEP status).

3.7.4.2. Aircrew members may travel in MEP status after performing primary crew duties, for a maximum of 24 hours from the time the crewmember's FDP began.

3.7.5. Aircrew Member Support of Aircraft Generation Activities (Pre-flight, cargo up-/off-load, start, and taxi aircraft). Crew rest is required IAW AFI 11-202V3. The duty day begins when the aircrew member reports for official duties.

3.8. Scheduling Restrictions. IAW AFI 11-202V3. In addition, SQ/CCs shall not schedule an aircrew member to fly nor will an aircrew member perform aircrew duties:

3.8.1. When the flight will exceed maximum flying time limitations of AFI 11-202V3.

3.8.2. Within 12 hours of consuming alcoholic beverages (based on scheduled takeoff, or ALFA standby force legal for alert time, or earliest show time from BRAVO alert) or while impaired by its after effects.

3.8.3. When using nasal sprays to treat symptoms of head congestion existing before flight. An aircrew member may use oxymetazoline or phenylephrine nasal sprays as "get-me-downs" following an unexpected ear or sinus block during flight. Following use, crewmember will be considered DNIF until cleared by a flight surgeon.

3.9. Fatigue Countermeasures Management Program.

3.9.1. Aircrew may use medications with prior approval (on a voluntary basis following ground testing) that enhance natural rest during off-cycle crew rest periods. This section provides guidance for the use of no-go pills (prescription medications) that help aircrew initiate and maintain restful sleep during off-cycle (circadian desynchrony) crew rest periods. Aircrews shall not use no-go pills in flight.

3.9.2. It is USAF policy that aircrew shall never use no-go pills as a first choice counter-fatigue management (CM) tool. Proper sleep/rest cycles represent the primary fatigue CM, with 'smart' scheduling procedures and napping techniques (inflight and/or ground-based) augmenting this primary CM. Flight surgeons will educate aircrew members about these and other fatigue CM.

3.9.3. Responsibility for counter-fatigue management of aircrew medicinal products rests with the home station Flight Surgeon (FS), and with each individual aircrew member. Aircrew members may obtain no-go pills from any USAF or other authorized flight surgeon. Off station/deployed flight surgeons shall confirm individual aircrew ground testing results via the "MAF Aircrew Medication Ground Test Card" carried by aircrew members prior to dispensing no-go pills to TDY/deployed fliers.

3.9.4. Unit Operational Risk Management (ORM) programs shall include use of no-go medication with OG/CC and FS oversight. A basic counter-fatigue ORM model is available for mission planners, OG/CC, crew, and FS on the AMC/A3V website. Training materials are available at the local FS office.

3.9.5. Home station or deployed FSs trained using the AMC/SG-approved (lead command) fatigue countermeasures materials are the point of contact for no-go prescription.

3.9.6. Aircrew members on Personnel Reliability Program (PRP) status will follow PRP notification procedures if prescribed no-go pills.

3.9.7. Aircrew will consider the following examples of missions prone to causing fatigue (may cause sleep disruptions) in their decision to use no-go medications:

3.9.7.1. Home station night launch missions (with 2000-0530L show times) greater than four hours duration.

3.9.7.2. Crew rest facilities lacking an optimal sleeping environment (quiet, air-conditioned, and darkened).

3.9.7.3. Off-station missions that are 4 or more time zones from home station.

3.9.7.4. Rotating schedules (stair-stepped flying schedules) with greater then 6-hour flight time duration.

3.9.7.5. Missions that run consistently near a 14-hour (or greater) duty day.

3.9.8. In no case will crewmembers consume a no-go pill on a timeline where they would be under the effect of the medication while they perform aircrew duties (use mission report or legal for alert time to determine latest time to take no-go medication). SQ/CC will not schedule crewmembers to fly or perform crew duties during the following minimum DNIF periods for consuming no-go pills.

3.9.8.1. Restoril (temazepam) – 12 hours minimum DNIF.

3.9.8.2. Ambien (zolpidem) – 6 hours minimum DNIF.

3.9.8.3. Sonata (zaleplon) – 4 hours minimum DNIF.

3.9.9. Accountability for this program is made challenging by the worldwide mobility mission of AMC/MAF aircrew; therefore, the following are aircrew member's responsibilities:

3.9.9.1. Aircrew members will complete ground testing for each no-go pill and receive flight surgeon clearance prior to using a particular no-go pill in the flying environment.

3.9.9.2. Aircrew members shall not operate heavy equipment or perform aircrew duties during the minimum DNIF period for each no-go pill outlined in paragraph 3.9.8.

3.9.9.3. Aircrew members shall not take no-go-pills within 12 hours of consuming alcohol, or vice versa.

3.9.9.4. Aircrew members will fill out an AMC-approved (lead command) "No-Go Pill Usage Questionnaire" detailing how they used their last prescription when requesting a refill from the FS.

3.9.9.5. Limit use of Restoril (temazepam) and Ambien (zolpidem) to a maximum of seven consecutive days and no more than 20 days in a 60-day period. In order to support dynamic MAF mission requirements, FS will consider providing a prescription for 60 days (20 pills) at a time if requested by the aircrew member.

3.9.9.6. Limit use of Sonata (zaleplon) to a maximum of 10 consecutive days and no more than 28 days in a 60-day period. In order to support dynamic MAF mission requirements, FS will consider providing a prescription for 60 days (28 pills) at a time if requested by the aircrew member.

3.9.9.7. Aircrew will inform the FS of any other medications (including nutritional supplements and over the counter medications) they are taking so the FS can evaluate potential interactions.

3.10. Crew Rest/En Route Ground Time. OG/CCs shall establish procedures to place crewmembers in crew rest. MAJCOM/A3/DO may waive any portion of the crew rest period or ground time as needed to meet mission tasking.

3.10.1. Home-Station Pre-Departure Crew Rest. For missions that will keep aircrew members off station 16 hours or more, unit commanders will enter primary and deadhead aircrew members into pre-departure crew rest 24 hours before the legal for alert time. Aircrew members may perform limited non-flying duties like mission planning during the first 12 hours of pre-departure crew rest. OG/CCs may waive any portion of the first 12 hours of pre-departure crew rest. Do not manifest deadhead aircrew members as passengers to deny pre-departure crew rest. ***EXCEPTION:*** AFRC in accordance with AFI 11-202V3 and appropriate supplement.

3.10.2. Off-station/En route Crew Rest. The minimum en route crew rest period is 12 hours before legal for alert or scheduled report time when self-alerting.

3.10.2.1. Except during emergencies or as authorized by MAJCOM/A3/DO, C2 agents shall not disturb an aircrew member in crew rest. When necessary to interrupt aircrew members' crew rest period, re-enter that aircrew in a subsequent minimum 12 hour crew rest period after they complete official duties.

3.10.2.2. Do not enter aircrew members into crew rest until they complete official post-flight duties. Those duties may include, but are not limited to, refueling, cargo on-/off-load, aircrew arming, minor maintenance, or mission debriefing.

3.10.3. Off-station/En route Ground Time. Mobility planners shall provide aircrews at least 17 hours (18+15 hours for dual role missions and en route channel mission stops with a cargo download or upload – allows for cargo loading operations upon arrival and 3+15 show for departure) ground time between engine shutdown and subsequent takeoff.

3.10.3.1. Mission planners, PICs, or C2 agents may modify ground time as follows:

3.10.3.1.1. In the interest of safety.

3.10.3.1.2. To start (mission reporting time) no earlier than 12 hours from the time the aircrew entered crew rest. Before reducing ground time, PICs will consider time to complete mission planning, cargo on-/off-load, and non-standard mission related duties. C2 agents will not ask PICs to accept less than 17 hours ground time.

3.10.3.2. Mobility planners should construct mission itineraries with en route ground times longer than 17 hours to afford aircrew members opportunities to recover from the cumulative effects of fatigue caused by flying on several consecutive days or due to transiting several time zones. If practical, make the en route ground time 36 hours (maximum) after three consecutive near maximum FDPs.

3.10.4. Crew Enhancement Crew Rest (CECR). CECR is not an alternative to a safety-of-flight delay but provides PICs a means to minimize the adverse effects of a crew alert and report period outside normal duty time. CECR periods should be of minimum duration and are normally used during de-positioning legs. Tasking authorities shall approve requests to delay alert time to normalize the work-rest cycle or increase messing options when mission allows. When requests are disapproved, the C2 agent will inform the PIC of the reason for disapproval.

3.10.5. Post-Mission Crew Rest (PMCR). SQ/CCs shall give aircrew members returning to home base sufficient time to recover from cumulative effects of the mission and tend to personal needs. PMCR begins upon mission termination. (N/A AFRC).

3.10.5.1. For missions that keep an aircrew off station 16 or more hours, the SQ/CC shall provide 1 hour (up to 96 hours) PMCR for each 3 hours off-station. Do not enter aircrew members in pre-departure crew rest until the PMCR period expires.

3.10.5.2. PMCR is not applicable to continuing missions and MAJCOM/A3/DO may suspend PMCR during contingency operations.

3.10.5.3. OG/CCs (or equivalents) are PMCR waiver authority.

3.10.6. Crew Chief Work/Rest Plan. While on Temporary Duty (TDY), the deployed crew chief or MEP maintenance technician shall report to the PIC. In conjunction with en route/transient maintenance supervisor, the PIC will determine how long the crew chief can safely perform aircraft maintenance duties. The PIC shall ensure the crew chief has sufficient time in each 24-hour period to get 8 hours of uninterrupted rest. See AFI 21-101, *Aircraft and Equipment Maintenance Management*, for detailed guidance.

3.10.7. The lead USAF component will publish MAJCOM/A3/DO-approved crew rest criteria in the Exercise or Contingency Operation Order (OPORD), Operation Plan (OPLAN) or Concept of Operations (CONOPs).

3.10.8. The Prime Knight program streamlines the process of getting aircrews from aircraft parking ramp into lodging/crew rest. It is only successful when billeting agents receive accurate aircrew/mission information in a timely manner.

3.10.8.1. C2 Agent Responsibilities. A MAJCOM C2 agent will forward information on the departing aircrew's orders to a point of contact (POC) for the next crew rest location's Prime Knight function.

3.10.8.2. PIC Responsibilities. If departing from a location with a C2 agency, ensure a C2 agent has accurate aircrew/mission information to forward to the next Prime Knight POC. If departing from a facility without a C2 agency, the PIC will call the next crew rest location Prime Knight POC to pass aircrew/mission information.

3.10.8.3. SQ/CC or designated authenticating official shall ensure TDY/Flight orders clearly indicate the unit fund cite so that the PIC may make Prime Knight reservations in advance. Without a unit fund cite on the TDY/Flight orders, the PIC must make advance reservations using a government travel card to participate in the Prime Knight program.

3.11. Alerting Procedures. MAJCOM C2 agents shall establish a legal for alert time with the PIC and when appropriate, the Medical Crew Director (MCD) of Aeromedical Evacuation (AE) crews. Whenever possible, C2 agents will inform PICs and MCDs of aircraft status, expected patient up load time, and other pertinent mission details that will streamline mission launch.

3.11.1. Aircrew alert time is normally 4+15 hours before scheduled takeoff time (allows 1 hour for reporting and 3+15 hours for mission preparation). Individual locations may increase or decrease this time depending on specific capabilities. OG/CCs may establish self-alert procedures for local training missions.

3.11.1.1. For missions with more than minimum ground time, the PIC may arrange an alert time that provides additional preparation time to accomplish the mission. The PIC may also accept alerting with reduced preparation time when the mission allows. In all cases, the PIC shall coordinate changes to standard alerting times with the appropriate C2 agency.

3.11.1.2. With PIC agreement and when cargo load warrants (i.e. outsized and Dash 9 section V cargo), C2 agents may alert boom operators up to 2 hours before normal alert time. When early alerting is warranted, the PIC and C2 agent must notify the boom operator before he/she enters crew rest. Do not alert the boom operator more than 1 hour before beginning cargo up load. Base the aircrew FDP on the boom operator's show time.

3.11.1.3. C2 agents shall not alert an aircrew until the aircraft is in commission or there is reasonable assurance that maintenance technicians will complete repairs that allow the aircrew time to pre-flight and load the aircraft to meet the target takeoff time.

3.11.1.4. C2 agents shall not alert outbound crews when inbound aircraft is on A-2 or A-3 status until maintenance technicians determine required parts are available and the aircraft will be repaired within the target ground time.

3.11.1.5. Self-Alerts. Crews will self-alert at locations without a C2 agency, but must coordinate with controlling C2 agency. The PIC may elect to self-alert on operational missions at locations with a C2 agency. Coordinate the alert time with local C2 agents to avoid FDP limitations that result from unexpected changes in the mission.

3.11.2. The aircrew release policy is as follows:

3.11.2.1. On the aircrew's initial entry or re-entry into crew rest, the controlling C2 agent, or PIC during self-alerts, will establish an expected alert time.

3.11.2.2. For all missions, the latest allowable alert time is 6 hours after the expected alert time. The PIC may extend that window to 8 hours when flying as primary crew or 12 hours when traveling in MEP status. The controlling C2 agent will not ask the PIC to accept more than the 6 hour window. ANG/ AFRC aircrew members may extend the window as necessary to MEP to home station to meet the Firm Scheduled Return Time (FSRT).

3.11.2.3. When a C2 agent determines circumstances will not allow for aircrew alerting during the legal for alert window, at that time but not earlier than the expected alert time, the C2 agent will contact the PIC and establish a new expected alert time at least 12 hours from the time of notification.

3.11.2.4. If the mission cannot depart within 4+00 hours of any scheduled takeoff, the PIC may continue the mission after a thorough re-evaluation of all ORM factors. The controlling C2 agent will not ask the PIC to accept a takeoff outside of the 4 hour window. The PIC will coordinate with C2 to continue the mission or enter crew rest and establish a legal for alert time.

3.12. Stage Management.

3.12.1. Stage Posture. Stages operate on a positive launch principle. C2 agents shall alert aircrews using the following priority/hierarchy:

3.12.1.1. Aircrews that require an emergency return to home station.

3.12.1.2. De-positioning stage crews will be prioritized by their SRTs.

3.12.1.3. Aircrews in sequence of arrival time.

3.12.1.4. If the stage manager returns an aircrew in the stage to crew rest because of a mission delay or abort, that aircrew becomes first out when legal for alert.

3.12.2. Mechanical Stage. A C2 agent may create a mechanical stage when a delayed or aborted mission will not resume before that aircrew's FDP expires. Aircrews in a mechanical stage will be first out when a mission in the same direction transits their location while they are legal for alert. A C2 agent may bump an inbound aircrew with FDP to complete that mission to cycle aircrews in a mechanical stage. C2 agents should not normally establish a mechanical stage for AFRC crews flying unit-equipped aircraft.

3.13. Standby Force Duty. MAJCOM C2 Agents shall task units for Standby Force Duty not later than 18 hours prior to legal for alert time. This allows crewmembers 12 hours of pre-standby crew rest and 6 hours for aircraft pre-flight duty. When aircrews are unable to complete all preflight duties within 6 hours of crew show time, provide an additional 12-hour pre-standby crew rest. If MAJCOM C2 agents are unable to provide 18 hours prior notification, SQ/CC shall place the pre-standby crew in 12 hour crew rest and follow aircraft generation procedures in paragraph **3.7.5** to prepare the aircraft for launch. SQ/CC may keep an aircrew in ALFA/BRAVO status up to 48 hours. MAJCOM/A3/DO may extend this period for contingencies. After completion of an alert period, launch, release, or re-enter aircrew into 12 hour pre-departure crew rest. OG/CCs may provide additional local procedures for management of Standby Force Duties.

3.13.1. ALFA Standby Aircraft Preflight Generation and Security. When tasked, SQ/CC shall posture an aircraft and aircrew as an ALFA Standby Force able to launch within 1 hour. The following procedures apply to primary aircraft as well as spare aircraft generated for ALFA alerts. A maintenance Dash -6 and aircrew Dash -1 preflight must be completed. Preflight validity will be in accordance with applicable T.O. After the preflight, the PIC will notify the controlling agency. The aircraft will remain in a sealed posture and be referred to as "cocked on alert". Documentation of when the aircraft was cocked on alert must be placed in the forms. The PIC will ensure the aircraft is secure before entering crew rest. Secure all hatches and doors to show unauthorized entry. The aircrew preflight portion remains valid if performed by one crew, cocked on alert, and launched by another crew. Uncocking a generated aircraft is not a standard procedure but may be accomplished on a case by case basis. The PIC or a designated aircrew representative must be present if access to the aircraft is required. Ensure command and control and the controlling agency are notified when uncocking and recocking generated aircraft. Follow-on pre-flights done during normal waking hours do not interrupt crew rest. Begin CDT/FDP when C2 agent directs the aircrew to launch from crew rest or while performing pre-flight (begin CDT/FDP when the aircrew arrived at the aircraft to do the pre-flight).

3.13.2. BRAVO Standby Force. When tasked, SQ/CC shall posture an aircraft and/or aircrew in BRAVO Standby Force to permit launch within 3 hours. Follow-on pre-flights, if required, interrupt crew rest. Begin CDT/FDP when aircrew shows for duty.

3.13.3. CHARLIE Standby Force. When tasked, SQ/CC shall posture aircrews as a CHARLIE Standby Force ready to enter crew rest within 2 hours. Tasked aircrews will be legal for alert 12 hours after entering crew rest. SQ/CC may keep aircrews in CHARLIE status up to 72 hours. After 72 hours, release aircrews or enter them into 12 hours crew rest for directed mission, training mission, or subsequent standby force duty.

3.13.4. Wing Standby Force. OG/CC may place aircrews in Wing Standby status. After a 12 hour pre-departure crew rest period, aircrews are legal for alert for 12 hours and must be able to launch within 3+15 hours. After 12 hours, launch, release, or re-enter aircrews in 12 hour crew rest period before subsequent 12 hours Wing Standby duty.

3.13.5. Post-Standby Missions. On completion of standby duty, aircrew members may be dispatched on a mission. If started, post-standby crew rest must be completed before the start of pre-departure crew rest. If an aircrew member is dispatched on a mission, compute the post-mission crew rest time on standby time plus mission time.

3.13.6. Post Standby Crew Rest. Aircrew members not dispatched on a mission following standby duty will receive post-mission standby crew rest as follows:

3.13.6.1. If standby duty is performed away from normal quarters, crew rest time is computed from this standby time on the same basis as for mission time.

3.13.6.2. If standby duty was performed in normal quarters, no crew rest time is authorized.

3.14. Orientation Flights and Incentive Flights. Refer to DoD 4515.13-R, *Air Transportation*, AFI 11-401, and the appropriate MAJCOM supplement.

3.15. Interfly. Interfly is a temporary arrangement between OG/CCs or equivalent to permit the exchange or substitution of aircrew members and/or aircraft between mobility units to accomplish flying missions. Interfly will be limited to sp0ecific operations, exercises, or special circumstances. However, it may be used for events of longer duration such as unit conversion to another model design series (MDS). AFRC/A3 has delegated interfly approval authority to unit OG/CCs for active duty/ANG interfly with AFRC and AFRC to AFRC interfly. Units utilizing this authority will inform AFRC/A3V. NGB/A3 has delegated approval authority to Wing Commanders for active duty/AFRC interfly with ANG, and OG/CC approval authority for ANG to ANG interfly. ANG units will ensure appropriate active duty General Officer support staff has notified the Air Force Directorate of Personnel General Officer Management Office (AF/DPG) prior to any active duty General Officer flying with their unit. Participating aircrews will use guidelines established by the host command or as specified in the OPLAN or CONOPS. ***EXCEPTION:*** AE crewmembers are exempt from interfly requirements.

3.15.1. Aircrew members shall be current and qualified in the MDS, as well as unique systems or configuration required to fly the aircraft/mission.

3.15.2. Each effected group commander who commits resources (personnel or aircraft) must concur with interfly proposal.

3.15.3. MDS conversion training.

3.15.3.1. Units may request an interfly agreement for duration of their conversion. OG/CCs will forward interfly requests to individual OG/CCs for approval. Requests will include as a minimum a list of affected units, duration of the agreement, and purpose.

3.16. Mission Essential Personnel (MEP). Procedures and policies regarding MEP are contained in AFI 11-401. PICs will ensure personnel traveling in this status are properly authorized. Crewmembers qualified in mobility aircraft are authorized MEP status on any mobility aircraft to pre/de-position in support of mobility operations. MAJCOM designated

crewmembers who are assigned or authorized to accompany the normal crew compliment are allowed MEP status.

3.16.1. Crewmembers in MEP status are not authorized to:

3.16.1.1. Displace manifested passengers.

3.16.1.2. Maintain currency and/or log flying time.

3.16.1.3. Use for transportation while on leave. ***EXCEPTION***: ANG/AFRC Air Technicians may be in a civilian leave status while traveling en route to perform in a military duty status.

3.16.1.4. Travel on Special Air Missions/Command Support Mission (SAM/CSM) aircraft unless authorized by HQ AF/CVAM through the PIC.

3.16.1.5. Travel on Special Assignment Airlift Missions (SAAM) when specifically restricted by the mission directive.

3.16.1.6. Travel on Operational Support Airlift (OSA) aircraft unless authorized by Joint Operational Support Airlift Command (JOSAC) through the PIC.

3.16.2. All MEPs require valid travel/flight orders or supporting message authorizing MEP status. OG/CCs may authorize MEP status for their mobility aircrews.

3.16.3. Flight evaluators have priority and will not be displaced by any other MEP. The priority for evaluators is MAJCOM, NAF, group, and then squadron level.

3.16.4. MEPs normally travel in the crew compartment. If the number of MEPs desiring travel exceeds the capacity of the crew compartment, the C2 agency will notify the ATOC, who in turn will coordinate with the passenger terminal; seats not previously assigned may be used for MEPs.

3.16.5. The PIC, or designated representative, will brief MEPs on seat assignment, appropriate mission information, emergency procedures including egress, and armed crewmembers. The PIC may assign an MEP aircrew-related duties for which the MEP is qualified.

3.16.6. MEPs will coordinate their travel with the appropriate C2 agency prior to travel. They will process through the C2 agency as early as possible but NLT 3 hours prior to planned block time.

3.17. Mission Mobility Observers (MMO). MAJCOM supplements or additional directives may establish programs authorizing senior military and civilian personnel to fly for mobility mission familiarization.

3.18. Flight Attendants on Distinguished Visitor Missions. Flight attendants (FAs) and communication system operators (CSOs) may fly as primary crewmembers on designated KC-10 missions and placed on the flight orders using the following procedures:

3.18.1. Pen-and-ink changes will contain the appropriate information for flight time purposes. Each FA/CSO will provide individual data and training summaries (IDS/ITS) to validate Go/No-Go. A signed copy of the 781 extract along with a copy of the flight authorization is given to the appropriate individuals when they depart the crew. The flight

authorization will contain pen-and-ink changes and will be annotated with the PIC certification of Go/No-Go.

3.18.2. The FAs/CSOs fall under the authority of the PIC, or MC, if assigned, throughout the mission. The lead FA will coordinate with the PIC or MC, if assigned, regarding FA prepared aircrew meals, costs associated with those meals and servicing requirements for the mission.

3.18.3. An egress briefing will be given to the FAs/CSOs prior to the first mission leg. The remarks section of the 781, to include the extract, will be annotated with the statement "Just in time egress training accomplished."

3.18.4. FAs/CSOs are included in transportation/billeting arrangements. FA's may stay with the party and coordinate billeting with the contact officer (only if coordinated with the PIC or MC, if assigned, first).

3.18.5. FAs/CSOs may fly in flight suits or civilian attire as mission requirements/locations dictate. Additionally, FAs may also fly in FA uniforms.

Chapter 4

AIRCRAFT OPERATING RESTRICTIONS

4.1. Objective. Redundant systems may allow crews to safely perform some missions when a component/system is degraded. The PIC is the final authority in determining the overall suitability of an aircraft for the mission. The PIC will ensure a detailed explanation of the discrepancy is entered in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*; include the following maintenance identifiers to effectively communicate aircraft status.

4.1.1. Mission Essential (ME). The PIC will designate an item, system, or subsystem component essential for safe aircraft operation as ME.

4.1.2. Mission Contributing (MC). The PIC will designate an item, system, or subsystem component, which is not currently essential for safe aircraft operation as MC. These discrepancies should be cleared at the earliest opportunity. If circumstances change or mission safety would be compromised, re-designate as ME. Do not delay a mission to clear a MC discrepancy.

4.1.3. Open Item (OI). The PIC will designate discrepancies not expected to adversely impact the current mission or any subsequent mission as an OI. These items are normally cleared at home station.

4.2. Minimum Equipment List (MEL) Policy. The MEL is a pre-launch document that lists the minimum equipment/systems to operate the aircraft. It is impractical to prepare a list that would anticipate all possible combinations of equipment malfunctions and contingent circumstances. Consider equipment/systems with no listed exceptions as grounding items. A PIC who accepts an aircraft with degraded equipment/systems is not committed to subsequent operations with the same degraded equipment. PICs are not committed to operations with degraded equipment accepted by another PIC.

4.2.1. The PIC shall account for the possibility of additional failures during continued operation with inoperative systems or components. The MEL is not intended for continued operation over an indefinite period with systems/subsystems inoperative.

4.2.2. All emergency equipment will be installed unless specifically exempted by mission requirements/directives.

4.2.3. Waiver Policy. A PIC prepared to operate with a degraded MEL item shall request a waiver through C2 channels. The PIC shall provide the C2 agent: 1) nature of request, 2) individual crew member qualification, 3) mission leg(s) requiring the waiver, 4) weather or other adverse condition, and 5) the governing directive of waiver request to include volume, chapter, or paragraph. Initiate waiver requests as soon as possible; plan at least a 1-hour waiver process time.

4.2.4. PICs operating with waiver(s) for degraded equipment shall coordinate mission requirements (i.e., revised departure times, fuel requirements, maintenance requirements, etc.) with the controlling C2 agency and/or flight manager.

4.2.5. If beyond C2 communication capability, or when it is necessary to protect the crew or aircraft from a situation not covered by this chapter and immediate action is required, the PIC

may deviate according to paragraph **1.4** Report deviations (without waiver) through channels to MAJCOM/A3/DO within 48-hours. OG/CCs shall collect background information and submit a follow-up written report upon request.

4.3. Waiver Protocol. Waivers to operate with degraded equipment are granted on a case-by-case basis. The PIC determines the need for a waiver after coordinating with the lowest practical level of command. MEL waiver authority is as follows:

4.3.1. Training Missions. OG/CC or equivalent with mission execution authority.

4.3.2. MAJCOM Directed Missions. MAJCOM/A3/DO with mission execution authority. Initiate the request with MAJCOM C2 agency.

4.3.2.1. The 18 AF/CC is the waiver authority for active duty or AFRC units flying 618 AOC (TACC) directed missions (includes Operational Readiness Inspections). The MEL waiver authority has been delegated to AMC/A3V. Contact HQ AMC/A3V through 618 AOC (TACC).

4.3.3. Contingency Missions. COMAFFOR (or equivalent) for the agency with C2, if not specified in the OPORD/Tasking Order.

4.3.4. AFRC Directed Missions. AFRC maintains C2 and waiver authority for AFRC directed missions prior to mobilization.

4.3.5. Other Than MEL Waivers. Determine governing source document (i.e. AFI, Flight Manual, Maintenance T.O., etc.) to ascertain the waiver authority. Use C2 channels to notify the appropriate waiver authority. Waivers of this nature may require an extended response time.

4.3.6. Engineering Dispositions (ED). Dispositions are requested when aircraft are damaged and/or established maintenance technical order procedures cannot be followed or do not exist. The on-site maintenance authority is responsible for requesting Engineering Dispositions. Most EDs allow maintenance to repair the aircraft and return it to unrestricted status; dispositions of this nature do not concern aircrews. However, EDs affecting aircrew operations require MEL waiver authority approval.

4.3.6.1. PICs shall coordinate dispositions containing flight restrictions, prohibitions, additional operating limits, or modified/nonstandard operating procedures with the appropriate MEL waiver authority (see paragraph **4.3**).

4.3.6.2. PICs will not accept dispositions appearing incomplete, in error, or unsafe. Prior to rejecting a disposition, the PIC will contact the appropriate MEL waiver authority. The waiver authority will attempt to resolve the issue. ***NOTE:*** Deviations from the flight manual requires approval IAW the flight manual.

4.3.7. Airworthiness Directives (AD). ADs are legally enforceable rules issued by the Federal Aviation Administration. They are issued when an unsafe condition exists in a product and that condition is likely to exist or develop in other products of the same type design. ADs apply to aircraft maintained using civil standards IAW AFPD 62-6, *USAF Airworthiness*. The aircraft's System's Group (SG) is responsible for bringing ADs to the attention of the appropriate maintenance and operations units. When an AD is released the aircraft shall be in compliance with the directive.

4.3.7.1. PICs shall coordinate new ADs containing flight restrictions, prohibitions, additional operating limits, etc. with the appropriate MEL waiver authority (see paragraph **4.3**).

4.4. Technical Assistance. The PIC may request technical support and additional assistance from their home unit or MAJCOM C2 agency.

4.5. Not Used.

4.6. Not Used.

4.7. Not Used.

4.8. One Engine Inoperative Ferry Flights. PICs will only conduct 2-engine ferry operations after exhausting all other avenues to return an aircraft with an inoperative engine to MC status. With MAJCOM/A3/DO approval, PICs may fly a 2-engine ferry sortie using the following procedures. Two-engine ferry flights are restricted to specially trained (Two-Engine Ferry Course, Q039) and designated crewmembers from AMC Stan/Eval or OG Stan/Eval.

4.8.1. The PIC shall plan and obtain clearances to fly to the nearest destination possessing a usable maintenance support capability (stations with DC-10 or KC-10 common maintenance facilities) and alert all en route, alternate, and abort bases along the intended route of flight.

4.8.2. The PIC shall comply with the aircraft flight manual and T.O. 1C-10(K)A-1-1 and 1C-10(K)A-1-5 limitations. Ensure the aircraft is prepared for two-engine ferry according to T.O.s 1C-10(K)A-1-4 and 1C-10(K)A-2-5.

4.8.3. The aircraft MEL (T.O. 1C-10(K)A-1-2), does not apply. All primary aircraft systems not specifically associated with the failed engine must be fully operational.

4.8.4. Download cargo, including mission support kits, before ferry operations (may remove the onboard cargo handling system to further reduce operational and zero fuel weights). Return all cargo and support equipment to the main operating base (MOB) of assignment via organic support aircraft or other airlift means.

4.9. Gear Down Flight Operations. Limit gear down flight operations to sorties required to move the aircraft to a suitable repair facility. Consider gear down flight only after the PIC exhausts all avenues to repair the aircraft in place.

4.9.1. Standard climb-out flight path charts in T.O. 1C-10(K)A-1-1 do not account for a gear-down configuration. Therefore, PICs shall not takeoff until there is reasonable assurance that they will achieve/maintain adequate obstacle clearance (to include en route stops and alternates).

4.9.2. Time and communications capability permitting, validate takeoff data with MAJCOM STAN/EVAL or OG/OGV.

4.10. Fuel System Limitations. Normal fuel flow is tank-to-engine. Since main fuel tanks are an integral part of the wings, do not fly an aircraft with an empty main tank without an AMC/A3VK, AMC/A4M, and 544 ACSS waiver. There are no flight restrictions with a body tank or tanks empty.

4.10.1. Minimum required ramp fuel load (RRFL) for the KC-10 is 50,000 lbs. Takeoff with less than 50,000 lbs of fuel is permissible provided the crew chief or flight engineer validates

the fuel levels in the outboard compartments using the dipstick method. After takeoff, the aircraft can be operated safely with fuel quantities below 50,000 lbs.

4.11. Slat Profile Flights. Use the following parameters/guide to perform slat profile flights:

4.11.1. Limit fuel load to approximately 150,000 lbs of fuel (takeoff).

4.11.2. No cargo.

4.11.3. Extend slats to takeoff position.

4.11.4. Approximately 12,000 feet pressure altitude.

4.12. Not Used.

4.13. Passenger Seat Limitations. If a passenger seat is broken (cannot be locked in the full upright position) do not seat passengers in the broken seat for takeoff/landing. If a seatback contains a broken tray table that will not stow/lock and cannot be secured by any other means, do not seat passengers directly behind the seatback with the broken tray table for takeoff/landing. Affected seats may be occupied during flight. Make every reasonable effort to repair the broken seat/tray table before turning away passengers. Coordinate seat release changes to the appropriate C2 agency to avoid over-booking seats.

4.14. Fall Protection. Crew members are prohibited from climbing onto the upper fuselage or wing surfaces unless there is an operational necessity. When operational conditions dictate that aircrew members must climb onto upper fuselage or wing surfaces, they will do so only when conditions are dry and while wearing a maintenance safety harness and properly attached lanyard. ***EXCEPTION:*** MDS aircraft that do not have the ability to anchor the maintenance safety harness and lanyard are exempt from the harness requirement until a suitable alternative is available. Aircraft commanders will ensure no other personnel (excluding qualified OPS/maintenance personnel) have access to, or be allowed to, climb onto the fuselage or wings.

Chapter 5

OPERATIONAL PROCEDURES

5.1. Checklists. KC-10 checklists are designed as clean up checklists, and items may be accomplished prior to the checklist being read. A checklist is not complete until all items have been accomplished. Momentary hesitations for coordination items, ATC interruptions and deviations specified in the flight manual, etc., are authorized. Notes amplifying checklist procedures or limitations may be added to the checklists. Currency of notes is a crewmember's responsibility.

5.1.1. Checklist Inserts. MAJCOM/A3V and the AFMC Flight Manual Manager are the checklist insert approval authorities. Send checklist inserts to MAJCOM/A3V, who will in turn coordinate with AFMC for approval. All checklist inserts must have a POC. OGVs shall approve local in-flight guides and inserts not affecting T.O. guidance and procedures. The inserts should be placed at the end of the appropriate checklist or in an in-flight guide.

5.2. Duty Station. Both pilots and the flight engineer shall be in their seats during flight. One of them may be out of their seat for brief periods to meet physiological needs. With both pilots in their seats, PICs may authorize rest periods for one pilot occupying a primary duty station during non-critical phases of flight (the other pilot will be awake and alert).

5.2.1. During cruise, boom operators may leave their duty station for longer periods to meet physiological needs and to perform normal crew duties. Instructor and evaluator pilots performing instructor/evaluator duties may occupy the boom operator's forward position. In all cases, the PIC has final determination on who occupies the boom operator's forward position. Crewmembers occupying the boom operator's forward position are responsible for duties associated with that position IAW T.O. 1C-10(K)A-1.

5.2.2. The Boom Operator will be seated in the boom operator's forward seat while conducting receiver AAR to the maximum extent possible. Any exception to this must be approved by the PIC.

5.3. Flight Station Entry. PICs may authorize passengers and observers access to the flight station during all phases of flight; the total number of persons permitted is limited to the number of seats with operable seat belts and oxygen. Passengers and observers will not be permitted access to either pilot or flight engineer positions.

5.4. Takeoff and Landing Policy. An aircraft commander, or above, will occupy either the left or the right seat during all takeoffs and landings. The designated PIC (A-code) is not required to occupy a primary position, but still retains overall authority for conduct of the mission.

5.4.1. An AC or IP will make all landings during:

5.4.1.1. Aircraft emergencies, unless conditions prevent compliance.

5.4.2. Not Used.

5.4.3. Unless the other pilot in the seat is a certified AC or higher, pilots in command (PIC) with less than 100 primary assigned aircraft (PAA) hours since AC certification will make all takeoffs and landings under any of the following conditions:

5.4.3.1. Ceiling/visibility less than 300 feet and/or RVR 40 (3/4 SM visibility).

5.4.3.2. RCR less than 12.

5.4.3.3. Crosswind component greater than 15 knots.

5.5. Landing Gear and Flap Operating Policy. The pilot flying (PF) will command configuration changes. The pilot not flying (PNF) will verify appropriate airspeed and configuration prior to echoing the gear or flap actuation command.

5.6. Outside Observer/Jump Seat Duties. Available crewmembers will assist in clearing during taxi operations, receiver AAR, and any time the aircraft is below 10,000 feet MSL.

5.7. Seat Belts.

5.7.1. All occupants will have a designated seat with a seat belt. Crewmembers will have seat belts fastened when occupying a duty position, unless crew duties dictate otherwise.

5.7.2. All crewmembers will have seat belts fastened during takeoff and landing. Fasten shoulder harness unless crew duties dictate otherwise. For tactical/AAR operations, all crewmembers and passengers will have seat belts fastened (unless authorized by the PIC or crew duties dictate otherwise; shoulder harnesses are not required for tanker AAR). Crewmembers performing instructor or flight examiner duties are exempt from seat belt requirements if not occupying a primary crew position; however, they will have a seat available with an operable seat belt.

5.7.2.1. Shoulder harnesses are optional for flight engineers during all phases of flight.

5.7.3. Litter patients, actual or simulated, must remain secured on litters for takeoff and landing.

5.8. Aircraft Lighting. IAW AFI 11-202V3, AFI 11-218, *Aircraft Operations and Movement on the Ground*, and applicable T.O.s.

5.9. Portable Electronic Devices. IAW AFI 11-202V3.

5.9.1. Do not connect unauthorized equipment (laptop computers, video equipment, food preparation equipment, radios/tape players, CD players, etc.) to the aircraft intercom, PA, radio systems, or electrical system. The only electrical outlets authorized for personal use are the outlets located in the aircraft lavatories. They are intended for electrical shavers or other small personal electronic devices. Approved vacuum cleaners are authorized for ground use. ***NOTE:*** Electromagnetic Interference (EMI) approval letters only apply to the common use equipment listed on the letter. EMI approval letter(s) are on the AMC/A3V web site. ***EXCEPTION:*** KC-10 missions are authorized one laptop computer plugged into each aircraft power outlet for charging at any given time. Power strips are not authorized.

5.9.2. Aircrew members shall not use uncertified Government Furnished Equipment (GFE) or personal devices with RF transmit/receive capability on AMC aircraft carrying hazard class 1 explosive cargo at anytime. Prohibited devices include cellular phones, and laptop computers/PDAs with wireless capability enabled (i.e. Bluetooth). Boom operators will ensure passengers comply with this restriction. Aircrew members may use certified GFE such as PFPS laptops and PDAs with infrared transmitters.

5.9.3. The following handheld (HH) GPS units meet the requirements of AFI 11-202V3 and may be used with approved laptop computers in flight: Bendix King KLX100 and Garmin GPS 35-USB.

5.9.3.1. The use of HH GPS for moving map display (MMD) is designed as a situational awareness tool and its use is voluntary.

5.9.4. Turn off Iridium phones:

5.9.4.1. Within 25 feet of ground refueling operations.

5.9.4.2. During take-off, approach, and landing.

5.9.4.3. At the discretion of the PIC, the Iridium phone may be left on during tanker AAR operations. The phone should be removed from the cradle and used with the portable antenna only.

5.10. Tobacco Use on Air Force Aircraft. Tobacco use of any type is prohibited on Air Force aircraft.

5.11. Advisory Calls. The PF will announce intentions for departures, arrivals, approaches, and when circumstances require deviating from normal procedures. The PNF will make all advisory calls except those designated for other crewmembers. Unless otherwise directed, the PNF and FE will acknowledge all mandatory calls. Mandatory calls are as follows:

5.11.1. All mandatory calls as directed by the KC-10 Dash One.

5.11.2. Not Used.

5.11.3. Deviations.

5.11.3.1. Any crewmember will immediately notify the PF when deviation of heading (+/- 10 degrees), airspeed (+/-10 kts), or altitude (+/- 100 feet) is observed, and no attempt is being made to correct the deviation.

5.11.3.2. Any crewmember seeing a potential terrain or obstruction problem will immediately notify the PF.

5.11.4. Advisory calls: Refer to **Table 5.1** through **Table 5.4** for a listing of mandatory advisory calls, responses, and aircrew actions.

Table 5.1. Climb Out Advisory Calls.

Climb out	PNF Call	PF Response
Transition Altitude	"Transition Altitude, 29.92"	"Transition Altitude, 29.92"
1000' below assigned altitude	"Altitude (passing) for Altitude (Assigned)"	"Altitude (passing) for Altitude (Assigned)"

Table 5.2. Descent Advisory Calls.

Descent	PNF Call	PF Response

Transition Level	“Transition Level, (Local altimeter)”	“Transition Level, (Local altimeter)”
1000’ above assigned altitude	“Altitude (passing) for Altitude (Assigned)”	“Altitude (passing) for Altitude (Assigned)”

Table 5.3. Non-Precision Approach Advisory Calls.

Non-precision Approaches (4)	PNF Call	PF Response
100’ above Final Approach Fix (FAF) altitude	“100 above”	
100’ above step down altitude	“100 above”	
100’ above Minimum Descent Altitude (MDA)	“Approaching Minimums”	Acknowledge
At MDA	“Minimums”	
Runway environment in sight	“Runway in sight”	“Landing” or “Going Around”
Missed Approach Point (MAP)	“Missed Approach Point” (3)	“Landing” or “Going Around”

Table 5.4. Precision Approach Advisory Calls.

Precision Approaches (4)	PNF Call	PF Response
100’ above glide slope intercept altitude	“100 above”	
100’ above Decision Height (DH)/ Decision Altitude (DA)	“Approaching Minimums”	Acknowledge
At DH/DA	“Minimums”	(2)
Only Approach Lights in sight (CAT I ILS)	“Approach lights in sight”	“Continuing” (1)
Runway environment in sight	“Runway in Sight”	“Landing” or “Going Around”
Approach Lights and/or Runway environment not in sight	“Go Around”	“Going Around”
At 100’ Above TDZE (CAT I ILS)	“100 Feet” (3)	“Landing” or “Going Around”

NOTES:

(1) With weather at CAT I minimums on a CAT I ILS, the pilot may not see the runway environment at DA; however, the initial portion of the approach lights may be visible. The pilot may continue to 100 HAT with reference to the approach lights only. The pilot may not descend below 100 feet above touchdown zone elevation using the approach lights as reference unless the red terminating bars or the red side row bars are distinctly visible and identifiable.

(2) The PF will announce his/her intentions to either land, continue (CAT I), or go-around. Respond with the intention to land if runway environment is in sight, will remain in sight throughout touchdown and the aircraft is in a position for a safe landing.

(3) If the pilot flying has stated "landing" then this call is not required.

(4) Refer to stabilized approach criteria in paragraph **5.12.**

5.12. Stabilized Approach. Unstable approaches are primary contributors to numerous military and civilian mishaps. Stabilized approaches are essential for the safe operation of aircraft and are mandatory. The following criteria define specific parameters that mitigate risk during this critical phase of flight. This philosophy requires aircrew to take immediate corrective actions to stabilize the approach when outside designated parameters.

5.12.1. The following criteria apply to all approaches:

5.12.1.1. At 1000 feet AGL:

5.12.1.1.1. Aircraft is in approach configuration. Circling configuration is acceptable for circling approaches.

5.12.1.1.2. Airspeed is appropriate for the configuration and conditions.

5.12.1.1.3. Sink rate is no greater than 1000fpm. ***NOTE:*** Under certain conditions (WX, Threats, Terrain, etc.) some IAPs may require greater than a 1000 fpm descent rate.

5.12.1.1.3.1. Non-precision Approaches. Pilots should calculate a constant descent gradient profile from the FAF altitude to the VDP (IAW AFMAN 11-217). This is considered the safest profile and should be used to the max extent possible. During a go-around, ensure descent below the MDA does not occur.

5.12.1.1.4. All briefings and checklists are complete unless contrary to T.O. guidance.

5.12.1.1.5. Aircraft is on the correct track.

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

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

5.12.1.1.8. If these criteria are not met by 1000 feet AGL, the PNF will announce the deviation and the PF will take immediate corrective action. PNF states "1000 xxxx," where "xxxx" equates to a concise description of the unstable characteristic(s) which clearly relay to the PF what actions are required to return the aircraft to a stable

platform. Examples: "1000, fast," or "1000, half dot low". If criteria are met, PNF will simply state "1000."

5.12.1.2. From 500 AGL to the runway, if these parameters are exceeded the PM will announce "Go-Around" and the PF will execute a go-around/missed approach. If criteria for stable approach are met, the PM will state "500."

5.12.1.2.1. Parameters are the same as those at 1000 feet AGL.

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

5.12.1.3.1. Airspeed: +10/-5 kts from target

5.12.1.3.2. Bank Angle: +/- 15 degrees from target

5.12.1.3.3. Rate of Descent: +/- 300 FPM from target

5.12.2. Descent Planning and Energy Management. Aircrews will ensure the aircraft is following the planned descent profile. All non-tactical descents should follow a normal descent profile IAW AFMAN 11-217 procedures and techniques in the absence of ATC or FLIP guidance. All tactical descents should follow published tactical procedures/profiles. When unforeseen interruptions alter the planned descent, immediately correct any deviations. It may be necessary to hold, request vectors, or take alternate actions in order to comply with the planned descent profile.

5.12.3. Visual Transition. It is imperative for aircrews to review the airfield environment. Identify key features such as approach light type, airfield lighting, geographic layout/configuration of runways, taxiways, ramps, etc. To the max extent possible, this study will take place during the crew mission briefing and reviewed again prior to descent.

5.12.4. Missed Approach/Go-Around. Aircrews will conduct a thorough briefing for anticipated missed approach/go-around scenarios. This briefing will include a discussion of specific crewmember duties.

5.12.5. Not Used.

5.12.6. FTUs only. FTUs will train students to ensure they understand and are capable of complying with all aspects of stabilized approach criterion. FTU instructors must use their expertise and experience to deviate from the guidelines of stabilized approach criteria as required during appropriate instructional scenarios.

5.13. Communications Policy. The Air Force does not give a promise of confidentiality to aircrews regarding their recorded aircraft crew communications. Crewmembers are expected to maintain a high degree of cockpit professionalism and crew coordination at all times.

5.13.1. Aircraft Interphone. Primary crewmembers will monitor interphone during critical phases of flight. Crewmembers will advise the PF before checking off interphone. Crewmembers will ensure personnel on headset, or within listening distance, are cleared prior to discussing classified information over interphone.

5.13.2. Command Radios.

5.13.2.1. The PNF normally makes all air traffic control (ATC) radio calls.

5.13.2.2. In terminal areas, all crewmembers (if able) will monitor the command radio unless directed otherwise. A crewmember will be designated to monitor C2 frequencies on the inbound and outbound legs.

5.13.2.3. The pilot operating the radios will notify the crew which radio is primary, and update the crew when the primary radio changes.

5.13.2.4. One pilot should record and read back all ATC clearances; the flight engineer will also record the clearance.

5.13.2.5. Both pilots will monitor UHF and VHF guard emergency frequencies to the maximum extent possible. ***EXCEPTION*:** Only one crewmember is required to monitor guard frequencies during tanker or receiver rendezvous and AAR.

5.13.2.6. The Federal Communications Commission (FCC) prohibits the use of unauthorized frequencies for interplane, HAVE QUICK, or SECURE VOICE training.

5.13.2.7. Aircrews will use navigation charts to identify radio frequency changeover points to minimize the likelihood of prolonged loss of communication (PLOC) with ATC/radio operators.

5.13.2.8. In the event of known or suspected loss of two-way radio capability, aircrews shall change their transponder mode 3/A to 7600. Squawking 7600 highlights the loss of two-way radio capability to ATC/radio operators and minimizes the risk of being intercepted. Past experience shows aircrews often hear transmissions from other aircraft, but not the associated ground ATC exchanges. Therefore, it is recommended that in all cases of suspected loss of contact with ATC, aircrews attempt to use other aircraft to relay messages to ATC controllers.

5.13.2.9. Aircrews experiencing a prolonged loss of contact event will complete a PLOC questionnaire found at: **https://private.amc.af.mil/a3/a3v/docs/publication_537.doc**. E-mail completed questionnaires to **AMC.A3V@scott.af.mil** or fax to DSN (312) 576-5692.

5.14. Crew Resource Management (CRM)/Threat and Error Management.

5.14.1. Threat and Error Management provides strategies and tactics to help crews target threats to safe flight operations and decreases the potential for crew error. External threats are events that occur outside the influence of the flight crew and require crew attention and management to maintain adequate safety margins. Internal threats are crew related and are factors that could lead to an error if not recognized and controlled.

5.14.2. "Time Out" is the common assertive statement for use by all crewmembers. The use of **"Time Out"** will:

5.14.2.1. Provide a clear warning sign of a deviation or loss of situational awareness.

5.14.2.2. Provide an opportunity to break the error chain before a mishap occurs.

5.14.2.3. Notify all crewmembers when someone sees the aircraft or crew departing from established guidelines, the briefed scenario, or that someone is simply uncomfortable with the developing conditions.

5.14.2.4. As soon as possible after a **"Time Out"** has been called, the aircrew will take the following actions:

5.14.2.5. Safety permitting, stabilize the aircraft and ensure terrain clearance.

5.14.2.6. The initiating crewmember will voice their concerns to the crew.

5.14.2.7. The PIC will provide all other crewmembers with the opportunity to voice inputs relative to the stated concerns.

5.14.2.8. After considering all inputs, the PIC will direct the aircrew to continue the current course of action or direct a new course of action.

5.14.3. Sterile Cockpit. With the exception of cruise flight, conversation below 18,000' MSL will be limited to mission, departure, or approach essential items. Every effort will be made to accomplish briefings and appropriate checklists prior to top of descent (TOD). Sterile cockpit procedures also apply during taxi, and air refueling operations.

5.14.4. Heads-up/Heads-down. Any crewmember that observes both pilots heads-down at the same time (other than heads-down instrument flying) shall alert the PF without delay.

5.14.5. CRM Enhancement. PICs will conduct a CRM exercise on the first suitable segment of each mission. This will be done at level off on a non interference basis with other mission requirements. Take the exercise to a logical conclusion and ensure crew communications and duties are appropriate. Suggested topics are rapid decompression, oceanic contingency operation, emergency divert or other MAJCOM or locally generated Special Interest Item (SII).

5.14.6. Critical Action Coordination. Those actions that are flight critical/irreversible in nature and should always be confirmed by two crew members. These actions include, but are not limited to, placing fuel levers off, pulling the engine fire handle/discharging agent, and dumping fuel. Both crewmembers must verbally and visually identify the affected control, (i.e. "CONFIRM NUMBER ONE"). The crewmember performing the action will point to the affected control. The crewmember monitoring the action will verbally and visually confirm the proper control is selected, (i.e. "NUMBER ONE CONFIRMED"). The crewmember performing the action then actuates the affected control.

5.15. Use of Automation.

5.15.1. General Automation Procedures. There must be a clear understanding of the Pilot Flying (PF) and the Pilot Not Flying (PNF) duties at all times. Aircrews are expected to fly the aircraft using the highest level of automation, balanced with the requirement to maintain basic flying skills. However, pilots are authorized to choose an appropriate level of automation consistent with changing flight environments. If the use of automation creates a loss of situational awareness or results in task saturation, shift to a less demanding level or disconnect the automation entirely and re-establish desired aircraft path and control. Both pilots are responsible for ensuring the aircraft is following the desired flight path.

5.15.2. Verbalize, Verify, and Monitor (VVM) is a closed-loop system of communication designed to significantly reduce typical automation selection errors between the PF and PNF. VVM consists of the following three step process:

5.15.2.1. Prior to making any changes in the CDU, altitude, autopilot on/off, and auto throttle on/off the pilot making the entries will VERBALIZE the intended changes.

5.15.2.2. Both pilots will VERIFY the intended changes prior to execution

5.15.2.3. Both pilots will MONITOR the aircraft to ensure the expected performance is achieved.

5.15.2.4. The PF will announce changes to the level of automation, flight director and autopilot mode selections, and mode transitions to the maximum extent possible (e.g. "Autopilot engaged ","Altitude Hold", "Autothrottles", "Nav-Capture", etc.). The PNF will acknowledge the call.

5.16. Transportation of Pets. Transporting pets (dogs and cats) in conjunction with the sponsor's permanent change of station is authorized. Other pets or animals are normally prohibited, but may be moved according to DoD 4515.13R.

5.17. Alcoholic Beverages. The MAJCOM/A3/DO or NAF/CC may authorize the dispensing of alcoholic beverages.

5.18. Runway, Taxiway, and Airfield Requirements.

5.18.1. Minimum Runway and Taxiway Requirements. Minimum runway length is 7,000 feet. Minimum runway width is 147 feet. Minimum taxiway width is 75 feet.

5.18.2. Runway Length for Takeoff and Landing. Do not takeoff if computed critical field length exceeds runway available. Minimum runway for a normal landing is landing distance based on a threshold crossing height of 50 feet.

5.18.2.1. Runway Length for Takeoff and Intersection Takeoffs. Normally, the PF will initiate takeoffs from the beginning of the approved usable portion of the runway. The decision to make intersection takeoffs rests solely with the PIC.

5.18.2.2. Pilots may accomplish intersection takeoffs provided the operating environment (i.e., gross weight, obstructions, climb criteria, weather, etc.) allows a safe takeoff and departure. Calculate takeoff performance based on the runway remaining from the point at which the takeoff is initiated. In no case will a takeoff be made from a position where less than 7000 feet of runway length is available.

5.18.2.3. During operations on runways partially covered with snow or ice, base takeoff computations on the reported runway surface condition (RSC) or RCR for the cleared portion of the runway. A minimum of 50 feet either side of centerline should be cleared. If 50 feet either side of centerline is not cleared, compute takeoff data based on the uncleared portion up to 50 feet either side of centerline.

5.18.2.4. Use of Overruns. If approach end overruns are available and stressed or authorized for normal operations, they may be used to increase the runway available for takeoff. Departure end overruns (if stressed and authorized) may also be used for landing if needed.

5.18.3. Arresting Cables.

5.18.3.1. Do not land on (touchdown on) approach end arresting cables (does not include recessed cables). If the aircraft lands before the cable, the crew should contact the tower to have the cable inspected.

5.18.3.2. Do not takeoff or land over an approach end cable that has been reported as slack, loose, or improperly rigged by NOTAM, automated terminal information service (ATIS), or ATC.

5.18.3.3. Operations are authorized on runways where BAK-12 systems with an eight-point cable tie-down system are installed. When operating from runways equipped with other types of systems, or if it is unknown whether the BAK-12 system includes eight point tiedowns, aircrews should recognize the increased risk of damage to the aircraft.

5.18.4. Other Airfield Requirements.

5.18.4.1. Consult with HQ AMC/A3AS (Airfield Suitability Branch) for suitability guidance. Airfield certification requirements are detailed in the ASRR.

5.18.4.2. Aircrews and planning agencies will contact HQ AMC/A3AS for all questions pertaining to airfield weight bearing capacity and will review the GDSS/GDSS2/ASRR before all off-station operations. HQ AMC/A3 is the waiver authority for the restrictions in GDSS/GDSS2 Giant Report and ASRR for AMC and AMC-gained aircraft, unless specifically delegated in AFI 11-2MDS Vol 3 or AMCI 11-208. Direct GDSS/GDSS2 Giant Report and ASRR waiver requests to HQ AMC/A3AS. HQ AMC/A3V is the OPR for waivers to airfield restrictions. MAJCOM/A3/DO is the waiver authority for non-AMC missions. The PIC is responsible for waiver compliance. Crews that have access to the World Wide Web will review airfield suitability in the airfield data base via the HQ AMC Aircrew Portal. Consult the ASRR for airfield certification requirements.

5.18.5. RCR Limitations. When no RCR is available, the PIC will refer to the flight manual for standard ICAO conversions based on general runway condition; be conservative when dealing with unknown conditions (e.g., forward operating bases (FOBs)). Normally, RCR values are not reported for taxiways and ramps. During periods of reported low RCR, the taxiways and ramps may have an even lower RCR than reported for the runway. The runway surface should be considered wet when water on the runway causes a reflective glare.

5.19. Aircraft Taxi and Taxi Obstruction Clearance Criteria and Foreign Object Damage (FOD) Avoidance.

5.19.1. Do not taxi an aircraft within 25 feet of obstructions without wing walkers monitoring the clearance between aircraft and obstruction. With wing walkers, avoid taxi obstructions by at least 10 feet. ***EXCEPTION:*** IAW AFI 11-218, *Aircraft Operations and Movement on the Ground*, aircraft may taxi without marshalers/wing walkers at home station along fixed taxi lines which have been measured to ensure a minimum of 10 feet clearance from any obstruction and the obstruction is permanent. Adjacent aircraft are also considered a permanent obstruction, provided the aircraft is parked properly in its designated spot and is not moving. Aerospace Ground Equipment (AGE) and vehicles are considered a permanent obstruction, provided it is parked entirely within a designated area. Areas will be designated by permanent markings such as painted boxes or lines on the ramp or another suitable means.

5.19.2. When taxi clearance is doubtful, use one or more wing walkers. If wing walkers are unavailable, deplane one or more crewmembers to maintain obstruction clearance and provide marshaling using AFI 11-218 signals. Use wing walkers, deplaned crewmembers, or a crewmember on interphone positioned at the cabin door(s) to act as an observer while maneuvering on narrow taxiways. During night taxi operations, marshalers will have an illuminated wand in each hand. Wing walkers are only required to have one illuminated wand. Observers should be in a position to see wing walkers at all times (through door or windows) and communicate with the pilot.

5.19.3. FOD Avoidance. Make every effort to minimize the potential for engine FOD. Crews should:

5.19.3.1. Carefully review airfield layout paying particular attention to taxi routes, turn requirements, and areas for potential FOD.

5.19.3.2. Minimize power settings during all taxi operations.

5.19.3.3. Where possible, avoid 180° turns. If it becomes necessary to accomplish a 180° turn on a narrow runway, the turn should be accomplished at an intersection of a link taxiway or at a designated turn around pad.

5.19.3.4. Where possible, avoid taxi operations that position an engine over an unprepared or un-swept surface. If unavoidable, leave the engine in idle (to the maximum extent possible) until the engine is over an improved surface.

5.20. Fuel Jettison Procedures.

5.20.1. Aircrews should consider burning down fuel versus jettison, unless safety of flight dictates an immediate jettison (as determined by the pilot in command). Except in the case of an emergency, before jettisoning fuel, notify the appropriate ATC or flight service facility of intentions, altitude, and location. If available, the PIC will use designated jettison areas, except when safety of flight would be compromised.

5.20.2. For missions tasked by higher headquarters authority, the tasking C2 agency may authorize fuel jettison when an urgent operational requirement dictates immediate recovery/reconstitution of the aircraft and/or aircrew. The tasking C2 agency may provide fuel jettison instructions in the OPORD, mission directive, SPINS, etc.

5.20.3. For training missions, the OG/CC may approve fuel jettison when an urgent operational requirement exists to expedite recovery of the aircraft and all alternatives have been exhausted.

5.20.4. OG/CCs will establish jettison areas and procedures to minimize the impact of fuel jettisoning. Ideally, establish jettison areas at altitudes above 20,000 feet above ground level, off published airways, avoiding urban areas, agricultural regions, and water supply sources. Avoid circling descents. Initiate AF IMT 813, *Request for Environmental Impact Analysis*, and submit it to the base environmental coordinator.

5.20.5. All jettisons will be followed up with a detailed report filed by the pilot in command immediately after landing using a MAJCOM approved form for unusual occurrence or inflight emergency. Submit completed form through unit Operations Group Stan Eval (OGV) to MAJCOM/Stan Eval. Unit OGVs will retain forms for 6 months. Document all pertinent information, including the following items:

5.20.5.1. Scheduled Duration.

5.20.5.2. Actual Duration.

5.20.5.3. Landing Gross Weight.

5.20.5.4. Computed Stopping Distance.

5.20.5.5. Recovery Field.

5.20.5.6. Runway Available.

5.20.5.7. Jettison Altitude/Location.

5.20.5.8. Outside air temperature.

5.20.5.9. Wind direction and velocity.

5.20.5.10. Jettison Amount.

5.20.5.11. Reason for Jettison.

5.20.5.12. Approval Authority.

5.21. Aircraft Speed. IAW AFI 11-202V3. Exceptions. In accordance with applicable tech orders, aircraft may exceed 250 KIAS or in-flight minimum maneuver speed below 10,000 feet to safely accomplish formation departure rejoins. Once rejoined, all formation members may exceed 250 KIAS below 10,000 feet only to accommodate the minimum maneuver speed of the heaviest formation member.

5.22. Bird/Wildlife Aircraft Strike Hazard (BASH) Programs. BASH programs are centralized unit efforts that provide information cross-feed, hazard identification, and a consolidated course of action. As a minimum, unit commanders must implement the following procedures:

5.22.1. Ensure compliance with the following Bird Watch condition restrictions.

5.22.1.1. Bird Watch Condition Low - No operating restrictions.

5.22.1.2. Bird Watch Condition Moderate - Initial takeoffs and final landings allowed only when departure and arrival routes will avoid bird activity. Local IFR/VFR traffic pattern activity is prohibited.

5.22.1.3. Bird Watch Condition Severe - All takeoffs and landings are prohibited. Waiver authority is local OG/CC or equivalent. Parent MAJCOM/A3/DO waiver is required to operate at airfields not controlled by the MAF.

5.22.2. Commanders establish Phase II of the BASH program during increased periods of migratory bird activity. Schedulers shall make every effort to not schedule takeoffs, landings, and low-levels from one hour before to one hour after sunrise and sunset during the Phase II period. Publish significant bird hazards in FLIP Area Planning (AP) and the IFR Supplement along with the associated airfield operating hour restrictions and avoidance instructions.

5.22.3. When operating at airfields where no BASH program exists, a PIC has the authority to delay takeoffs and arrivals due to bird condition after coordinating with the appropriate C2 authority.

5.22.4. Consider bird migratory patterns during the en route portion of the mission to help minimize the potential of an in-flight bird strike. The Bird Avoidance Model (BAM) on HQ AFSC/SEF website contains BASH information including regionalized Continental United States (CONUS) bird migration patterns, Portable Flight Planning System (PFPS) software overlay, and the latest news. The Avian Hazard Advisory system (AHAS) website is another source for real time bird hazard information. Both sites may be accessed through the AMC aircrew mission planning portal. See AFPAM 91-212, *Bird Aircraft Strike Hazard (BASH) Management Techniques*, for additional information.

5.22.5. Following a bird strike, aircrews should land as soon as conditions permit, or as practicable, to have the aircraft inspected by qualified maintenance personnel. Bird strike damage cannot be accurately assessed in-flight, and undetected damage may result in a complex airborne emergency; only qualified maintenance personnel, on the ground, can make reliable damage assessments.

5.23. Functional Check Flights (FCFs), Acceptance Check Flights (ACFs) and Operational Check Flights (OCFs). FCFs and ACFs will be accomplished IAW AFI 21-101, *Aircraft and Equipment Maintenance Management*, T.O. 1-1-300, *Functional Check Flights and Maintenance Operational Checks*, and T.O. 1C-10(K)A-6CF-1, *Acceptance and/or Functional Check Procedures Manual.* Crews should only perform tasks or functions contained in specific technical order guidance. If requested to perform a non-standard function, PICs should contact their OG/CC to see if an FCF applies.

5.23.1. FCF Restrictions. See T.O. 1-1-300 and AFI 21-101.

5.23.2. The OG/CC, or deployed equivalent, may authorize temporary waivers to FCF procedures for aircrew qualification when operationally necessary. Permanent waivers require MAJCOM/A3/DO approval IAW Chapter 1.

5.23.3. The OG/CC is responsible for the wing FCF program. Publish additional guidance in local supplement to this instruction. The OG/CC may authorize a partial FCF to check only those systems disturbed by maintenance, an inspection or modification.

5.23.4. Conduct check flights within the designated check flight airspace of the base from which the flight was launched except when the flight must be conducted under specific conditions, not compatible with local conditions and area restrictions.

5.23.5. The decision to approve a combined FCF and ferry flight is the responsibility of the MAJCOM/A3/DO.

5.23.6. The OG/CC will only certify highly experienced instructors as FCF crewmembers. The OG/CC will determine FCF crew complement after a thorough ORM assessment for that specific FCF flight.

5.23.7. Ideally, conduct FCFs in daylight, VMC. OG/CCs may authorize a flight under a combination of VMC and IMC. Begin the flight in VMC. If the aircraft and all systems are operating properly, the crew may proceed IFR through cloud cover to “VFR on Top” for the altitude phase of the flight.

5.23.8. If a malfunction occurs during a FCF, the MXG/CC may subsequently release the aircraft for flight providing the malfunction is not related to the condition generating the FCF, and the original condition operationally checked good.

5.24. Participation in Aerial Events. See AFI 11-209, *Air Force Participation in Aerial Events*, and the appropriate MAJCOM supplement.

5.25. Traffic Alerting and Collision Avoidance System (TCAS). It is imperative to follow resolution advisories (RAs) to obtain aircraft separation computed by TCAS. Failure to follow the computed RA may increase the probability of a midair collision. Pilots who deviate from an ATC clearance in response to an RA shall notify ATC of the deviation as soon as practical and promptly return to the ATC clearance when the traffic conflict is resolved or obtain a new clearance.

5.26. Not Used.

5.27. Not Used.

5.28. Not Used.

5.29. Aircraft Recovery from Unprepared Surfaces. Aircrews should not attempt to recover an aircraft after inadvertent entry onto unprepared surfaces not suitable for taxi; ground crews will accomplish aircraft recovery. Unless an emergency dictates otherwise, aircrews may only accomplish recovery if there is no aircraft damage, the surface will support the aircraft, and the PIC has coordinated with appropriate MAJCOM headquarters maintenance authorities through 618 AOC (TACC), or appropriate C2 agency.

5.30. Not Used.

5.31. Not Used.

5.32. Aircrew Fatigue. It is the crewmember's responsibility to be properly rested for each mission. However, if circumstances prevent this, no MAF/AMC crewmember should feel pressured to fly when not properly rested. A crewmember who is fatigued should immediately notify the Stage Manager, AOC (TACC), Home Station, or appropriate Command and Control if unable to start or complete a mission safely. Declaring "Safety of Flight" may be required in this situation.

5.33. Aviation Safety Action Program (ASAP). The Military Aviation Safety Action Program is an anonymous, self-reporting system modeled after successful FAA/Airline programs to encourage the voluntary reporting Operational issues and events. It is designed to provide a non-punitive environment for the open reporting of safety concerns and information that might be critical to identifying hazardous situations and precursors to accidents. These safety concerns may be either observed or experienced by the submitter. The goal is to prevent mishaps by addressing those unintentional errors, hazardous situations and events, or high-risk activities not identified and/or correctable by other methods or through traditional safety reporting sources.

5.33.1. The AMC ASAP website is accessible at **www.safety-masap.com**. Username and Password can be obtained from the crewmember's Wing/Group Safety office. Crewmembers can contact the AMC ASAP program manager via email at **amc.asap@scott.af.mil.**

5.34. Air Driven Generator (ADG) Checks. Aircrew will not conduct in-flight checks of the KC-10 ADG. If at any time, the aircraft requires a check of the ADG, the crew will coordinate a ground check with the appropriate agency. This does not preclude the use of the ADG in an emergency situation.

5.35. Terminal Area RNAV Procedures. Properly trained KC-10 aircrews are authorized to perform IFR RNAV operations to include instrument departures, arrivals, and approaches using LNAV minima. ***RESTRICTION:*** The KC-10 is NOT authorized to fly any RNAV procedures requiring RNAV 1 or RNAV 2 tolerances (e.g. RNAV SIDs and STARS, Q routes, T routes, etc).

5.35.1. For departure and arrival procedures based on traditional ground-based NAVAIDs in the NAS and constructed by a US government TERPs authority (USAF/FAA/USN), FMS NAV mode may be used as the sole source for navigation with the following restrictions:

5.35.1.1. All terminal RNAV procedures must be retrieved from the navigation database.

5.35.1.2. RNAV procedures will not be flown with an expired database.

5.35.1.3. Pilots will tune, identify, monitor and display the appropriate ground-based NAVAIDs whenever practicable.

Chapter 6

AIRCREW PROCEDURES

Section 6A—Pre-Mission

6.1. Aircrew Uniform.

6.1.1. Aircrew will wear the aircrew uniform, as outlined in AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*, and the appropriate MAJCOM supplement, on all missions, unless otherwise authorized. When the Foreign Clearance Guide (FCG) requires civilian attire, dress conservatively.

6.1.2. OG/CCs will determine clothing and equipment to be worn or carried aboard all flights commensurate with mission, climate, and terrain involved.

6.1.2.1. See AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program*, Attachment 1 for minimum aircrew clothing requirements. All crewmembers will have Nomex gloves in their possession.

6.1.2.2. Crewmembers will remove rings and scarves before performing aircrew duties.

6.1.3. Personnel will have the appropriate items of clothing in their possession when flying in Arctic and Antarctic regions. ***EXCEPTION*:** Not applicable to transoceanic flights or when staging or transiting Elmendorf AFB AK.

6.2. Personal Requirements.

6.2.1. Refer to current Unit Deployment Manager guidance for applicable deployment requirements.

6.2.2. Passport. Crewmembers will carry a valid passport on all missions outside the CONUS. ***EXCEPTION:*** Unit commanders may authorize newly assigned personnel who have applied for, but not yet received, a passport to act as crewmembers on missions not scheduled to transit locations where passports are required.

6.2.3. Shot Record. Crewmembers must maintain worldwide shot requirements.

6.2.4. Driver's License. A valid state driver's license is required on each TDY where use of US government general purpose vehicles may be required. Crewmembers will contact the local airfield manager before driving on the flight line.

6.2.5. Identification Tags. Crewmembers will carry two identification tags on all flights.

6.2.6. FOD Hazards. Crewmembers will not wear wigs, hairpieces, rings, ornaments, or earrings in the aircraft or on the flight line. ***EXCEPTION:*** Crewmembers may wear plain elastic hair fasteners and/or pins, clips, or barrettes providing they do not interfere with the wearing of headsets, or the donning of oxygen equipment. They will be accounted for before and after flight.

6.2.7. Not Used

6.2.8. Flashlights. Each crewmember must carry an operable flashlight for night flights.

6.2.9. A reflective belt or suitable substitute will be worn on flight lines during hours of darkness or periods of reduced visibility.

6.2.10. AF Form 1199, *Air Force Entry Control Card*.

6.3. Pre-Mission Actions.

6.3.1. Before transiting areas outside the CONUS, aircrews will review and obtain theater-specific information necessary to successfully operate there. The review, at a minimum, should include AFI 11-202V3, AFTTP 3-3.KC-10, and the following:

6.3.1.1. Review tasking, itinerary, and altitude reservation (ALTRV) requirements.

6.3.1.2. Review applicable OPORD, SPINS, Virtual Risk Assessment (VRA), Country Risk Assessment (CRA), and FLIP. Obtain and carry this information if required.

6.3.1.3. Review the FCG for areas of operation (to include classified portion). Obtain necessary diplomatic clearances where required.

6.3.2. Obtain required customs forms.

6.3.3. Obtain worldwide FLIPs and sufficient communications security (COMSEC) materials for the duration of the mission.

6.3.4. Ensure physiological training, annual physical, immunizations, and flight evaluations will remain current for all crewmembers throughout the TDY period.

6.3.5. Ensure visas have been received, if required.

6.3.6. Obtain terrain charts for unfamiliar destinations if available.

6.3.7. Compile sufficient spare forms, flight orders, etc. to cover the TDY period.

6.3.8. Passenger Restrictions. Release space available seats to the maximum extent possible unless overriding safety, legal or security concerns prohibit space available travelers from flying on specific missions. The only passengers on missions transporting DVs will be those of the official party and those space available passengers authorized by the lead POC for the traveling party. Authorization must be approved 24 hours in advance.

6.3.8.1. Space Available Passengers. For other than revenue and White House missions, PICs are authorized to release space available seats on mission legs when no official passengers are aboard (positioning and de-positioning legs). Coordinate with C2 agency to release available seats to the passenger terminal. PICs are encouraged to release maximum space available seats subject to the following restrictions:

6.3.8.1.1. Revenue Missions. These are missions for which the using agency (typically a government agency other than DoD) is reimbursing DoD for use of the aircraft. Space available passengers on revenue missions must be approved 24 hours in advance by USAF/ CVAM, theater AMD or JOSAC (as appropriate) and the using agency contact officer through unit C2 agencies. This is essential to ensure proper funding and reimbursement. Consult C2 to determine mission revenue status if in doubt. Congressional Delegations (CODEL) are not revenue missions.

6.3.8.1.2. White House Support Missions. Space available passengers will generally not be permitted aboard White House support mission aircraft without express

permission of HQ USAF/CVAM. This is normally due to the security status of the aircraft, which may include positioning and de-positioning legs. When it is necessary to move aircrew members or support personnel on White House support mission aircraft, the WHMO will be advised and permission obtained through the unit C2 and CVAM. On de-positioning legs space available passengers will usually be permitted if the aircraft is no longer required to maintain an upgraded security status.

6.3.8.1.3. Billing. Space available passengers on revenue missions may be subject to being billed commercial first-class airfare by the using agency for the applicable route, depending on that agency's policy. If the DV or on-board contact officer releases seats, aircraft commander must ensure that any additional financial liability for the passengers is specified by the using agency on-board contact officer. PIC will ensure passengers understand and agree to any reimbursement conditions prior to boarding.

6.3.9. Ensure the correct aircraft navigation database is loaded or will be carried, as appropriate.

6.4. Aircrew Publications Requirements. Primary crewmembers will carry (or have in-flight access to) the publications specified in **Table 6.1** on all missions. Units may specify additional publications in their local unit supplement. Reference AFI 11-215, *USAF Flight Manuals Program*, for guidance on electronic publications. Only one crewmember per crew position is required to carry the publications listed in **Table 6.1** (i.e. two flight engineers or boom operators, or more than one AC/IP/EP) each will carry a checklist but otherwise only one set of publications is required. Two engine ferry crewmembers will carry publications indicated by "$". "E" = Electronic Publications, "P" = Paper Publications.

Table 6.1. Aircrew Publications.

PUBLICATION	AC	P	FE	BO
TO 1C-10(K)A-1, Flight Manual	E	E	P	
TO 1C-10(K)A-1-1, Performance Manual	E	E	P	
TO 1C-10(K)A-1-2, Minimum Equipment List (MEL) (maintained on aircraft)				
TO 1C-10(K)A-1-4, Two-Engine Ferry			"$"	
TO 1C-10(K)A-1CL-1, Pilot and Flight Engineer Emergency Checklist	P	P	P	
TO 1C-10(K)A-1CL-2, Pilot and Flight Engineer Normal Checklist	P	P	P	
TO 1C-10(K)A-1CL-3, Boom Emergency Checklist				P
TO 1C-10(K)A-1CL-3-1, Boom Normal Procedures Checklist				P
TO 1C-10(K)A-1CL-5, Pilot and FE Air Refueling Procedures	P	P	P	
TO 1C-10(K)A-1CL-5-1, Boom Operator's Air Refueling Proc				P

ATP-56(B) Air to Air Refueling Preliminaries – USA	E			
ATP-56(B) Air to Air Refueling Preliminaries – Part 5	E			
ATP-56(B) Air to Air Refueling Part 1 – General Procedures	E			
ATP-56(B) Air to Air Refueling Part 2 – National Procedures	E			
ATP-56(B) Air to Air Refueling Annex Z	E			
ATP-56(B) Air to Air Refueling Annex ZA	E			
ATP-56(B) Air to Air Refueling Annex ZB	E			
ATP-56(B) Air to Air Refueling Annex ZE	E			E
ATP-56(B) Air to Air Refueling Annex ZF	E			
TO 1C-10(K)A-5, Weight and Balance Handbook (maintained on aircraft)				
TO 1C-10(K)A-9, Cargo Loading Manual				P
TO 1C-10(K)A-9CL-1, Cargo Loading Checklist				P
AFI 11-202, Volume 3, General Flight Rules	E			
AFI 11-2KC-10, Volume 3, KC-10 Operations Procedures	E			

6.5. Airfield Review. Aircrews will consult the web-based airfield database maintained by HQ AMC/A3AS (Airfield Suitability Branch) and comply with the GDSS/GDSS2/ASRR for updates to airfield operability and weight bearing capability. Refer to AFI 11-202V3 Chapter 8 for non-DoD published approach criteria.

6.6. Aircrew Intelligence Briefing. Aircrews will receive an intelligence briefing that will emphasize terrorist, enemy, and friendly political and military development in the area in which they will be flying. Obtain timely intelligence updates prior to entering a specific area of operations (AOR). In theater, aircrews should receive intelligence updates on initial arrival at a forward operating location (FOL), or en route stop, and thereafter when significant developments occur. Report information of possible intelligence value to the local intelligence office as soon as practical to ensure timely dissemination of mission reports (MISREPs).

Section 6B—Predeparture

6.7. Global Decision Scheduling System 2 (GDSS2) Account. Pilots will obtain a GDSS2 account prior to operating on IFM-planned sorties. Download aircrew departure papers using the GDSS2 account at locations without an AMC C2 presence. For operational missions, ensure GDSS2 account passwords are active prior to departing home station.

6.8. Flight Crew Information File (FCIF).

6.8.1. Crewmembers will review FCIF, Volume 1, before all missions or ground aircrew duties, and update the FCIF currency record with the latest FCIF item number, date, and crewmember's initials.

6.8.1.1. Electronic signatures, or PEX Sign-Off, may be used on FCIFs.

6.8.2. Crewmembers delinquent in FCIF review or joining a mission en route will receive an FCIF update from a primary aircrew member counterpart on the mission.

6.8.3. Crewmembers not assigned or attached to the unit operating a mission will certify FCIF review by entering the last FCIF number and their initials behind their name on the file copy of the flight authorization or file copy of their crew orders. This applies to all crewmembers if the electronic sign-in system is not working at show time.

6.9. Flight Crew Bulletins (FCB). Items in the FCB may include local procedures and policies concerning equipment and personnel generally not found in any other publications.

6.10. Mission Kits. Carry mission kits on all operational missions. Publications and forms may be maintained and carried electronically provided operable in-flight viewing/printing capability exists. Suggested items include: ***NOTE:*** * Indicates mandatory for all AOC (TACC) or AMC missions away from home station and as directed by C2 authority.

6.10.1. Publications:

6.10.1.1. *AFI 11-401, *Aviation Management*.

6.10.1.2. *DESC-I-31, *Purchase of Aviation Fuel and Services at Commercial Locations.*

6.10.1.3. *AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments.*

6.10.1.4. *AMCI 11-208, *Tanker/Airlift Operations*.

6.10.1.5. *Airfield Suitability and Restrictions Report (ASRR).

6.10.1.6. *AMC Aircrew Border Clearance Guide.

6.10.1.7. *AMC Handbook 11-214, *AMC Aircrew Hazardous Materials Handbook.*

6.10.1.8. *Flight Crew Bulletin (FCB).

6.10.1.9. AFI 11-289, *Phoenix Banner, Silver, Copper Operations.*

6.10.1.10. *AMCI 24-101 V11, *Transportation, Cargo and Mail Policy*

6.10.1.11. *AMCI 90-903, *Aviation Operational Risk Management*

6.10.2. Forms:

6.10.2.1. DD Form 1351-2, *Travel Voucher or Subvoucher*.

6.10.2.2. DD Form 1351-2C, *Travel Voucher or Subvoucher (Continuation Sheet)*.

6.10.2.3. *CBP Form 6059B, *US Customs and Border Protection Declaration Form*.

6.10.2.4. Not Used.

6.10.2.5. *DD2131, *Cargo/Passenger Manifest*.

6.10.2.6. *CBP Form 7507, *General Declaration (Outward/Inward).*

6.10.2.7. Not Used.

6.10.2.8. Not Used.

6.10.2.9. AF IMT 457, *USAF Hazard Report*..

6.10.2.10. *AF IMT 651, *Hazardous Air Traffic Report (HATR)*.

6.10.2.11. *AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*

6.10.2.12. *AF IMT 1297, *Temporary Issue Receipt*.

6.10.2.13. *AF IMT 3578, *Tanker Activity Report* (TKACT).

6.10.2.14. AF Form 3211, *Customer Comments*.

6.10.2.15. Not Used.

6.10.2.16. Not Used.

6.10.2.17. AMC Form 43, *AMC Transient Aircrew Comments.*

6.10.2.18. AMC Form 54, *Aircraft Commander's Report on Services/Facilities.*

6.10.2.19. *AF IMT 4091, *KC-10 Flight Engineer Worksheet.*

6.10.2.20. AF IMT 711B, *USAF Mishap Report.*

6.10.2.21. *AF IMT 4031, *CRM Skills Criteria Training/Evaluation Form.*

6.10.2.22. *AF IMT 4075, *Aircraft Load Data Worksheet*

6.10.2.23. Not Used.

6.10.2.24. Japanese Customs Service Forms.

6.10.2.25. *AMC Form 97, *AMC In-Flight Emergency and Unusual Occurrence Worksheet.*

6.10.2.26. *SF44, *Purchase Order-Invoice-Voucher***.**

6.10.2.27. *AFTO Form 18, *KC-10 Structural Assessment Record.*

6.10.2.28. *DD Form 791, *In-Flight Issue Log.*

6.10.2.29. AF IMT 4069, *Tiedown Equipment Checklist.*

6.10.2.30. *AF IMT 4080, *Load/Sequence Breakdown Worksheet.*

6.10.2.31. *AF Form 4087, *KC-10 CG Graph.*

6.10.2.32. *AF Form 4088, *KC-10 Fuel Vector.*

6.10.2.33. *AF IMT 4089, *KC-10 TOLD Card Worksheet.*

6.10.2.34. *AF IMT 4090, *KC-10 Flight Plan and Fuel Log*.

6.10.2.35. *AF Form 4095, *KC-10A Load Planning Worksheet.*

6.10.2.36. *AF IMT 4130, *KC-10 Restraint Computation Worksheet*.

6.10.2.37. *AMC Operational Risk Management Worksheet

6.10.3. Orders:

6.10.3.1. DD Form 1610, *Request and Authorization for TDY Travel of DoD Personnel*.

6.10.3.2. AF Form 1631, *NATO Travel Orders* (when required).

6.10.3.3. *AF IMT 4327a, *Crew Flight (FA) Authorization* (or MAJCOM prescribed according to AFI 11-401, *Flight Management)*.

6.10.4. Miscellaneous:

6.10.4.1. *Box car seals.

6.10.4.2. *Masking tape.

6.11. Route Navigation Kits.

6.11.1. A route navigation kit is issued at home station and remains with the aircraft until return. Kits contain sufficient quantities of material to cover the planned mission and global operations as required.

6.11.2. The minimum contents of route navigation kits are in **Table 6.2**.

6.11.3. On local unit training sorties, local area navigation kits may be used in lieu of route navigation kits in **Table 6.2**. Contents of these kits will be determined by the unit.

Table 6.2. Route Navigation Kit Contents.

ITEM (APPLICABLE TO AREA OF OPERATION (AOR))	NUMBER
FLIP GP Planning (sections GP, AP/1, AP/1A, AP/1B, AP/2, AP/2A, AP/3, AP/3A, AP/4)	1
FLIP Enroute Supplements (US IFR, US VFR, CSA, ENAME, EEA, Africa, PAA)	1
FLIP Flight Information Handbook	1
FLIP En route (high and low)	1
FLIP Terminal Instrument Procedures (High and Low)	3
Standard Terminal Arrival Routes (STAR)	3
Topographical and Sectional Charts for AOR (GNC/OPC/TPC/JNC)	as required
DoD Area Arrival Charts	(1) if available

6.12. Briefing Requirements.

6.12.1. Pre-Departure Briefing Items. The PIC will contact the local C2 agency to confirm mission requirements. The PIC and controlling agency jointly share responsibility to identify special briefing requirements. Briefings may include buffer zone, electronic warfare activities, SAFE PASSAGE, Electromagnetic Interference (EMI), diplomatic clearance, hazardous cargo, anti-hijacking procedures, operations and safety supplements to flight manuals, and OPORD procedure.

6.12.2. Pilot in Command Pre-Departure Briefing. Cover all applicable items of the operations briefing, including MAJCOM, NAF, unit special interest items (SIIs), CRM, and ORM levels and mitigating factors. Brief crewmembers on the specific mission details if not previously accomplished. Use a MAJCOM approved briefing guide.

6.12.2.1. Pilot in Command Enroute Briefing. In the en route system, the PIC will ensure that an aircrew briefing is conducted prior to the first sortie of the day. As a minimum, brief crewmembers on specific mission details for that day's sortie(s), CRM, and the ORM level and mitigating factors for the mission. Complete this briefing prior to engine start.

6.12.3. Specialized Briefing. Use specialized briefings to detail operating procedures or SIIs peculiar to various crew positions, and to answer questions relating to those specialties. Specialized briefings review formation tactics and procedures, AR information, and technical instructions for specialized equipment operations. All crewmembers should attend each briefing. Crewmembers may only be excused from specialized briefings for pre-flight duties, however the PIC will back brief all appropriate items. Use a MAJCOM approved specialized briefing guide.

6.12.4. Weather Briefings. The PIC will obtain a briefing on current weather, trends, and forecast for the proposed route, destination, and alternates. The PIC will brief primary crewmembers on appropriate weather conditions before departure.

6.12.4.1. Aircrews flying flight-managed sorties will use the weather briefing provided with the IFM aircrew departure papers. Local weather flights/agencies may update local takeoff weather data, but aircrews, working through their flight manager/dispatcher, will use 618 AOC (TACC) weather operations (or the Operational Weather Squadron (OWS) supporting the theater C2 Agency) as the final arbiter for weather-related issues and further updates.

6.12.4.2. On sorties not planned by a flight manager, crews should obtain weather information from their local weather flight or the OWS responsible for weather support at their location.

6.12.4.3. If adequate services are not available, and the crew cannot contact their home weather flight, OWS, or 618 AOC (TACC) weather operations, obtain weather through any means available prior to mission accomplishment.

6.12.4.4. Weather information is permitted from US Military weather services, any FAA-approved weather source, or any host nation civil or military weather source.

6.12.4.5. Verbal weather briefings are authorized for local flights. Face-to-face briefings are not required.

6.12.5. Buffer Zone. Prior to operating an aircraft within, or adjacent to, an established buffer zone, the PIC will ensure primary crewmembers are briefed on current buffer zone procedures outlined in appropriate directives.

6.12.6. Peacetime and Wartime SAFE PASSAGE Procedures. Pilots must be familiar with peacetime and wartime safe passage of friendly military aircraft.

6.12.7. IFM Briefing. PICs will thoroughly review the aircrew departure papers provided for IFM sorties. The PIC, or designated representative, will contact the flight manager if

there are discrepancies with the departure papers or to resolve any questions before signing the flight plan.

6.12.8. Training/Evaluation Briefing. Before all training/evaluation missions, instructors/flight examiners will brief the crew on requirements and objectives for each student or examinee.

6.13. Call Signs.

6.13.1. Training Missions. Aircraft will use the unit static call sign prefix followed by a 2-digit suffix assigned by the parent unit.

6.13.2. Operational Missions. Use call signs assigned by OPORD, FRAG, or diplomatic clearance. If no call sign has been assigned, use unit static call signs. When flying AMC missions, and no other call sign has been assigned, use the “REACH” call sign followed by the last digit of the year the aircraft was built and the last 3 digits of the aircraft tail number (or as required by diplomatic clearance). To complete flight plans, put the letters "RCH" followed by the last digit of the year the aircraft was built and the last 3 digits of the aircraft tail number.

6.13.3. The Reach 01 and 18 call signs are reserved for the AMC/CC and 18 AF/CC.

6.13.4. Aeromedical Evacuation (AE). For actual AE missions, use the call sign “Evac" followed by the five-digit aircraft number (example, Evac 12345) or mission designator. Refer to FLIP GP Chapter 4. When the AE portion of the mission is completed, normal call signs will be used. This does not alleviate the responsibility to use diplomatically cleared call signs when required.

6.14. Instrument Flight Rules. Conduct flight operations under IFR to the maximum extent possible without unacceptable mission degradation.

6.15. Flight Plan/Data Verification.

6.15.1. Computer Flight Plan (CFP) Use. CFPs are the official sources of performance, navigation, and climatic data, including en route wind information. If stand-alone computer based plans are used, each mission segment should utilize best wind data available. Only current, command validated (HQ AMC/A3VK) computer programs will be used for flights involving KC-10 aircraft.

6.15.1.1. Use CFPs to the maximum extent practical. Flight crews may manually compute flight plans. The PIC has final responsibility for flight plan accuracy and diplomatic clearance compliance.

6.15.1.2. Verify CFPs for route of flight and fuel computation accuracy before departure. Pass any flight plan discrepancies to the C2 flight planning office. On flight-managed sorties, promptly notify the flight manager of any flight plan discrepancies, to ensure the correct route of flight is filed with air traffic control. Identify inaccurate CFP winds to 618 AOC (TACC)/XOCZF if the average wind for a route segment exceeds either 30° error in direction or 25 knots in speed.

6.15.2. All waypoint data retrieved from a database will be verified by one or more of the following methods:

6.15.2.1. Latitude/longitude from current FLIP.

6.15.2.2. Bearing/distance from a flight plan after latitude/longitude are verified for each waypoint.

6.15.2.3. Ground Based NAVAIDs.

6.16. Departure Planning. Use AFI 11-202V3, AFMAN 11-217, this chapter, and the appropriate MAJCOM supplements. Regardless of the type of departure flown (IFR/VFR), review the following (as appropriate): IFR Departure Procedure, instrument approach plate, NOTAMS, GDSS Giant Report, and suitable terrain charts. All performance data will be computed by the flight engineer using T.0. 1C-10(K)A-1-1 or authorized computer software. Data will be checked by the pilot, or another qualified flight engineer, using T.0. 1C-10(K)A-1-1, T.O. 1C-10(K)A-1CL-2 tab data or KC-10A Performance Data Computer (slipstick). E-TOLD will not be verified using the E-TOLD method.

6.16.1. VFR Departures. ***NOTE:*** VFR departures will not be flown in lieu of obstacle clearance planning.

6.16.1.1. VFR departures are authorized when there is no authorized IFR departure procedure for the airport, when the aircraft cannot depart using one of the IFR departure methods contained in AFI 11-202V3 and AFMAN 11-217V1, when operational requirements dictate (i.e. tactical necessity), or when most of the sortie is planned as a VFR flight. VFR departures require detailed planning to ensure obstacles and terrain are avoided.

6.16.1.2. IAW AFI 11-202V3 and AFMAN 11-217V2 crews are specifically authorized to depart VFR without meeting IFR departure procedure restrictions along the planned departure route with one engine inoperative while adhering to the following:

6.16.1.2.1. Utilize radar advisory, monitoring, or control services when practical, and ensure flight following by any available means (i.e. FSS or C2).

6.16.1.2.2. Consider reducing aircraft gross weight and/or delaying the mission until environmental conditions improve.

6.16.1.2.3. Crews must be knowledgeable of and comply with guidance contained in AFMAN 11-217V2.

6.16.1.2.4. Crews are responsible for terrain and obstacle planning/avoidance and must climb to the Minimum IFR Altitude (MIA) as soon as practical.

6.16.1.2.5. Crews will use all available resources to mitigate risk. This includes (but not limited to) supervisors, ORM, aircraft flight manuals, and aircraft commander discretion.

6.16.1.2.6. Operations IAW this authorization are to be used as the last resort when the mission justifies the increased risk.

6.16.1.3. The minimum climb performance for VFR departures is determined by ensuring all the following conditions are met:

6.16.1.3.1. All-engine climb capability ensures obstacle avoidance along the departure route.

6.16.1.3.2. One Engine Inoperative (OEI) climb capability shall ensure departure or emergency return route provides obstacle avoidance. NOTE: If unable to comply with any of the above conditions, download cargo/fuel or delay until conditions can be met.

6.16.1.4. Refer to FLIP for host nation VFR requirements before flying VFR outside of CONUS.

6.16.1.5. When departing VFR, maintain VFR cloud clearances until obtaining an IFR clearance and reaching the IFR MEA.

6.16.2. IFR Departures: Aircrews must use an approved IFR departure method as outlined in AFI 11-202V3 and AFMAN 11-217V1.

6.16.2.1. An IFR departure is not authorized at airfields without an instrument approach.

6.16.2.2. IFR departures require detailed planning to ensure obstacles and high terrain are avoided. Adhere to screen height/departure end of runway (DER) requirements for IFR departure planning (AFMAN 11-217V1). ***NOTE:*** Screen height requirements for departures depend on the agency that wrote the departure and/or the airfield where the departure is being flown. There is no standard or easy way for crews to determine screen height requirements. Therefore, when using departures other than those listed below, or when any doubt exists about which screen height to use, plan to cross the DER at 35 feet (minimum) unless you can ascertain a different screen height requirement from an appropriate authority.

6.16.2.2.1. Special Departure Procedure: Published on SDP.

6.16.2.2.2. USAF/USN produced SID or USAF/USN/USMC airfield: Zero feet or as published.

6.16.2.2.3. US Army, FAA SID, and Joint Use Airfield within the US: 35 feet or as published.

6.16.2.2.4. NATO Countries (except US and Canada) Military Airports: 35 feet or as published.

6.16.2.2.5. All others: 35 feet or as published.

6.16.2.3. Aircraft must meet the published climb gradient for the departure runway with all engines operating. If no minimum climb gradient is published, 200 ft/nm will be used. ***NOTE:*** In the event the aircraft is unable to meet the published ALL ENGINE climb gradient, download cargo/fuel or delay until more favorable conditions exist.

6.16.2.4. Use the following departure planning priority to ensure the aircraft can vertically clear all obstacles along the planned departure route with OEI.

6.16.2.4.1. Special Departure Procedure (SDP). SDPs are MDS-specific OEI escape procedures intended only for emergency use. They are applicable after the loss of an engine and, where available, should be used for engine-out departure planning. Retrieve current SDPs from the SDP website (contact OGV for current username password). “Ad hoc” requests for fields not currently listed may be requested through OGV NLT 48 hrs prior to scheduled departure. HQ AMC/A3VK authorizes the use of Ad Hoc SDPs for a maximum of 7 days after the analysis date.

6.16.2.4.1.1. SDPs will be used for missions deemed ‘operationally necessary’ by the appropriate mission execution authority.

6.16.2.4.1.1.1. All 618 AOC (TACC) and CVAM tasked missions are deemed operationally necessary by AMC /A3 and 18 AF/CC. SDPs are authorized.

6.16.2.4.1.1.2. Training missions with external users (e.g. tanker/receiver AAR training, cargo load training, JA/ATT, etc.) are deemed operationally necessary. SDPs are authorized.

6.16.2.4.1.1.2.1. All other training missions may be deemed operationally necessary by the OG/CC or equivalent (delegated no lower than SQ/DO), to meet mission and/or aircraft performance requirements.

6.16.2.4.2. Minimum climb gradient. The TERPS standard minimum climb gradient is 200 ft/nm, which is based on the standard obstacle clearance surface (OCS) of 152 ft/nm plus the required obstacle clearance (ROC) of 48 ft/nm. If an SDP is not available, or for missions not deemed ‘operationally necessary’ by the mission execution authority, the crew must ensure compliance with any obstacle-based minimum climb gradients for the selected departure, with one-engine inoperative. Minimum climb gradients may be published as a ‘Trouble T’ restriction in the IFR Take-off Minimums section of FLIP or on a SID. Minimum climb gradients do not take into account low, close in obstacles (obstacles or terrain 200’ AGL and below), which should normally be published as a NOTE on the SID or IFR departure procedure (Trouble T). Crews must also ensure the aircraft can clear these obstacles, by computing the climb gradient for the obstacles and comparing it to the climb gradient calculated for the climb restriction.

6.16.2.4.2.1. If operational requirements dictate, the mission execution authority may authorize the PIC to subtract up to 48’/NM from the published (or standard) climb gradient for OEI departure planning.

6.16.2.4.2.1.1. For all 618 AOC (TACC) and CVAM tasked missions, and for training missions with external users, the PIC is authorized to subtract up to 48’/NM.

6.16.2.4.2.1.2. For all other missions, the OG/CC or equivalent (delegated no lower than SQ/DO) may authorize the PIC to subtract up to 48’/NM.

6.16.2.4.3. Vertically clear all obstacles, using a VFR departure as described in AFI 11-202V3 and AFMAN 11-217V1/2. When departing locations where neither an SDP nor a minimum climb restriction exists (VFR Departure), and when operational requirements dictate, crews may use obstacle height and distance to obstacle and/or screen height to determine the minimum Gross Climb Gradient (GCG), IAW TO 1C-10(K)A-1-1. The PIC must provide all significant obstacle height/distance and screen height information to the flight engineer. A significant obstacle is defined as any obstacle along the planned departure route which penetrates the 2.5 GCG on the performance manual climbout flight path charts. In the absence of significant obstacles or screen heights, compute TOLD using a minimum 2.5 GCG IAW TO 1C-10(K)A-1-1. ***WARNING:*** 2.5 GCG does not equate to a 2.5% climb gradient.

Because KC-10 climbout is not linear, obstacles which fall below the 40:1 OCS may penetrate the 2.5 GCG line and are therefore limiting for engine out takeoff planning. Detailed information about obstacles below the OCS is not published and is generally not available. When using this procedure, the PIC must thoroughly review all available resources to include properly updated terrain charts (TPC, Sectional, JOG), FLIP, base operations, local TERPS specialist (USAF base), or other TERPS authorities (Naval Flight Information Group (NAVFIG) in Washington, D.C., DSN 288-3486, commercial (202) 433-3486; Army's TERPS office, DSN 656-4410, commercial (703) 806-4410; FAA office in Oklahoma City, OK, commercial (405) 954-4787.) ***NOTE:*** Use of the provisions of paragraph **6.16.2.4.4** requires prior approval from OG/CC, or deployed equivalent. ***NOTE:*** If OEI obstacle clearance cannot be satisfied by one of the above methods, download cargo/fuel or delay until more favorable conditions exist.

6.17. Weather Minimums for Takeoff use Table 6 3.

Table 6.3. Weather Minimums for Takeoff.

MISSION	VIS	REMARKS
Operational	1000 RVR (305 meters)	When less than RVR 1600, but equal to or greater than RVR 1000, the crew may take off if mission priority dictates, provided the runway has dual RVR readouts and displays (minimum RVR 1000 on both) and runway centerline lighting is operational. For any takeoff below 1600 RVR, the crew must be fully qualified.
All others	1600 RVR (488 meters)	For runways with more than one operating RVR readout, RVR must read 1600 minimum on all.
NOTES: If no RVR readout is available for the departure runway, visibility must be reported to be 1/2 mile (800 meters). When weather is below approach and landing minimums (ceiling or visibility) a departure alternate is required (See paragraph **6.19.**)		

6.18. Alternate Planning. Select alternate airports meeting the requirements of AFI 11-202V3. Choose alternates that best meet mission requirements and conserve fuel; they should not be

within the same terminal area, if terminal forecasts are marginal. Select alternates that are not restricted by FLIP, FCG, or diplomatic clearances, and are compatible with the mission load and performance characteristics of the aircraft. The PIC retains final authority in the choice of alternates; however, selection by support agencies normally should be used if they meet the above criteria and the aircraft has already been serviced. ***NOTE:*** For those missions flight managed by the 618 AOC (TACC), Flight Managers will provide a route of flight to the primary alternate if greater than 75 miles from the destination. This route of flight is only for providing an accurate fuel plan and is not part of the route of flight filed with ATC.

6.19. Departure Alternates.

6.19.1. A departure alternate is required if weather is below landing minimums for lowest suitable approach (at departure aerodrome).

6.19.2. Suitability of Departure Alternates. When a departure alternate is required, the aircraft must be capable of maintaining the MEA or minimum obstruction clearance altitude (MOCA), whichever is higher, to the alternate using OEI performance criteria. To qualify as a departure alternate, the airfield must meet one of the following conditions:

6.19.2.1. For an alternate within 30 minutes flying time, the existing weather must be equal to or better than the published approach minimums and forecast to remain so until 1 hour after takeoff, but in no case forecast to be lower than 200-1/2 (RVR 2400), or;

6.19.2.2. For an alternate within two hours flying time, the existing weather must be at least 500-1 above the lowest compatible published approach minimums, but not less than 600-2 for a precision approach or 800-2 for a non-precision approach, and forecast to remain so for 1 hour after ETA at the alternate.

6.20. Destination Requirements (*for filing purposes*). The forecast destination weather will be according to AFI 11-202V3 and the following:

6.20.1. File two alternates when:

6.20.1.1. The forecast visibility (intermittent or prevailing) is less than published for the available DoD or National Aeronautical Charting Office (NACO) precision approach; or

6.20.1.2. The forecast ceiling OR visibility (intermittent or prevailing) is less than published for all other approaches. For approaches with no published ceiling requirement (for example Jeppesen approaches), the minimum required ceiling shall be computed by taking the published HAA or HAT and rounding it up to the nearest one hundred feet (or as determined by MAJCOM TERPs review). For example, a Jeppesen VOR approach with a published HAA of 642 feet would require a forecasted ceiling of 700 feet; or

6.20.1.3. The forecast surface winds (intermittent or prevailing) exceed limits corrected for RCR.

6.20.2. File an alternate, regardless of forecast weather, when the departure or destination aerodrome is outside the CONUS.

6.20.3. When filing to a remote or island destination, aircrews may use 2+00 hrs reserve fuel (1+15 holding in lieu of an alternate and 0+45 reserve). A remote or island destination is defined as any aerodrome, which due to its unique geographic location, offers no suitable

alternate (civil or military) within 2 hours flying time. The forecast weather at the remote or island destination must meet the following criteria:

6.20.3.1. The prevailing surface winds, corrected for RCR, must be within limits at ETA and forecast to remain so for 2 hours thereafter, and

6.20.3.2. The prevailing ceiling and visibility must be equal to or greater than published minimums for an available non-precision approach, for ETA plus 2 hours. However, if a precision approach is available, the ceiling or visibility may be intermittently below non-precision approach minimums (excluding ASR), but not below precision approach minimums (for ETA plus 2 hours). ***NOTE:*** See Chapter 14 for fuel planning considerations to a remote or island destination.

6.21. Adverse Weather.

6.21.1. Flight into areas of forecast or reported severe turbulence is prohibited.

6.21.1.1. The KC-10 is a category III aircraft for turbulence. Crews should confirm the type of aircraft the forecast turbulence applies to, or what type of aircraft reported the encounter, to gain a more accurate picture for their route of flight. Turbulence category charts are found in Air Force Weather Agency technical note AFWA/TN 98/002, *Meteorological Techniques*.

6.21.1.2. The PIC is responsible for ensuring all passengers are seated, with seat belts fastened, when areas of moderate or greater turbulence are encountered or anticipated. ***WARNING:*** Serious injury may occur if passengers do not have their seat belts fastened and the aircraft encounters moderate or severe turbulence.

6.21.2. Flight into areas of forecast or reported severe icing is prohibited. Prolonged operation, such as cruise flight or holding, in areas of moderate icing should be avoided. ***NOTE:*** Air Force Weather Agency technical note AFWA/TN 98/002, *Meteorological Techniques*, states that freezing drizzle is equivalent to moderate icing and freezing rain is equivalent to severe icing. When freezing fog is forecast or reported, aircrews will confirm with weather agencies what type (if any) icing is associated with the freezing fog.

6.21.2.1. Do not takeoff under conditions of freezing rain. Do not takeoff under conditions of freezing drizzle except when aircraft has been properly de-iced/anti-iced IAW flight manual procedures.

6.21.2.2. Freezing precipitation, snow, freezing fog, or temperatures near 0°C, may cause ice or frost to accumulate on aircraft surfaces. When an aircraft requires de-icing/anti-icing prior to takeoff, refer to the following:

6.21.2.2.1. Aircrews will only use de-ice and anti-ice fluids listed in their respective flight manual. Aircrews will be familiar with, and follow all restrictions in their associated flight manual with respect to anti-ice/de-ice procedures and holdover times.

6.21.2.2.2. MIL-A-8243 Type I and Type II de-icing fluids provide little anti-icing benefit, and therefore have limited holdover times. As a guide, for approved fluids, crews may use published holdover times IAW TO 42C-1-2, Aircraft Anti-icing Procedures, and AFFSA holdover tables located at the HQ AFFSA website. The holdover time begins when anti-icing fluid is first applied and the PIC shall use time,

temperature, and dilution of mixture to determine when times are exceeded and re-apply fluid if required.

6.21.2.2.3. In all cases, PICs will ensure a visual inspection of the aircraft is completed within 5 minutes of departure.

6.21.3. Do not fly directly above (within 2,000 feet) thunderstorms or cumulonimbus clouds. If unable to vertically clear thunderstorms or cumulonimbus clouds by at least 2000 feet, avoid them by at least:

6.21.3.1. 20 NMs at or above flight level FL230.

6.21.3.2. 10 NMs below FL230. ***CAUTION:*** Aircraft damage may occur 20NMs or more from any thunderstorms. Aircrews must familiarize themselves with information on thunderstorm development and hazards. Refer to AFH 11-203, *Weather for Aircrews*.

6.21.4. The use of ground-based radar as a means of thunderstorm avoidance should only be used to assist in departing an inadvertently penetrated area of significant weather. It should never be considered a normal avoidance procedure. 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:

6.21.4.1. Changing routing.

6.21.4.2. Diverting to alternate.

6.21.4.3. Declaring an emergency and requesting priority assistance.

6.21.5. Aircrews should avoid flying in areas of recently dissipated thunderstorms and advected clouds (horizontal movement of clouds caused by wind) downwind of thunderstorms.

6.21.6. In order to minimize exposure to thunderstorm hazards when approaching or departing an airport in an area where thunderstorms are occurring or are forecast:

6.21.6.1. Attempt to maintain VMC.

6.21.6.2. Maintain at least 5NMs separation from heavy rain showers.

6.21.6.3. Avoid areas of high lightning potential, i.e., clouds within plus or minus 5,000 feet of the freezing level or plus or minus 8°C of the freezing level. ***NOTE***: Approaches or departures may be accomplished when thunderstorms are within 10NMs providing they are not producing any hazardous conditions (such as hail, lightning, strong winds, gusts fronts, heavy rain, wind shear, or microburst) at the airport, and are not forecast or observed to be moving in the direction of the route of flight (to include the planned missed approach corridor, if applicable).

6.21.7. When performing approaches and landings at locations where temperatures are 0°C or below, refer to AFI 11-202V3 and the *Flight Information Handbook* (FIH) Section D, Temperature Correction Chart, to correct MDA, DH, and other altitudes inside the FAF.

6.21.8. Do not fly into an area of known or forecast moderate or greater mountain wave turbulence. Refer to AFI 11-203, *Weather for Aircrews*, for additional information on mountain wave turbulence.

6.21.9. Significant Meteorological Information (SIGMET). National Weather Service in-flight weather advisories are not limiting to Air Force aircraft. Contact the nearest military weather facility or flight service station for details, if applicable.

6.21.10. Volcanic Dust Precautions. Aircraft flight operations in areas of forecast or known volcanic activity or dust is prohibited. Plan all missions to avoid volcanic activity by at least 20 NMs.

6.21.11. Lightning Avoidance. The following conditions are most conducive to lightning strikes and prolonged flight in them should be avoided:

6.21.11.1. Within 8C of freezing.

6.21.11.2. In clouds or in any intensity of precipitation or turbulence associated with thunderstorm activity.

6.22. Operational Risk Management (ORM). ORM is a logic based, common sense approach to making calculated decisions on human, material, and environmental factors before, during, and after all operations. USAF policy on ORM is contained in Air Force Policy Directive 90-9, *Operational Risk Management*. PICs will accomplish ORM worksheets IAW MAJCOM and local guidance as part of preflight activities.

6.22.1. Flying units will develop a local ORM program to include personal ORM assessment for all missions and accomplished by all crewmembers prior to each flight.

Section 6C—Preflight

6.23. Hazard Identification and Mitigation. After the entire crew is assembled at the aircraft, the PIC will brief primary mission hazards facing the crew during takeoff and climb-out.

6.24. AFTO Forms 781 Series.

6.24.1. Review AFTO Forms 781 series before applying power to the aircraft or operating aircraft systems. An exceptional release must be signed before flight. A maintenance officer, maintenance superintendent, or authorized civilian normally signs the exceptional release. If one of these individuals is not available, the PIC may sign the exceptional release. Ensure that the DD Form 1896, *Jet Fuel Identaplate***,** and AIR card are aboard the aircraft.

6.24.2. One-Time Flights. An aircraft may be released for a one-time flight with a condition that might be hazardous for continued use, provided the aircraft is airworthy for one flight to another station. Refer to T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures,* for downgrade authority and procedures. AFRC crews also see AFI 11-202V3/AFRCSUP1. After the maintenance release is obtained, coordinate mission requirements with the controlling agency. The PIC's concurrence is required before the aircraft can be flown.

6.24.3. For Red X clearing procedures at stations without maintenance support refer to paragraph **12.3**

6.25. Aircraft Servicing and Ground Operations. Refer to **Chapter 12** for procedures.

6.26. Aircraft Recovery Away from Main Operating Base (MOB). Refer to **Chapter 12** for procedures.

6.27. Aircrew Flight Equipment Requirements.

6.27.1. Oxygen. For flights where the total number of individuals on board the aircraft does not exceed the total number of operational flight crew oxygen system stations (maximum 11), the minimum quantity of oxygen aboard an aircraft before takeoff must be sufficient to accomplish the planned flight from the equal time point (ETP) to recovery should oxygen be required. Calculate using the 100 percent oxygen chart in the flight manual.

6.27.1.1. When the crew bunks are occupied in flight, crewmembers will have a portable oxygen walk-around bottle with quick-don mask, or Emergency Passenger Oxygen System (EPOS) readily available for use in the event of an emergency. ***EXCEPTION:*** EPOS may be used as the primary oxygen source when using the Joint Task Force (JTF)/C2 Module (CCM), Senior Leader In-transit Pallet (SLIP), Senior Leader In-transit Conference Capsule (SLICC), or Detainee Movement Configuration.

6.27.1.2. When used in the bunks or as the primary oxygen source, the EPOS maximum operating altitude is 41,000 feet.

6.28. Fleet Service. Ensure the required fleet service items are aboard the aircraft early enough to permit inventory prior to engine start.

6.28.1. The crew bunks will not be used to store bags of pillows and blankets when the aircraft is in a delta configuration.

6.29. Cargo Documentation. Proper cargo or mail documentation will accompany each load.

6.29.1. Load Data Information (Applicable to AFRC/ANG completing 618 AOC (TACC)-directed mission). At stations where there is no mobility air transportation function, the aircrew will collect the required load information on each leg, and submit it to the first station, which has such a function. The report will be submitted on AF Form 4075, *Aircraft Load Data Worksheet*.

6.30. Airlifting Hazardous Cargo.

6.30.1. AMCH 11-214, *AMC Aircrew Hazardous Material Handbook*, contains a description of the types and classes of hazardous cargo that may be carried. PICs are responsible for ensuring that all procedures contained in AMCH 11-214 are complied with when airlifting hazardous cargo.

6.30.1.1. For more information regarding hazardous materials, refer to AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipment.*

6.30.2. Flight Planning. Based on the Hazardous Cargo Briefing, the PIC will:

6.30.2.1. Enter "Hazardous Cargo" and the mission identifier or flight number in the appropriate section of the flight plan. Use *Remarks* section of DD175, *Military Flight Plan*, and *Other Information* section of DD1801, *International Flight Plan, DoD*. Refer to the FCG for country specific requirements concerning over-flight when transporting hazardous materials cargo.

6.30.2.1.1. IAW with the requirements in AMCH 11-214, annotate "Hazardous Cargo" on flight plans when any amount of the following is transported:

6.30.2.1.1.1. Division 1.1 through 1.3 explosives.

6.30.2.1.1.2. Division 1.4 explosives which transit United Kingdom or Italy.

6.30.2.1.1.3. Toxic chemical ammunition (Compatibility Group K).

6.30.2.1.1.4. Highly toxic substances.

6.30.2.1.1.5. Division 6.2 infectious substances which require technical escorts and/or special protective equipment.

6.30.2.1.1.6. Nuclear weapons.

6.30.2.1.1.7. Class 7 Radioactive Material (Yellow III label).

6.30.2.1.1.8. All other hazardous materials, except Class 9 and ORM-D when aggregate gross weight exceeds 1,000 pounds (454 kg).

6.30.2.2. If possible, plan the flight to minimize overflying heavily populated or otherwise critical areas. Approach, landing, and takeoff tracks are excluded.

6.30.2.3. Prepare a departure message at stations when a C2 center is not available. The remarks section of the departure message will include: Class of hazardous material, DoD class or division for explosives, net explosive weight (NEW), and gross weight. If required, request special handling (e.g., isolated parking, security, technical escort teams, etc.).

6.30.2.4. If estimated time en route (ETE) is less than 1 hour, or if other circumstances preclude timely message receipt at destination, notify the next destination of the ETA and information listed in paragraph **6.30.2.3** If available, C2 will relay required information to next destination.

6.31. Handling of Classified Cargo, Registered Mail, Mission Capable Parts (MICAP), Very, Very Important Part (VVIP), Forward Supply System (FSS) Shipments, and Courier Material.

6.31.1. MICAP, VVIP, sensitive cargo, courier materials, and registered mail moving within the normal airlift system are receipted at the on and offload stations using the air cargo manifest. For unit moves operated in accordance with Defense Transportation Regulation (DTR), Part III, Mobility, classified or sensitive cargo movement is normally manifested utilizing the DD Form 2130-6, *KC-10A Load Plan (17 Pallets Configuration)*, DD Form 2130-7, *KC-10A Load Plan (23 Pallets Configuration)*, or similar automated product (such as CALM or AALPS), and will normally be accompanied by a unit courier. However, if classified/sensitive unit cargo is offered without an accompanying courier, the DD Form 1907, *Signature and Tally Record***,** must be used.

6.31.1.1. Defense Courier Service (DCS) couriers coordinating with the PIC are authorized to designate officer or enlisted, (E-5 and above) crewmembers on military aircraft as couriers to escort and safeguard courier material when other qualified personnel are not available. Qualified passengers, if carried, are designated before designating crewmembers. The following restrictions apply:

6.31.1.1.1. Primary crewmembers will not be designated couriers without the consent of the PIC.

6.31.1.1.2. Crewmembers on aircraft scheduled to make an extended en route stop at a location where DCS couriers cannot provide en route support will not be designated as couriers.

6.31.2. During stops at en route locations supported by DCS stations, DCS couriers are required to meet designated couriers, guard and protect the material.

6.31.2.1. During unscheduled en route stops crewmembers may place courier material in temporary custody of the following agencies in descending order of priority.

6.31.2.1.1. DCS courier.

6.31.2.1.2. TOP SECRET control officer of the US armed forces.

6.31.2.1.3. US Department of State Diplomatic Courier.

6.31.2.1.4. US Department of State activity.

6.31.2.1.5. US military guards.

6.31.2.1.6. US DoD civilian guards.

6.31.3. If unable to follow the itinerary to the destination of the courier material, or the courier material is lost, stolen or otherwise compromised, report circumstances to the nearest Defense Courier Station and notify the local US military commander or US Government activity.

6.31.4. Life or death urgency shipments consist of biological or other medical supplies of such urgency that human life is dependent upon immediate receipt. Shipments will be manifested separately and the manifest annotated with the words LIFE OR DEATH URGENCY. All shipments will be handled on a hand-to-hand receipt basis, using either the air cargo manifest or the DD Form 1907, for unit moves. The PIC, or designated representative, will be briefed on the urgency of the shipment and be made the custodian during flight.

Section 6D—Departure

6.32. On Time Takeoffs. Mission departures are on time if the aircraft is airborne within -20/+14 minutes of scheduled takeoff time or as specified in a MAJCOM supplement.

6.32.1. AR Missions. Scheduled takeoff time may be adjusted to make good the ARCT. Notify C2 agency before takeoff to adjust the scheduled takeoff time.

6.32.2. Early Departures. Early departures are authorized to prevent a delay due to weather, ATC restrictions, airfield or aircraft operational limitations, to adjust mission flow during a large-scale operation, or if approved through C2 channels provided the impact on local and downrange facilities and crew duty is evaluated.

6.33. Not Used.

Section 6E—En route

6.34. Flight Progress. In-flight, use all available navigational aids to monitor FMS performance. Immediately report malfunctions or any loss of navigation capability that degrades centerline accuracy to the controlling air route traffic control center (ARTCC).

6.34.1. Another pilot or primary crewmember will verify waypoint data inserted into the FMS. Check both the coordinate information and the distances between waypoints against the flight plan.

6.35. In-Flight Meals. Pilots should not eat meals at the same time, and their meals should consist of different menu items.

6.36. Communications Instructions Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports. Report all vital intelligence sightings from aircraft as indicated in FLIP planning or FLIP En route Supplement.

6.36.1. In-flight harassment or hostile action against aircraft. Aircraft subjected to harassment or hostile action by foreign aircraft will immediately contact the nearest USAF air and ground voice facility and report the encounter. Include aircraft nationality, type, insignia, or any other identifying features; note position, heading, time, speed when harassed, and the type of harassment. Request relay of the report to the nearest C2 agency. Also, attempt to contact the nearest command post when in UHF and VHF range.

6.36.2. Other incidents will be reported as indicated in JCS Pub 6V5 and AFMAN10-206, *Operational Reporting.*

6.37. Communications.

6.37.1. Crews will conduct an HF radio ground check before takeoff if use of the HF radio may be required for ATC or C2 communications. Attempt to establish HF contact before going out of UHF/VHF range. If unable to establish HF contact with the controlling HF station, and an alternate means of relay of ATC information is not available, the aircraft should return to the nearest suitable support base. In the case of airborne HF failure, crews are authorized to continue under the following conditions:

6.37.1.1. If SATCOM-equipped.

6.37.1.1.1. Use Satellite Voice Communications to contact responsible station via special telephone numbers/short codes published in State AIPs (Aeronautical Information Publication).

6.37.1.2. If not SATCOM-equipped.

6.37.1.2.1. Attempt to contact ATC facility on VHF.

6.37.1.2.2. Attempt VHF relay via another aircraft on 123.45 MHz.

6.37.2. Pilots shall provide ARTCC position and weather observations when required. If unable to contact an ATC agency, attempt to relay through the GLOBAL HF stations.

6.38. In-Flight Emergency Procedures. The PIC shall report deviations from directives that may occur as a result of an emergency according to AFI 11-202V3. Time and conditions permitting, inform passengers of the situation and intentions.

6.38.1. Notification of Control Agencies. When practical after completing the aircraft emergency action checklists and associated actions, the PIC shall furnish ATC and

appropriate C2 agencies with a description of the difficulty, assistance required, intentions, and any other pertinent information.

6.38.2. The PIC may initiate a CONFERENCE HOTEL/SKYHOOK when additional expertise is necessary. Communications procedures are as follow:

6.38.2.1. Local Area. Use appropriate UHF or VHF frequencies.

6.38.2.2. En route. Attempt to establish a phone patch with the nearest or controlling C2 Center using global HF network, UHF/VHF stations, SATCOM, etc. If unable, aircrews are permitted to use ARINC radio service as an additional avenue for phone patch connectivity.

6.38.2.3. Provide the following information when time permits:

6.38.2.3.1. Description of the situation to include actions taken and intentions.

6.38.2.3.2. What assistance is being requested.

6.38.2.3.3. Fuel on board and hours of endurance.

6.38.2.3.4. Position.

6.38.2.3.5. Altitude and flight conditions.

6.38.2.3.6. Number of personnel and DVs on board.

6.38.2.3.7. Qualification of PIC.

6.38.2.3.8. Planned landing destination and ETA.

6.39. Need for Medical Assistance. When a person aboard the aircraft requires medical care, the PIC will notify the station of intended landing in sufficient time so the aircraft may be met by medical personnel. Notification will include the patient's sex, approximate age, and major complaint.

6.40. Weather Forecasts. It is the pilot's responsibility to obtain destination weather prior to descent. The primary sources are 618 AOC (TACC) weather operations, OWSs, and USAF weather flights via pilot-to-meteorologist service (PMSV) or through a USAF aeronautical station. For aircraft flying in EUCOM AOR (ENAME operations) contact USAFE/OWS at Sembach AB GE. SOUTHCOM AOR contact 612 Support Squadron Weather Flight (SPTS/WX) at Davis-Montham AFB, AZ. The ATC system can provide weather information to en route aircraft.

Section 6F—Arrival

6.41. Descent. Prior to the top of descent (TOD), the PIC will identify and discuss mitigation of associated hazards to the penetration, approach, landing, and airfield. Before descent into unfamiliar areas, pilots will review appropriate terrain charts to increase aircrew situational awareness of obstructions. Every effort will be made to accomplish briefings and appropriate checklists prior to TOD. Primary crewmembers will not be involved in duties other than aircraft operations, descent and approach monitoring, and required checklist items from the initial descent point to landing.

6.41.1. Night and Marginal Weather Operations. Fly a precision approach, if available, at night or during marginal weather. If a precision approach is not available, fly any available approved instrument approach. A visual approach may be flown during night VFR conditions if an approved instrument approach to the landing runway is not available or operational missions require a tactical approach. ***NOTE:*** For VFR or visual approaches at locations other than home station, an ILS glide slope indicator or a visual glide slope indicator (e.g. VASI, PAPI, etc.) is required.

6.41.1.1. On training/evaluation flights, pilots may fly non-precision approaches or VFR traffic patterns to accomplish required training and evaluations. The pilot not flying will monitor a precision approach when practical to enhance safety.

6.41.1.2. For recovery at home station, pilots may elect to fly a visual or non-precision approach, if weather minimums permit.

6.42. Instrument Approach Procedures.

6.42.1. Aircraft category. The KC-10 is a category "D" aircraft. If approach speeds exceeds 166 knots, the minimums for category "E" will be used.

6.42.2. Prior to starting an instrument approach, pilots will confirm their aircraft can comply with the missed approach climb gradient requirements established in AFI 11-202V3.

6.42.3. Weather minimums. Before starting an instrument approach, or beginning an en route descent, pilots will confirm the existing weather is reported to be:

6.42.3.1. At or above required visibility for straight-in or sidestep approaches.

6.42.3.1.1. For PAR approaches, visibility will be no lower than RVR 2400 (730 meters) or 1/2 mile visibility (800 meters) with no RVR readout available.

6.42.3.2. At or above required ceiling and visibility for circling approaches.

6.42.3.2.1. For circling approaches with no published ceiling requirement, the required ceiling shall be computed by taking the published HAA plus 100 feet rounded up to the next one hundred foot value. (For example, if the HAA is 747 feet, add 100 feet to get 847 feet and then round up to the next one hundred foot value which would be 900 feet. Your ceiling for the approach must be at or above 900 feet.) When circling minimums are published, but not by category, circling approach minimums will be as published, but in no case lower than 600 feet and 2 miles visibility.

6.42.3.3. Increase the published visibility minimums of an instrument approach by 1/2 SM or as noted in NOTAMs, on ATIS, or on the approach plate, when the runway approach lighting system (ALS) is inoperative. (This applies only to the ALS itself, not to VASIs, PAPIs, and other lights that are not a component of the ALS.)

6.42.3.4. Not Used.

6.42.3.5. Variable visibility/ceiling reports. If variable visibilities/ceilings are reported, pilots may use the greatest value reported. If it is subsequently determined that weather is below minimums for the approach, comply with paragraph **6.42.10** Do not attempt further approaches until the lowest visibility/ceiling reported is at/above approach minimums.

6.42.4. Not Used.

6.42.5. Category I ILS Procedures. Decision height for precision approaches will be as published, but no lower than 200 feet height above touchdown (HAT).

6.42.5.1. ILS Precision Runway Monitor (PRM) Approaches. Both pilots must be certified to conduct an ILS PRM approach. Refer to AFI 11-2KC10V1 for certification procedures. Comply with the following operational procedures:

6.42.5.1.1. Two operational VHF communication radios are required.

6.42.5.1.2. The approach must be briefed as an ILS/PRM approach.

6.42.5.1.3. If unable to accept an ILS PRM approach clearance, contact the FAA ATCSCC at 1-800-333-4286 prior to departure time to obtain a pre-coordinated arrival time. Pilots who arrive at a PRM airport unable to accept PRM approach clearance, who did not contact ATC prior to departure, should expect an ATC directed divert to a non-PRM airport.

6.42.5.1.4. All breakouts from the approach shall be hand flown. Autopilots shall be disengaged when a breakout is directed.

6.42.5.1.5. Should a TCAS Resolution Advisory (RA) be received, the pilot shall immediately respond to the RA. If following an RA requires deviating from an ATC clearance, the pilot shall advise ATC as soon as practical. While following an RA, comply with the turn portion of the ATC breakout instruction unless the pilot determines safety to be a factor.

6.42.6. Not Used.

6.42.7. Not Used.

6.42.8. NDB Procedures. NDB approaches may be flown during day, night, or IMC conditions after compliance with any airfield restrictions in GDSS/GDSS2/ASRR. Back up each approach with available NAVAIDs/GPS to include loading the NDB coordinates in the FMS.

6.42.9. RNAV Procedures. Properly trained KC-10 aircrews are permitted to fly RNAV and RNAV (GPS) approaches. RNAV and RNAV (GPS) approaches will be flown only to LNAV minima.

6.42.10. After Beginning Descent or Approach. IAW AFI 11-202V3 Chapter 8, after beginning an enroute descent or published approach, and the weather is reported or observed to be below approach minimums, the PIC has the option of continuing the approach to the missed approach point (MAP)/DH. Comply with the last assigned clearance until a new or amended clearance is received.

6.42.10.1. Do not continue the approach below minimums unless the runway environment is in sight and the aircraft is in a position to make a safe landing.

6.42.10.2. If the approach is continued, sufficient fuel must be available to complete the approach and missed approach, and proceed to a suitable alternate with normal fuel reserve.

6.42.10.3. The PIC has final responsibility for determining when the destination is below designated minimums, and for initiating proper clearance request.

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

6.42.11.1. The aircraft has more fuel remaining than that required to fly to the alternate and hold for the appropriate holding time, and the weather at the alternate is forecast to remain at or above alternate filing minimums for the period, including the holding time.

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

6.43. Not Used.

6.44. Unscheduled Landings. When an unscheduled landing or crew rest occurs at a base without a passenger facility, the PIC should immediately advise the appropriate C2 agency and request assistance in arranging substitute airlift for passengers on board. The following procedures apply when obtaining support for service members, in a group travel status, who are transported on AMC KC-10 aircraft flying a Transportation Working Capital Fund (TWCF) mission, which incurs an unscheduled delay due to weather, aircraft maintenance, or foreign diplomatic clearance problems, forcing the members to be lodged at that location until the aircraft can continue its mission.

6.44.1. If the delay is at a location where DoD facilities and AMC TWCF funds are available, payment for lodging (contract or on-base) and other required support is charged to local TWCF funds via the US Bankcorp Government Purchase Card (GPC) account, in accordance with locally established procedures. TWCF payment is applicable for only those service members in a group travel status aboard any KC-10 aircraft delayed at these locations, regardless of the command owning the aircraft, provided the aircraft is flying a TWCF mission (SAAM, CJCS Exercise, JA/ATT, or Contingency) with an AMC mission identifier.

6.44.2. If the aircraft delay is at a location where TWCF funds are not available (regardless if DoD facilities are available or not), the KC-10 aircraft commander will utilize SF 44, *Purchase Order-Invoice-Voucher* (or AF IMT 15, *United States Air Force Invoice*) authority to acquire the necessary meals, quarters, and transportation for only the group travel status passengers. Upon return to home station, the aircraft commander will turn in the SF 44 or AF IMT 15 to the local accounting liaison/budget office. Supporting documentation should include a copy of the service members' group travel orders along with applicable invoices/receipts for lodging, meals, and other required support. Upon validation of the SF 44 or AF IMT 15, the accounting liaison/budget office forwards the bills for these charges to the DFAS Field Site for payment, citing the funds of the unit whose aircraft incurred the delay.

6.44.3. This policy does not apply to those passengers traveling on delayed KC-10 aircraft flying TWCF missions who are authorized per diem on their individual travel orders or in a space available status.

6.45. Maintenance. Complete the AFTO Form 781 after each flight. After landing, crewmembers debrief maintenance personnel on the condition of the aircraft, engines, avionics

equipment, and all installed special equipment as required. At stations without maintenance support, when a maintenance requirement exists the PIC will ensure a thorough debrief is provided to the C2 agency. On all AMC/AFRC missions, notify 618 AOC (TACC) Logistics Control (618 AOC (TACC)/XOCL).

6.46. Border Clearance. The border clearance responsibility will be as designated by the base or area command in accordance with AFI 24-401, AFI 24-402, AFI 24-403, *Border Clearance, Customs Program, and other United States Entry Requirements and Related Areas*.

6.46.1. Normal Operations.

6.46.1.1. The unit dispatching the mission is normally responsible for the border clearance of its aircraft.

6.46.1.2. When support is not available, border clearance is the responsibility of the PIC. Duties may be assigned to ground personnel or to the boom operator, but the PIC retains ultimate responsibility. When a KC-10 aircraft is on-loaded at a base without an air traffic function, the PIC is responsible for ensuring the following:

6.46.1.2.1. Crewmembers, troops, and passengers possess current passports and valid visas, when required.

6.46.1.2.2. Crewmembers, troops, and passengers have current certificates of immunization (shot record).

6.46.1.2.3. Cargo entry documents are in proper order.

6.46.1.2.4. Departing or entering the United States through a location where border clearance can be obtained.

6.46.1.2.5. Obtaining border clearance for aircraft cargo, passengers, crew and baggage, if required, before takeoff to a foreign area or after arrival from a foreign area.

6.46.1.2.6. Spraying the aircraft (see the FCG and paragraph **6.47**).

6.46.2. Procedures for US Entry.

6.46.2.1. En route, the boom operator will distribute personal customs declarations (when not accomplished by passenger services) to all passengers, troops, and crewmembers. The boom operator will also brief passengers and crewmembers on customs regulations, and prepare and compile necessary border clearance forms for the PIC's signature.

6.46.2.2. En route, notify the C2 agency at the base of intended landing of any change in ETA to ensure that border clearance is accomplished as soon as possible after landing.

6.46.2.3. Obtain a permit to proceed when military necessities require that an aircraft, which has landed in the United States for customs clearance, to proceed to another base in the US to obtain border clearance. The permit to proceed delays customs inspection of cargo, passengers, and crew until arrival at the offload station, and saves 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 to proceed issued by a customs official. Do not make

intermediate stops between the issue point of the permit to proceed and destination of manifested cargo unless required by an emergency or directed by the controlling C2 center.

6.46.2.4. When an aircraft lands for a US border clearance, a US Customs representative normally will meet the aircraft to obtain the required documents. Do not deplane passengers, troops, or crewmembers unless necessary for safety or the preservation of life and property (boom operator excepted). 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 landings required when operating on a permit to proceed or until all crew, passengers, and cargo complete final border clearance.

6.46.3. Inspections of U.S. Aircraft by Foreign Officials.

6.46.3.1. Follow USAF policy on status of military aircraft as stated in the FCG, *General Information* (Chapter 3). In substance, this policy holds that US military aircraft are immune from searches, seizures, and inspections (including customs and safety inspections) by foreign officials. In addition, PICs must be aware of, and adhere to, any specific FCG provisions for individual countries.

6.46.3.2. If confronted with a search request by foreign authorities, aircrews should use the following procedures.

6.46.3.2.1. In most cases, search attempts may be halted simply by a statement of the PIC to the foreign official that the aircraft is a sovereign instrumentality not subject to search without consent of USAF headquarters or the US Department of State officials in the country concerned. This should be clearly conveyed in a polite manner so as not to offend foreign authorities that may honestly, but mistakenly, believe they have authority to search USAF aircraft.

6.46.3.2.2. If foreign authorities insist on conducting a search, the PIC should make every effort to delay the search until he or she can contact USAF headquarters (through MAJCOM C2) or the appropriate embassy officials. The PIC should then notify these agencies of foreign request by the most expeditious means available and follow their instructions.

6.46.3.2.3. If foreign officials refuse to desist in their search request, pending notification to USAF headquarters or the appropriate embassy, the PIC should indicate that he or she would prefer to fly the aircraft elsewhere (provided fuel, flying time, and mechanical considerations permit a safe flight) and request permission to do so.

6.46.3.2.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the PIC should state that he protests the course of action being pursued and that he intends to notify both USAF headquarters and the appropriate American embassy of the foreign action. The PIC should not attempt physical resistance, and should thereafter report the incident to USAF headquarters and appropriate embassy as soon as possible. The PIC should escort foreign authorities if the inspection cannot be avoided.

6.46.3.3. Other procedures may apply when carrying sensitive cargo or equipment. Follow these procedures and applicable portions of classified FCG supplements.

6.46.4. Exercises and Contingency Operations.

6.46.4.1. General. Certain airlift missions, which do not transit normal ports of entry or exit, require special procedures to expedite compliance with customs, public health, immunization, and agricultural requirements. A joint memorandum of understanding, between these agencies and MAJCOM establishes certain procedures and waivers.

6.46.4.2. Implementation. Implementation of the agreement is not automatic. 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 US onload or offload base, or at the foreign onload or offload base.

6.46.4.3. Customs Procedures.

6.46.4.3.1. Outbound: No requirement. Filing of CBP Form 7507, *General Declaration (Outward/Inward)*, is not required unless directed.

6.46.4.3.2. Inbound. Prepare one copy of the following documents before arrival:

6.46.4.3.2.1. CBP Form 7507 (Passenger list not required).

6.46.4.3.2.2. Cargo manifest.

6.46.4.3.2.3. For troops out of country less than 140 days:

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

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

6.46.4.3.2.3.3. Upon arrival at a CONUS offload base, a customs representative will meet the aircraft and accept the troop commander's certificate with respect to troop baggage. Individual baggage declarations are not required. The troop commander should have inspected troop baggage.

6.46.4.3.2.3.4. Troops will 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.

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

6.46.4.3.2.4.1. One copy of the U.S. Customs Baggage Declaration Form for each passenger. This includes observers, support personnel, civilians, news media personnel, and crewmembers. Personnel may use DD Form 1854, *Customs Accompanied Baggage, U.S.***,** or Customs Form 6059B.

6.46.4.3.2.4.2. Upon arrival at a CONUS offload base, a customs representative will meet the aircraft and collect all declarations. Troops will debark under the observation of the customs representative who may make discretionary examination of the baggage.

6.46.4.4. Public Health Procedures.

6.46.4.4.1. When operating from a base without a traffic officer, the PIC will ensure all crewmembers and passengers are properly immunized.

6.46.4.4.2. Spray the aircraft if required.

6.46.4.5. Immigration Procedures.

6.46.4.5.1. Outbound: No requirements.

6.46.4.5.2. Inbound: Submit the following to the immigration inspector if carrying civilian passengers.

6.46.4.5.2.1. One copy of CBP Form 7507 (found at **http://www.customs.gov**).

6.46.4.6. Agriculture Procedures:

6.46.4.6.1. Outbound: No requirement.

6.46.4.6.2. Inbound: Consult AMC Border Clearance Guide.

6.46.4.6.2.1. The command being airlifted will instruct troops that no fresh fruit, milk, milk products, vegetables, plants, plant pests, soil samples, animals, meat, and animal products can be brought into the United States. All items of troop personal gear/cargo are to be thoroughly cleaned of mud, dirt, sand, and other foreign material before being brought aboard the aircraft. Personal gear and equipment must be examined for snails and other plant pests to prevent their accidental entry into the U.S.

6.46.4.6.2.2. Before loading, the command responsible for cargo being airlifted will clear vehicles and cargo of snails or other plant pests and of all mud and soil.

6.46.4.6.2.3. When required by agricultural quarantine regulations, the FCG, or higher headquarters, the aircraft will receive an aerosol treatment 30 minutes before landing.

6.46.4.6.2.4. On arrival, agricultural inspectors will inspect the aircraft after troops have disembarked. Crewmembers will assemble remains of in-flight lunches for prompt removal by fleet service personnel.

6.46.4.6.2.5. Inspectors examine baggage, equipment, vehicles, and cargo as offloaded. Any items, vehicles, or cargo found to be contaminated will be held for such treatment as the inspector may direct (washing, steam cleaning, physical cleaning, or fumigation).

6.46.5. Military Customs Pre-clearance Inspection Program. All crewmembers will ensure compliance with Military Customs Pre-clearance requirements.

6.47. Insect and Pest Control.

6.47.1. Responsibility. PICs will ensure required spraying is accomplished according to AFJI 48-104, *Quarantine Regulations of the Armed Forces*, Department of Defense FCG, or as directed by higher headquarters. Certify the spraying on CBP Form 7507, or on forms provided by the country transited. Aircraft should never be sprayed with passengers on board. The only exception is when mandated by the FCG.

6.47.1.1. When spraying is required, use insecticide, aerosol d-phenothrin-2 percent, National Stock Number (NSN) 6840-01-067-6674 (or equivalent) to spray the aircraft. Wear leather or Nomex gloves while spraying.

6.47.1.1.1. Direct the nozzle toward the ceiling of the compartment or space being sprayed.

6.47.1.1.2. Spray spaces inaccessible from within the aircraft after completely loading fuel, baggage, cargo, and passengers, including baggage compartments, wheel wells, and other similar spaces.

6.47.1.1.3. Spray the cabin, cockpit, and other spaces accessible from within the aircraft after the crew is aboard and after closing all doors, windows, hatches, and ventilation openings. ***CAUTION:*** If the insecticide label directs disembarkation after use, spray before boarding crew or passengers. Close all doors and hatches for 10 minutes after dispensing and ventilate for 15 minutes before allowing anyone on board.

6.47.1.2. Spray for 105 seconds unless longer periods are specified for the country being transited. ***NOTE:*** Keep used aerosol cans separate from other trash so they may be disposed of safely.

6.47.2. Responsibility of PIC In-flight. When seeing any insect or rodent infestation of the aircraft in-flight, notify the destination C2 center, airfield management operations, or airport manager of the situation before landing so the proper authorities can meet the aircraft.

6.47.3. Procedure at Aerial Port of Disembarkation (APOD). On arrival at an APOD, do not open cargo doors or hatches except to enplane officials required to inspect the aircraft for insect or rodent infestation. Do not onload or offload cargo or passengers 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 or the local C2 organization.

Section 6G—Miscellaneous

6.48. Dropped Objects. If an externally dropped object is discovered, the flight crew will:

6.48.1. Notify 618 AOC (TACC) or the controlling agency as soon as practical; include details of routing, altitude, weather, etc.

6.48.2. Notify maintenance at the first military station transited.

6.49. Cockpit Voice Recorder (CVR). If involved in a mishap or incident, after landing and terminating the emergency, pull the CVR power circuit breaker.

6.50. Aircrew Flight Equipment and Dash 21 Equipment Documentation. The PIC or designated representative will:

6.50.1. Before departing home station or en route stations, ensure appropriate serviceable protective clothing, aircrew flight equipment, survival, and Dash 21 equipment for the entire or remainder of the mission are aboard the aircraft.

6.50.2. Before departing home station and following en route crew changes, review AF Form 4076, *Aircraft Dash 21 Equipment Inventory*, to ensure all required Dash 21 equipment

has been certified as installed by maintenance, the initial check has been signed by maintenance, and configuration documents match mission requirements.

6.50.3. Before departing home station and following en route crew changes, review, sign, and date the AFTO Form 46, *Prepositioned Life Support Equipment*, to ensure all required protective clothing and aircrew flight equipment and survival equipment have been certified as installed by aircrew flight equipment personnel and that configuration documents match mission requirements. Ensure appropriate number and type of life preservers are aboard for over-water missions carrying children and infants.

6.50.3.1. Anti-Exposure Suits. Any mission scheduled to conduct operations North of 78 degrees and South of 60 degrees is required to carry anti-exposure suits.

6.50.4. Missing Equipment. Aircrew members discovering equipment missing will accomplish the following:

6.50.4.1. Make an AFTO Form 781A entry for equipment found missing. Additionally, ensure equipment removed from the aircraft at an en route station is documented in the AFTO Form 781A.

6.50.4.2. Annotate AF Form 4076 and AFTO Form 46 in the next vacant column indicating the quantity remaining for the item. Ensure the ICAO location designator is entered above the check number of that column. Leave AF Form 4076 and AFTO Form 46 on board the aircraft in the event of an en route crew change.

6.50.4.3. Advise the PIC and determine whether the missing equipment should be recovered or replaced before mission continuation.

6.50.4.4. Assist, as required, in preparing reports of survey for missing equipment.

6.50.4.5. When possible, advise HQ AMC/A3TL (or MAJCOM aircrew flight equipment office) and appropriate C2 agency (or airport management) before mission continuation.

6.50.5. Additional Equipment. If more equipment is discovered during the preflight than is annotated on the AF Form 4076 or AFTO Form 46, annotate the total quantity in the next vacant column for the item. Ensure the ICAO location designator is entered above the check number of that column.

6.51. Passenger Restrictions.

6.51.1. No-show passenger baggage or baggage of passengers removed from flight will be downloaded prior to departure. See exception at paragraph **13.4.2.7**

6.51.2. The cargo compartment will not be used to airlift personnel, except by specific approval of HQ AMC/A3.

6.51.3. Personnel Limitations. **Table 6.4** reflects the flying hours that a number of personnel (crew and passengers) may be accommodated with only one or with both lavatories available. These figures must be considered when determining the number of personnel that may be airlifted.

Table 6.4. Personnel / Lavatory Requirements.

Total Personnel	Forward Lavatory	Z-Lavatory	Both Lavatories

80	10.3	8.5	18.8
75	11.0	9.0	20.0
70	11.8	9.7	21.5
65	12.6	10.4	23.0
60	13.7	11.3	25.0
55	15.0	12.4	27.4
50	16.5	13.6	30.1
45	18.4	15.0	33.4
40	20.6	16.9	37.5
35	22.6	19.4	42.0
30	27.5	22.6	50.1

NOTES:

The lavatories should be properly serviced and operational at the station requiring airlift of these maximum figures.

Crew members must be included in total personnel given to arrive at the maximum load. Small children (up to 7 years old) should not be considered when computing load figures.

6.52. Airfield Data Reports. Aircrews transiting unfamiliar airfields or airfields where conditions may adversely affect subsequent flight will:

6.52.1. Report airfield characteristics that produce illusions, such as runway length, width, slope, and lighting, as compared to standard runways, sloping approach terrain, runway contrast against surrounding terrain, haze, glare, etc., and previously unknown obstacles, airfield markings, or other safety critical items to HQ AMC/A3AS.

6.52.2. Debrief the next C2 center transited.

6.53. Impoundment of Aircraft. If an aircraft is involved in a serious in-flight incident, the PIC should impound the aircraft immediately after landing IAW AFI 21-101, *Aircraft and Equipment Maintenance Management*, and contact the controlling C2 agency for further instructions.

6.54. Wake Turbulence Avoidance. Comply with wake turbulence avoidance criteria. Acceptance of traffic information, instructions to follow an aircraft, or a visual approach clearance is acknowledgment that the PIC will ensure takeoff and landing intervals and accepts responsibility of providing wake turbulence separation. Refer to FLIP General Planning (GP) for more information concerning wake turbulence separation.

6.55. Overflying En Route Stops. The C2 agency may approve a request to overfly a scheduled en route stop (AFRC command center for AFRC-directed missions).

6.56. Classified Equipment and Material. Comply with the following or as directed in MAJCOM supplement.

6.56.1. Equipment. When classified equipment is onboard, ensure the C2 Center or airfield management operations office is aware of the requirement for aircraft security according to Chapter 7 of this AFI. At bases not under jurisdiction of the Air Force, ensure the aircraft and equipment are protected. AFI 31-401, *Information Security Program Management*, provides specific guidance concerning the security of various levels of classified equipment aboard aircraft. For classified aircraft components which cannot be removed and stored, seal the aircraft. If available, use Ravens to guard the aircraft; otherwise, use guards employed by the host country for flightline/airport area control. Do not leave unguarded classified information stored in navigation or radio equipment.

6.56.2. Material. Ensure COMSEC and other classified materials are turned in at destination and receipts are obtained for COMSEC and classified material. The on-site C2 center will provide temporary storage for COMSEC and other classified materials during en route, turnaround, and crew rest stops. Encrypted COMSEC will only be transferred to authorized DoD personnel.

6.56.3. Aircrews will ensure that they have an operable Mode 4 when required for mission accomplishment. Aircrews will conduct an operational ground test of the Mode 4(ground test assets permitting) before deployment overseas, or as specified in the OPORD or contingency/exercise tasking.

6.56.4. Attempt to fix an inoperable Mode 4 before takeoff. Do not delay takeoff nor cancel a mission for an inoperable Mode 4, except when the aircraft will transit an area where safe passage procedures are implemented.

6.56.5. Conduct an in-flight check of the Mode 4 on all missions departing the CONUS for overseas locations. Aircrews can request the Mode 4 interrogation check through NORAD on UHF 364.2.

6.56.6. Aircraft with inoperable Mode 4 will continue to their intended destinations. Repairs will be accomplished at the first destination where equipment, parts, and maintenance technicians are available. In theaters where safe passage is implemented, aircraft will follow procedures for inoperable Mode 4 as directed in the applicable airspace control order or Air Tasking Order (ATO).

6.56.7. Ground and in-flight checks of the Mode 4, when conducted, are mandatory maintenance debrief items. Crews will annotate successful and unsuccessful interrogation of the Mode 4 on all aircraft forms (AFTO Form781A).

6.56.8. Aircrews will carry COMSEC equipment and documents required to operate the Mode 4 on missions when required for mission accomplishment. Before departing for any destination without COMSEC storage facilities, crews will contact their local COMSEC managers for guidance.

6.57. Cockpit Congestion and Loose Objects.

6.57.1. Store only the minimum amount of professional gear required to accomplish the mission on the flight deck.

6.57.2. No items (checklists, charts, etc.) will be on the throttle quadrant during critical phases of flight.

6.58. Not Used.

6.59. Use of Forward Entry Ladder. Use of the forward entry ladder as an alternate means of aircraft ingress/egress is restricted to operational necessity. Baggage will not be loaded/off-loaded using the ladder. The ladder‘s use is normally restricted to flight crew members and maintenance personnel only. Use of the forward entry ladder to load/unload passengers will be at the discretion of the PIC.

Chapter 7

AIRCRAFT SECURITY

7.1. General. This chapter provides guidance on aircraft security and preventing and resisting aircraft piracy (hijacking) of the KC-10 aircraft. AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking)*, AFI 31-101, *Integrated Defense (FOUO)*, and specific MAJCOM security publications contain additional guidance. Aircrews will not release information concerning hijacking attempts or identify armed aircrew members or missions to the public.

7.2. Security. The KC-10 is a "Protection Level 3" resource. Aircraft security at non-United States military installations is the responsibility of the controlling agency.

7.3. Air Force Installation Security Program. The following security procedures will implement AFI 31-101, requirements for KC-10 aircraft:

7.3.1. The aircraft will be parked in an established restricted area and afforded protection IAW AFI 31-101.

7.3.2. When no permanent or established restricted area parking space is available, establish a temporary restricted area consisting of a raised rope barrier, and post with restricted area signs. Portable security lighting will be provided during the hours of darkness if sufficient permanent lighting is not available. Post security forces IAW AFI 31-101.

7.3.3. At non-United States military installations, the PIC determines the adequacy of local security capabilities to provide aircraft security commensurate with this chapter. If he or she determines security to be inadequate, the aircraft will depart to a station where adequate security is available.

7.3.4. The security force must be made aware of all visits to the aircraft. The security force POC must be identified to the PIC.

7.3.5. Security support is a continual requirement and is not negated by the presence of aircrew or ground crewmembers. Security force support terminates only after the aircraft doors are closed and the aircraft taxis.

7.3.6. Locking and Sealing. Lock or seal the aircraft during a "remain over night" (RON) on non-secure ramps. See paragraph **7.6.1** for procedures on how to seal the aircraft.

7.4. Standby Aircraft Security. Ensure aircraft hatches and doors are secure to show unauthorized entry. The PIC shall notify the C2 agency the aircraft is sealed and provide them a means to access the aircraft in an emergency. Annotate the forms with the time the aircraft was sealed. The C2 Senior Controller may grant access to a sealed aircraft, shall document time of entry and ensure it remains launch capable. The PIC or designated representative must be present if access to the aircraft is required and will ensure the aircraft is resealed. The aircrew pre-preflight portion will remain valid if performed by one aircrew, sealed, and flown by another aircrew. ***NOTE:*** WG/CCs should develop local procedures for documentation and management IAW TO 00-20-1 and MAJCOM Supplement.

7.5. En-route Security. The planning agency must coordinate with the execution agency to ensure adequate en route security is available. The PIC will receive a threat assessment and en route security capability evaluation briefing for areas of intended operation prior to home station

departure and should request updates from en route C2 as required. If required, a PHOENIX RAVEN team will be assigned to the mission.

7.5.1. The PHOENIX RAVEN team will consist of three US Air Force security force members, but may include more depending on security requirements. The team's travel status is determined by MAJCOM. The team travels in MEP status and is responsible to the PIC at all times. In turn, the PIC is responsible for the team's welfare (transportation, lodging, etc.). Ensure security team members receive a mission briefing and aircraft egress/passenger briefing (as appropriate).

7.5.2. Arrival. On arrival, the PIC will assess the local situation and take the following actions as required:

7.5.2.1. Area patrol. Request area security patrols from local security forces. If local authorities request payment for this service, use AF IMT 15, *United States Air Force Invoice*.

7.5.2.2. Aircrew surveillance. During short ground times, direct armed crewmembers to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity.

7.5.2.3. Inadequate Security. If, in the opinion of the PIC, airfield security is inadequate and the PIC determines the safety of the aircraft is in question, the PIC may waive the FDP limits and crew rest requirements and depart as soon as possible for a base considered reliable. Report movement and intentions to the controlling agency as soon as practical. If a departure is not possible, the aircrew must secure the aircraft to the best of their ability. In no case, will the entire crew leave the aircraft unattended. Crew rest requirements will be subordinate to aircraft security when the airframe may be at risk. The PIC should rotate a security detail among the crew to provide for both aircraft protection and crew rest until relief is available. Request security assistance from the nearest DoD installation, US Embassy, local military or law enforcement agencies as appropriate.

7.5.3. Entry Control Procedures. Unescorted entry is granted to aircrew members and support personnel assigned to the mission who possess their home station AF Form 1199, *Air Force Entry Control Card*, supported by an Entry Access List (EAL) or aircrew orders. Aircrew members and assigned crew chiefs are authorized escort authority.

7.5.3.1. Normally, non-United States nationals, such as cargo handlers, can perform their duties under escort and should not be placed on the EAL.

7.5.3.2. Personnel not on the EAL or aircrew orders must be escorted within the area.

7.6. Detecting Unauthorized Entry.

7.6.1. When parking on a secure ramp, the aircraft will normally be left unlocked/unsealed to allow ground personnel immediate access. If, in the PIC's judgment, the aircraft needs to be locked and sealed in order to detect unauthorized entry, then:

7.6.1.1. Use available aircraft ground security locking devices.

7.6.1.2. Secure the doors in a manner that will indicate unauthorized entry (e.g., tape inside of doors to airframe so that entry pulls tape loose).

7.6.1.3. Close and lock door (1L).

7.6.1.4. Wipe the immediate area around lock and latches clean to aid in investigation of a forced entry.

7.6.1.5. Report any unauthorized entry or tampering to the Office of Special Investigation (OSI), security forces or local authorities, and the C2 agency. Have aircraft thoroughly inspected prior to flight.

7.6.2. Security awareness is crucial to effective mission accomplishment. Aircrews must always remain vigilant to their surroundings, especially at high threat, low security locations. During preflight activities, aircrews will inspect accessible areas, to include: aircraft wheel wells, center accessory compartment, forward avionics compartment, and ARO aft accessory compartment for unauthorized packages, personnel, or other unfamiliar devices. Report any suspicious items to host security forces. Aircrews will maintain a heightened security posture throughout all pre-takeoff activities.

7.7. Preventive Measures. Commanders at all levels must ensure preventive measures are taken to minimize access to the aircraft by potential hijackers. When a KC-10 is operating away from home station, the PIC will comply with this chapter and AFI 13-207, as supplemented.

7.7.1. Preventive measures include the following: The host station passenger processing or manifesting facility should conduct anti-hijacking inspections. Do not board passengers until the PIC is fully satisfied with inspection results. In the absence of qualified passenger service representatives, the PIC will ensure the anti-hijacking inspection of passengers and baggage is accomplished.

7.7.1.1. The Transportation Security Administration provides the latest guidance on passenger screening and carry-on allowances. The latest guidance can be downloaded from **www.tsa.gov/press/happenings/index.shtm**.

7.7.1.1.1. Aircrew must ensure that thorough screenings are accomplished when processing passengers at locations without an AMC Passenger Terminal.

7.7.1.1.2. Carry-on restrictions apply to all passengers required to process through the passenger terminal, or equivalent when at a non-AMC location. Carry-on restrictions do not apply to those not required to process through the passenger terminal, or equivalent when at a non-AMC locations. This includes:

7.7.1.1.2.1. Aircrew members listed on the Flight Authorization for that mission.

7.7.1.1.2.2. Mission Essential Personnel (MEP) for that mission.

7.7.1.1.2.3. OSA/VIPSAM passenger not required to process through the Passenger Terminal (primary DV, spouses/party, aides, and security details only).

7.7.1.1.2.4. Duty passengers on ANG/AFRC mission numbers.

7.7.1.1.3. Consider baggage contained in areas not readily accessible in flight as checked baggage, even if carried to the aircraft by the passengers. This includes, but is not limited to baggage restrained in the cargo compartment.

7.7.1.1.4. Brief non-exempt passengers that baggage in these areas is not to be accessed in-flight. If any non-exempt passenger attempts to access checked baggage

in-flight, land the aircraft at the nearest suitable airport (preferably a military facility) with appropriate law enforcement personnel. Request assistance in removing the passenger(s) and accompanying baggage from the aircraft. Comply with all law enforcement direction.

7.7.2. 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 prior to loading.

7.7.3. During exercises or contingencies in support of combat operations involving the movement of large groups of personnel, the unit being supported should manifest passengers and perform anti-hijacking inspections.

7.7.4. Passengers will not carry weapons or ammunition on their person or in hand-carried baggage aboard an aircraft. ***EXCEPTION:*** Special agents, guards of the Secret Service or State Department, RAVEN Team Members, and other individuals specifically authorized to carry weapons.

7.7.4.1. Troops or deadhead crewmembers will not retain custody of ammunition on an aircraft. They will turn it in to the troop commander or PIC. Troops may carry unloaded weapons and ammunition aboard the aircraft during combat operations. When the tactical situation dictates (in coordination with the aircrew), weapons may be loaded at the order of the troop commander or team leader.

7.7.4.2. Dummy clips that can be easily identified may be loaded for training at the order of the team leader in coordination with the aircrew.

7.7.4.3. RAVENs will only be armed in-flight on specifically designated missions identified on the mission "frag" as "RAVEN in-flight arming required".

7.7.5. If weapons must be cleared, instruct the individual(s) to:

7.7.5.1. Move to a safe, clear area at least 50 feet from any aircraft, equipment, or personnel before un-holstering or un-slinging their weapons.

7.7.5.2. Clear weapons in accordance with standard safety procedures. Ensure troop/PIC retains ammunition IAW paragraph **7.7.4.1**

7.8. Preventing and Resisting Hijacking.

7.8.1. The Administrator, Federal Aviation Administration (FAA), has exclusive responsibility to direct law enforcement activity related to actual or attempted aircraft piracy (hijacking) in the United States. See CJCSI 3610.01A, dated 20 Jun 06, and 49 USC 46501 and 49 USC 44903(e).

7.8.2. In taking action during an aircraft hijacking situation, military forces will act under military command within the scope of their duties.

7.8.3. In the event an aircraft involved in an aircraft hijacking situation is carrying documents, equipment, or material that DoD has determined to be highly sensitive, or weapons of mass destruction, DoD will provide FAA, and where appropriate, the Federal Bureau of Investigation (FBI) with all pertinent information. Where possible, the FAA will consult and cooperate with DoD prior to directing any law enforcement activity.

7.8.4. An aircraft is most vulnerable to hijacking when the aircrew is aboard and the aircraft is operationally ready for flight.

7.8.5. A concerted effort must be made to prevent the hijacking of military or military contract aircraft by detecting potential hijackers before they board the aircraft.

7.8.6. Should preventive efforts fail, any actual attempt to hijack a military aircraft must be resisted in a manner appropriate to the situation.

7.8.7. Since air piracy may be committed by political terrorists or by individuals to whom the threat of death is not a deterrent but a stimulus, ordinary law enforcement procedures may be ineffective. Thus, successful conclusion of a hijacking situation and apprehension of the hijackers may require use of specialized law enforcement techniques and procedures.

7.8.8. Delaying actions have been most successful in overcoming hijackings without loss of life or property.

7.8.9. In the case of an aircraft carrying passengers, the primary concern is the safety of the passengers.

7.8.10. Assistance to hijacked civil or military contract aircraft will be rendered as requested by the pilot in command of the aircraft and the authority exercising operational control of the anti-hijacking effort.

7.9. Initial Response. When an act of air piracy involves an Air Force installation or aircraft within the United States, response will be according to the following guidelines until such time as FAA assumes active direction of anti-hijacking efforts. Resist all attempts to hijack a military aircraft. Resistance may vary from simple dissuasion, through deception and subterfuge, to direct physical confrontation, including the prudent use of weapons.

7.9.1. The following guidelines should be used to counter a hijacking, actual or threatened, while the aircraft is on the ground:

7.9.1.1. Delay movement of the aircraft to provide time for ground personnel and the aircrew to establish communication and execute coordinated resistance actions.

7.9.1.2. The authority for determining when ground resistance will be discontinued is vested in the highest available level of command. When adequate communication cannot be established, or when time does not permit, this authority is delegated in the following order:

7.9.1.2.1. MAJCOM commander exercising operational control of the aircraft.

7.9.1.2.2. MAJCOM commanders in whose AOR the airfield lies.

7.9.1.2.3. Senior operational commander on scene.

7.9.1.2.4. PIC in compliance with MAJCOM directives.

7.9.2. A hijacked aircraft carrying weapons of mass destruction will not be allowed to takeoff. Refer to DoD 5210.41M, *Nuclear Weapon Security Manual*, paragraph 9B(3), for additional guidance.

7.10. In-Flight Resistance. After airborne, success in thwarting a hijacking depends on the resourcefulness of the aircrew. Many variables of a hijacking preclude use of any specific

counter-hijacking procedure. Some key factors should be evaluated before deciding a course of action to be taken, including the nature of the threat, danger to life or crippling damage to the aircraft in-flight, destination indicated by the hijacker, and the presence of sensitive material onboard. Some counter-hijacking actions the aircrew may consider are:

7.10.1. Engage the hijacker(s) in conversation in an attempt to calm them and to evaluate what course of action might be effective.

7.10.2. Dissuade the hijacker.

7.10.3. Use facts or subterfuge to convince the hijacker intermediate stops are necessary.

7.10.4. Propose more favorable alternatives, such as landing in a neutral, rather than a hostile, country.

7.10.5. Exploit any reasonable opportunity to incapacitate or overcome the hijacker physically, including the prudent use of firearms.

7.11. Communications Between Aircrew and Ground Agencies. Crews facing a hijacking threat will transmit an in-the-clear notification of hijacking to ATC. If an in-the-clear transmission is not possible, set transponder to 7500. If unable to set transponder, or if not under radar control, transmit a radio message indicating transponder change to 7500. Notify ground agencies by any means available as soon as practical and follow-up with situation reports as circumstances permit. Covert signals are no longer to be used per FAA guidance.

7.12. Forced Penetration of Unfriendly Airspace. Refer to FIH for international signals for air intercept.

7.13. Arming of Crewmembers. When crews are directed to be armed by the mission execution authority, the PIC will determine which crewmembers will be armed (two crewmembers will be armed unless directed otherwise). All crewmembers should know who is armed. The following procedures apply when arming is directed:

7.13.1. Weapons Issue. Before departing home station, obtain weapons, ammunition, box, lock and key. Crewmembers will be armed according to AFI 31-207, *Arming and Use of Force by Air Force Personnel* and MAJCOM publications. If an armed crew member must leave the crew en route, transfer the weapon to another authorized crew member using AF Form 1297, *Temporary Issue Receipt.*

7.13.2. Wearing of Weapons. Wear weapons in a holster, concealed at all times to prevent identifying armed crewmembers. Do not wear weapons off the flight line except to and from the C2, armories, and other facilities associated with aircrew activities.

7.13.2.1. AMC Passenger Terminal Procedures. Armed crewmembers must discreetly identify themselves to AMC passenger service personnel upon arrival at security checkpoints. One crewmember will present a valid set of crew orders, their military identification card, and AF Form 523, *USAF Authorization to Bear Firearms*, authorizing the carrying of concealed weapons. Once terminal personnel verify this, they will allow the crewmember to vouch for the remaining crewmembers. The entire crew will then proceed through the magnetometer without removing objects from their pockets. This will prevent passengers from determining which crewmembers are armed.

7.13.3. Weapons Storage In-Flight. Crewmembers will be armed before beginning preflight, onload or offload duties and until completion of all post-flight duties. When no passengers are aboard that require arming, weapons may be stored in the gun box in-flight after a satisfactory stowaway check. Crewmembers will rearm before landing. Weapons need not be unloaded before placing them in a gun box.

7.13.4. Weapons Storage on the Ground.

7.13.4.1. Aircrews will store weapons and ammunition in the most secure facility available, normally the base armory.

7.13.4.2. In the event a secure facility is unavailable:

7.13.4.2.1. Non-stage aircrews may store weapons and ammunition in the aircraft gun box.

7.13.4.2.2. Stage aircrews should contact C2 for guidance.

7.13.5. When storing weapons in the gun box:

7.13.5.1. Weapons should not normally be unloaded.

7.13.5.2. Inform C2 which crew member has the gun box key.

7.13.6. Crewmembers will ensure they are reissued the same weapon until mission termination at home station.

7.13.7. Loading and Transfer of Weapons. Load and unload weapons at approved clearing barrels if available. Do not use a hand-to-hand transfer of loaded weapons to another crew member; place the weapon on a flat surface.

7.14. Force Protection. Crews must be alert to possibility of terrorist activities at all times. Reference AFPAM 10-100, *Airman's Manual,* Joint Service Guide 5260, *Service Member's Personal Protection Guide: Combat Terrorism While Overseas,* and AFI 10-245, *Antiterrorism (AT),* for Force Protection measures.

Chapter 8

OPERATIONAL REPORTS AND FORMS

8.1. General. This chapter provides guidelines for worksheets, reports, and forms associated with AMC operational activities. Consult governing instruction or contact wing, unit, or local flight safety officers for assistance with safety forms.

8.2. AF Form 457, *USAF Hazard Report*. The AF Form 457 is a tool to notify supervisors and commanders of a hazardous condition that requires prompt corrective action. For hazardous weather, complete the front side of an AF Form 457 and send it to the parent wing flying safety office. If addressing a computer flight plan deficiency, attach a copy of the AF IMT 72, *Air Report* (AIREP)**.** Send your report so the parent unit receives it within 5 days of the event. For more information, see AFI 91-202, *The US Air Force Mishap Prevention Program.*

8.3. AF Form 651, *Hazardous Air Traffic Report* (HATR). The AF Form 657 is a tool to report near midair collisions and alleged hazardous air traffic conditions. See Attachment 3 of AFI 91-202 for more information concerning the HATR program.

8.3.1. AFI 91-204, *Safety Investigations and Reports*, and AFMAN 91-223, *Aviation Safety Investigations and Reports*, list HATR reportable incidents.

8.3.2. The PIC shall report the hazardous condition to the nearest ATC agency (e.g. center, Flight Service Station (FSS), control tower, or aeronautical radio station) as quickly as safety allows. Include the following information in the radio call (as appropriate)

8.3.2.1. Aircraft identification or call sign.

8.3.2.2. Time and place (radial/DME of NAVAID, position relative to the airfield, incident, etc).

8.3.2.3. Altitude or flight level.

8.3.2.4. Description of the other aircraft or vehicle.

8.3.2.5. Advise controlling ATC agency that the PIC will file a HATR upon landing.

8.3.3. Deadline to file a HATR is 24 hours after event via any communication mode available. If landing airport has a USAF airfield management function, submit completed AF Form 651 to the airfield management officer for forwarding to wing safety office. If landing airport does not have an airfield management office, notify the safety office of the Air Force base nearest to location where the condition occurred, PIC's home base safety office, or as prescribed by overseas MAJCOM. In that case, provide contact sufficient information to prepare AF Form 651.

8.3.4. Grant individuals who submit a HATR immunity from disciplinary action provided:

8.3.4.1. If they were the offending party, their violation was not deliberate.

8.3.4.2. They committed no criminal offense.

8.3.4.3. Their actions did not result in a mishap.

8.3.4.4. They properly reported the incident using procedures above.

8.4. AMC Form 97, *AMC In-Flight Emergency and Unusual Occurrence Worksheet*. The AMC Form 97 is a tool to notify appropriate authorities of any mishap involving crewmembers or aircraft. Unless other MAJCOM guidance directs, PICs shall complete all appropriate areas of the form in as much detail as possible. When notified, MAJCOM C2 agents will inform their supervisor/commander to start investigation and reporting activities IAW AFI 91-204, *Safety Investigations and Reports*, and Operation Report 3 (OPREP-3) procedures.

8.4.1. PICs will report crewmember or passenger injury, aircraft damage, or injury/damage to another organization's people or equipment caused by PIC's aircraft/crewmember. At a minimum, report the following:

8.4.1.1. Any physiological episode (physiological reaction, near accident, or hazard in-flight due to medical or physiological reasons). These include:

8.4.1.1.1. Proven or suspected case(s) of hypoxia.

8.4.1.1.2. Carbon monoxide poisoning or other toxic exposure.

8.4.1.1.3. Decompression sickness due to evolved gas (bends, chokes, neurocirculatory collapse), or severe reaction to trapped gas that results in incapacitation.

8.4.1.1.4. Hyperventilation.

8.4.1.1.5. Spatial disorientation or distraction that results in an unusual attitude.

8.4.1.1.6. Loss of consciousness regardless of cause.

8.4.1.1.7. Death by natural causes of any crewmember during flight.

8.4.1.1.8. Unintentional loss of pressurization if cabin altitude is above FL180, regardless of effects on people on board.

8.4.1.1.9. Inappropriate use of alcohol and effects of hangover that affect in-flight duties (crewmembers only).

8.4.1.1.10. Illness (both acute and preexisting), including food poisoning, dehydration, myocardial infarction, seizure, and so forth.

8.4.1.1.11. Exposure to toxic, noxious, or irritating materials such as smoke, fumes, or liquids. ***NOTE:*** Crewmembers and passengers involved in a physiological episode will see a flight surgeon to report the incident as soon as practical.

8.4.1.2. A human factors related situation, e.g. misinterpretation of instruments; information overload (i.e. tactile, aural, and visual input too fast to permit reasonable analysis/decision); aircrew task saturation (i.e. too many responses/actions required in a short period of time); or confused switchology (i.e. adjacent switches where actuation of wrong switch creates dangerous situation). Anonymous reports are acceptable.

8.4.1.3. A condition that required engine shutdown, in-flight flameout, engine failure, suspected engine power loss, or loss of thrust that required descent below MEA. Engine failures include, but are not limited to, shrapnel from a failed internal engine component penetrating the engine case, engine case rupture/burn-through, engine nacelle fire, substantial fuel leak, or unselected thrust reversal. Consistent with safety, immediately report incidents that involve multiple engines (may report single-engine incidents upon

landing). ***NOTE:*** Exclude intentional shutdowns for FCF unless the engine fails to restart.

8.4.1.4. A flight control malfunction (including the autopilot and trim systems) that results in an unexpected or hazardous change of flight attitude, altitude, or heading. Enter the flag words, "Reportable Flight Control Malfunction" in the AFTO 781A.

8.4.1.5. A landing gear malfunction aggravated by failed emergency system or procedures.

8.4.1.6. A cargo door, ramp or other door malfunction when intent for flight exists which could affect system integrity.

8.4.1.7. An in-flight loss of all pitot-static or gyro-stabilized attitude/directional instrument indications.

8.4.1.8. Any spillage/leakage of radioactive, toxic, corrosive, or flammable material from aircraft stores or cargo.

8.4.1.9. Conditions that required pilot to depart takeoff or landing surface.

8.4.1.10. All in-flight fires regardless of damage.

8.4.1.11. All bird strikes regardless of damage.

8.4.1.12. Incidents that, in the PIC's judgment, are in the interest of flight safety.

8.4.1.13. All cases of acoustical tile panel damage due to in-flight ice shedding. An AFTO 781A entry is required after encountering conditions favorable for induction icing for an extended period of time.

8.4.1.14. Any instance of fuel dump during flight.

8.4.2. Always provide your home station safety officer a copy of relevant information. Make every effort to preserve all mission and flight related documents, such as flight plans, weather briefings, NOTAMS, Weight and Balance form, etc., for collection by appropriate safety officials. PICs shall use the following precedence to report mishaps (as soon as feasible after event):

8.4.2.1. MAJCOM flight safety officer (FSO).

8.4.2.2. Any FSO.

8.4.2.3. The nearest USAF C2 center.

8.4.2.4. Any USAF Airfield Management Operations.

8.5. Report Violations, Unusual Events, or Circumstances. PICs shall document events that require them to deviate from AFI 11-202V3 (unless waived by competent authority) or alleged navigation errors (include over-water position errors over 24 NMs, border, or ATC violations).

8.5.1. Describe deviation(s) using the following report format:

8.5.1.1. Facts. Report pertinent details of the event.

8.5.1.2. Investigation and analysis. Report circumstances which required/drove deviation(s).

8.5.1.3. Findings and conclusions.

8.5.1.4. Recommendations to prevent recurrence.

8.5.1.5. Corrective actions taken.

8.5.2. Include the following attachments with the report:

8.5.2.1. Formal notification of incident.

8.5.2.2. AF IMT 4327a or approved crew orders.

8.5.2.3. Crewmembers' official statements (if applicable).

8.5.2.4. Other pertinent documents submitted in evidence (logs, charts, etc.).

8.5.3. In addition to above (when aircraft is equipped), PIC shall download original flight plan to a floppy disk and turn it in to the C2 center or parent standardization and evaluation office.

8.5.4. OG/CC shall send the original investigation report to the appropriate MAJCOM within 45 days of the event/notification.

8.5.5. Use OPREP-3 reporting procedures contained in AFI 10-206, *Operational Reporting*, for navigation errors over 24 NMs.

8.5.5.1. When notified of a navigation position error, the PIC (or agency that receives initial notification) shall document the circumstances surrounding the incident (using report format below) and ensure C2 agents submit an OPREP-3.

8.5.5.2. Include the following information in the report:

8.5.5.3. The name and location of agency/unit submitting report.

8.5.5.4. Affected mission identification number.

8.5.5.5. Reference OPREPs-3 to determine type of event (i.e., state "navigation position error.").

8.5.5.6. The date, time (Zulu), and location (e.g., ARTCC area) of alleged infraction.

8.5.5.7. Describe facts and circumstances. Include aircraft type and tail number, unit (aircrew's wing or squadron), home base, route of flight, point of alleged deviation, and miles off course.

8.5.6. PICs shall expeditiously report unusual events/circumstances that impact their mission to appropriate MAJCOM agencies. Reportable events include, but are not limited to, spectrum interference, interception, fuel dumping, multiple engine failure, hostile fire, injury to passenger or aircrew member, etc. This list is not all exhaustive. Most events require C2 agents to forward OPREP reports to higher headquarters. In all cases, pass the "who, what, when, where, why, and how" of the incident to a C2 agency.

8.5.6.1. The Spectrum Interference Resolution Program, covered in AFI 10-707, *Spectrum Interference Resolution Program*, establishes procedures to combat the effect of meaconing, intrusion, jamming, and interference. PICs who encounter electromagnetic interference (EMI) will report the event to the nearest C2 agency as soon as practical.

8.5.6.1.1. Address EMI reports to: HQ AMC SCOTT AFB IL//A63// and addressees listed in AFI 10-707. Send reports via electronic message format with the following information in plain text:

8.5.6.1.1.1. Frequency selected when EMI occurred.

8.5.6.1.1.2. Equipment affected by EMI. Location of the system. The system function, name, nomenclature, manufacturer with model number or other system description. The operating mode of the system, if applicable (frequency agile, pulse Doppler, search, etc.).

8.5.6.1.1.3. Description of EMI (noise, pulsed, continuous, intermittent, on so forth).

8.5.6.1.1.4. Effect EMI had on system performance (reduced range, false targets, reduced intelligibility, data errors, etc.).

8.5.6.1.1.5. Date(s) and time(s) of EMI.

8.5.6.1.1.6. Location where EMI occurred (coordinates or line of bearing, if known, otherwise state as unknown.)

8.5.6.1.1.7. Source of the EMI if known.

8.5.6.1.1.8. List other units that received interference (if known) and their location or distance and bearing from your location.

8.5.6.1.1.9. A clear, concise narrative summary on what you know about the EMI, with any actions taken to resolve the problem.

8.5.6.1.1.10. Whether or not PIC wants expert/technical assistance (include level of security clearance expert requires).

8.5.6.1.1.11. Specify impact the EMI had on your mission.

8.5.6.1.1.12. Provide a POC (Name, Rank, DSN/Commercial Phone Number, and Duty hours).

8.5.6.1.2. C2 agents must prepare an OPREP-3 if EMI is suspected meaconing, intrusion, or jamming, interference sufficient to cause a hazard, or if, in the PIC's judgment, the situation warrants such a report.

8.5.6.1.3. PICs shall serve as classification authority for EMI reports. Evaluate an adversaries' ability to exploit certain systems using EMI and protect information accordingly. PICs on a non-sensitive mission or who judge the EMI to be interference from a non-hostile source need not classify EMI reports unless that report would reveal system vulnerability. Classify interference report(s) at stations located in combat areas or during sensitive military missions.

8.6. Petroleum, Oil, and Lubricants (POL) - Aviation Fuels Documentation. This section prescribes aviation POL (AVPOL) procedures that ensure correct documentation, form and invoice processing, and program supervision. Use the Multi Service Corporation (MSC) air card for the purchase of aviation fuel and ancillary ground services at commercial airports (and some military installations) worldwide. The air card is authorized for use by all U.S. government aircraft, state, and local law enforcement aircraft, and some foreign government aircraft. All

PICs should plan to use the "platinum" MSC card. In most cases, there will be no changes when refueling at non-Defense Energy Support Center (DESC) contract locations. The MSC card is accepted at approximately 4,800 locations worldwide. A list of all MSC-accepting merchants can be found at **https://www.airseacard.com**. It replaces the Standard Form (SF) 44, *Purchase Order-Invoice-Voucher*, at locations that accept the MSC card.

8.6.1. Responsibilities. Aircrew and maintenance personnel will be familiar with AVPOL procedures and documentation requirements of this chapter. Improper use of the MSC card could create financial liability for the purchaser.

8.6.2. Refuel/defuel USAF aircraft at DoD locations whenever possible. If DoD service is not available, purchase fuel from other source(s) in the following priority:

8.6.2.1. Defense Fuel Supply Center (DFSC) or Canadian into-plane contracts.

8.6.2.2. Foreign government air forces. ***NOTE:*** DoD FLIP en route supplements identify locations with into-plane contracts.

8.6.3. AVPOL Forms Documentation and Procedures.

8.6.3.1. The DD Form 1898, *Energy Sale Slip*, is the fuel transaction receipt used for purchases at other DoD locations, including DFSC into-plane contract locations. Log and place the DD Form 1898 inside the AF Form 644. The PIC or designated representative shall complete this form. ***NOTE:*** If the contractor insists on a unique invoice along with the DD Form 1898, annotate the vendor's invoice with "DUPLICATE DD FORM 1898 ACCOMPLISHED."

8.6.3.2. The AF IMT 664, *Aircraft Fuels Documenting Log*, is a tool to log and store all AVPOL transaction forms. Record all off-station transactions on the front of the form and insert the original form inside the envelope. Turn in the AF IMT 664, with supporting forms, to maintenance debriefing or as directed by local procedures. The PIC or designated representative shall complete this form when appropriate.

8.6.3.3. The SF 44, *Purchase Order-Invoice-Voucher*, may be used to purchase fuel, ground services and/or other authorized products when no MSC card contract is in place.

8.6.3.3.1. SF 44 fuel purchases where FBO agrees to invoice DESC for payment.

8.6.3.3.1.1. The aircrew shall present the SF 44 as the purchase invoice when an FBO refuses to accept the MSC card. The aircrew shall complete the SF 44 and attach it to the FBO vendor ticket/invoice when the FBO also declines use of the SF 44 and uses its own invoice/receipt. Fuel purchases shall be documented on a separate SF 44 from ground services and other authorized products since the FBO must invoice DESC for the fuel and the customer for non-fuel product and services.

8.6.3.3.1.2. Copies 1 and 2 of the SF 44 shall be provided to the FBO. Copy 1 of the SF 44 and one copy of the FBO commercial invoice, if applicable, shall be forwarded to the following address by the FBO to bill/invoice DESC: DESC-RRF, Building 1621-K, 2261 Hughes Avenue, Suite 128, Lackland AFB, Texas 78236.

8.6.3.3.1.3. Copy 3 of the SF 44 and one copy of the FBO commercial invoice, if

applicable, shall be provided to the aircrew. Log and place a copy inside the AF IMT 664. Aircrews shall present all fuel purchase receipts to the designated aviation squadron Certifying Official and/or Accountable Official upon return to home station to enable timely validation and financial obligation processing into the Fuels Automated System (FAS).

8.6.3.3.2. SF 44 fuel purchases where the FBO requires cash payment.

8.6.3.3.2.1. Cash fuel purchases are only authorized when either the DoD 4500.54G, *DoD Foreign Clearance Guide*, requires cash payment, or when FBO locations outside the United States and U. S. Territories refuse MSC card and/or SF 44 invoicing processes. Aircrews required to pay cash for aviation fuel purchases shall employ the following procedures: ***NOTE:*** These procedures do not apply to non-fuel products or services.

8.6.3.3.2.1.1. The aircrew shall obtain cash from a local DoD Finance source that is charged to an approved Treasury suspense account prior to home station departure.

8.6.3.3.2.1.2. Aircrews shall complete the SF 44 and obtain the FBO fuel vendor annotation in block 11 of the SF 44 to confirm total cash amount and also sign and date the SF 44 blocks 20 and 21. Log and place a copy inside the AF IMT 664. Aircrew shall return unused cash to their local DoD Finance source upon return to home station. Present the completed SF 44 (for non-fuel charges only) to the appropriate home station administrative personnel for processing (e.g., Wing Refueling Document Control Officer, Finance Office, etc.)

8.6.3.3.3. SF 44 purchases of ground services and other approved products (not fuel).

8.6.3.3.3.1. Complete a separate SF 44 for non-fuel purchases. Provide the FBO copies 1 and 2 of the SF 44. The FBO shall use copy 1 and one copy of the FBO commercial invoice, if applicable, to directly bill/invoice the purchasing organization. Block 9 of the SF 44 shall reflect the organization name and address of the finance office responsible for payment to the FBO. The purchasing organization shall make payment to the FBO upon receipt of the invoice from the FBO. Log and place a copy inside the AF IMT 664.

8.6.3.3.4. If the vendor presents their own form for signature and accepts the SF 44, write the statement "SF 44 Executed" on the vendor’s form.

8.6.3.3.5. Turn in two copies of the SF 44 to the operations officer at home station.

8.6.3.3.6. Present the aircraft identaplate for purchases at SITCO Agreement locations. Make certain the invoice includes date of transaction, grade of product, quantity issued/defueled, unit of measure, and signature of Air Force member who accepted product. If vendor also requires completed SF 44 write statement, "AF FORMS EXECUTED” on vendor’s invoice. Log and place a copy inside the AF IMT 664.

8.6.3.4. Purchasing Aviation Fuel in Canada. The DoD and Canadian Department of National Defense have signed a memorandum of understanding allowing DoD aircraft to

use the DD Form 1896, *Jet Fuel Identaplate*, when refueling at Canadian airfields with a Canadian National Defense Contract (CNDC). Use the AIR for fuel purchases at Canadian airports without a CNDC, and for ground handling services at all Canadian airports.

8.6.3.5. Use host country forms to effect purchases at foreign military airfields, including "replacement-in-kind" locations. Hand scribe information from aircraft identaplate on the local form. Log and place a copy inside the AF IMT 664,.

8.6.3.6. DD Form 791, *In-Flight Issue Log*, is a tool to log in-flight off-load of fuel. Except for gallons transferred, fill out all blocks on the form. Use eight digit tail numbers for the tanker and receivers. Log and place a copy inside the AF IMT 664 and turn it in IAW local procedures.

8.6.3.7. Not Used.

8.6.3.8. AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document***,** records POL actions for particular airframe IAW applicable directives. The PIC or designated representative shall complete the form and submit to maintenance debrief.

8.6.3.9. DD Form 1896, *Jet Fuel Identaplate*, is the aircraft fuel and oil charge card.

8.6.3.10. The PIC will verify the AFTO Form 781H is completed and turned in to maintenance debriefing following the mission.

8.6.3.11. For off-station missions, the PIC will complete or verify accuracy of the SF 44, AF IMT 664, AFTO Form 781H, DD Form 1898, and associated fuels receipts then place them in the AF IMT 664 (use eight digits for all USAF aircraft tail number entries). The PIC will transmit all AF IMT 664 information via phone, fax, or message if mission causes him/her to be off-station past the last day of the month.

8.6.3.12. Boom operators will:

8.6.3.12.1. Collect all pertinent information to document in-flight refuel operation to include, receiver aircraft MDS, unit of assignment, and home station. Obtain information from flying schedule prior to flight, verbally/visually during flight, or by any means following flight. NOTE: Boom operators may submit an incomplete DD Form 791 only after exhausting all means to obtain the required data. In those cases, boom operators must include a brief explanation as to why the data is missing. Unit commanders will develop a local procedure to collect required information prior to the form's final processing.

8.6.3.12.2. Prior to fuel off-load, get receiver aircraft's eight-digit tail number (use interphone radio, boom interphone, or visually if open communication would compromise mission during clandestine or covert operations or threaten safety of flight. ***NOTE:*** EMCON 2 or 3 training does not disqualify inter-plane radio to obtain or verify AR data. Do not use inter-plane radios during actual EMCON 2, 3, or 4 to obtain or verify AR data unless specifically authorized by the mission directive. Consider HAVE QUICK II and secure voice if visual conditions make the tail number too difficult to read.

8.6.3.12.3. Do not use "known/suspected" aircraft serial number that belongs to the unit being fueled in lieu of the actual aircraft being fueled. Auditors compare receiver unit aircraft serial numbers with fuel load reports at home station. If "known/suspected" aircraft tail number billed is incorrect (in maintenance/unable to fly), the auditor will reject the fuel bill and the tanker unit is liable for the cost of the fuel transferred.

8.6.3.12.4. Comply with locally established procedures to complete DD Form 791 for classified in-flight refuelings.

8.6.3.13. Flight Engineers will accurately record fueling actions on the AFTO Form 781H, AF Form 4091, *Flight Engineers Worksheet***,** and AF IMT 664. When available, record receiver refueling information (i.e., tail number, unit of assignment, and home station.)

8.6.3.14. Maintenance technicians will:

8.6.3.14.1. Prior to off-station mission or deployment, obtain sufficient fuels transaction forms to complete the mission/deployment. Unless directed otherwise by the PIC, accurately complete all ground refueling/de-fueling documents and place them inside the AF IMT 664.

8.6.3.15. Wing scheduling will:

8.6.3.15.1. Provide a member to the AVPOL advisory group.

8.6.3.15.2. By the 7th of each month, prepare monthly report for invoice control officer (ICO). Include organization (squadron), MDS, programmed flying hours for previous and current months in the report.

8.6.3.15.3. Include receivers' MDS, command of assignment, unit or squadron, and home station name (for each in-flight refueling sortie) on the weekly schedule.

8.6.3.15.4. Compose and transmit classified messages for classified in-flight refuelings to HQ AMC/A4REP IAW AFMAN 23-110, *USAF Supply Manual.*

8.6.3.15.5. Maintain the wing's current master list of receiver unit POCs and telephone numbers.

8.7. AF Form 4091, *Flight Engineer's Worksheet*. The AF Form 4091 is a tool to record pertinent facts during mission planning, preflight, in-flight, and post-flight operations. Record tail numbers using 8-digits. Submit this form with post mission paperwork.

8.8. AMC Form 54, *Aircraft Commander's Report on Services/Facilities*. The AMC Form 54 is a tool to report level of excellence for services encountered during mobility operations. Be quick to identify outstanding performers and attempt to resolve problems at lowest level practical. PICs should advise affected agency on their intent to submit an AMC Form 54. Provide a copy of the completed form to local station AMC C2 agency. Upon return to home station, PICs will coordinate form with SQ/CC and OG/CC. For Forms 54 that require AMC coordination, OG/CCs shall review and submit AMC Form 54 to 18AF/CC.

8.9. AMC Form 196, *Aircraft Commander's Report on Crew Member*. The AMC Form 196 is a tool to document an aircrew member or mission essential ground personnel's outstanding, below average, or unsatisfactory performance during a mobility mission. Be quick to identify

outstanding performers and attempt to solve problems at lowest level practical (provide local senior leaders opportunity to resolve problems as they occur). Send the report to subject's unit commander.

8.10. AMC Form 43, *Transient Aircrew Facilities Report*. The AMC Form 43 is a tool to report level of excellence for transient facilities. Any crewmember may submit this report whether or not the PIC includes an unsatisfactory item in the trip report. Send completed AMC Form 43 to HQ AMC/MWPS, or MAJCOM equivalent.

8.11. AF Form 3578, *Tanker Activity Report*. The AF Form 3578 is a tool to document tanker airframe sorties, air refueling user events, and flying hour expenditures. Complete the AF Form 3578 IAW AFI 11-222, *Tanker Activity Report.*

8.12. Not Used.

8.13. Not Used.

8.14. Operation Forms for Boom Operators. Detailed instructions for the preparation, distribution, and use of the following forms may be found in the governing directive.

8.14.1. DD Form 2131, *Passenger Manifest* (AMCI 24-101V14)

8.14.2. DD Form 1385, *Cargo Manifest* (DoD 4500.32R)

8.14.3. DD Form 1854, *US Customs Accompanied Baggage Declaration* (DoD 5030.49R)

8.14.4. DD Form 1907, *Signature and Tally Record* (DoD 4500 32.R)

8.14.5. CBP 6059B, *US Customs Accompanied Baggage Declaration* (DoD 5030.49R)

8.14.6. CBP 7507, *General Declaration* (Outbound/Inbound) (AFI 24-401, 402, 403,404)

8.14.7. AF Form 4069, *Tiedown Equipment Checklist*

8.14.8. AF Form 4075, *Aircraft Load Data Worksheet*

8.14.9. AMC Form 148, *Boarding Pass/Ticket/Receipt*

Chapter 9

TRAINING AND OPERATING LIMITATIONS

9.1. Passengers on Training Missions.

9.1.1. Initial qualification or re-qualification for pilots will not be conducted with passengers onboard (N/A MEP).

9.1.2. Mission certification training, evaluations, off station trainers, and JA/ATTs may carry passengers only if the aircrew in training is qualified. Tanker and receiver AAR is authorized if the pilot flying is qualified (AF Form 8 on file documenting successful completion of an aircraft checkride including AAR).

9.1.3. Touch-and-go landings and multiple practice approaches are prohibited with passengers onboard (N/A with MEP). ***EXCEPTION***: When approved by the MAJCOM, maintenance and civilian employees, under direct contract to the DoD and engaged in official direct mission support activities, considered "mission essential" may be onboard when touch-and-go or stop and-go landings are performed providing the mission is a designated training flight and an IP or EP is in command. This includes Aircrew Training System (ATS) contractor instructors flying in an official capacity under the requirements of the current ATS contract.

9.2. Touch-and-go Landing Limitations.

9.2.1. Touch-and-go landings will only be accomplished under the direct supervision of an IP/EP or SQ/CC certified AC. Refer to AFI 11-2KC-10V1 for certification requirements.

9.2.2. Not Used.

9.2.3. Limitations.

9.2.3.1. Comply with all flight manual restrictions and procedures.

9.2.3.2. Minimum runway length: 7000 ft with an IP, 10,000 ft for touch-and-go certified ACs. Minimum runway width: 147 ft.

9.2.3.3. Minimum ceiling/visibility: 300 ft and RVR 40 (3/4 SM visibility) with an IP, 600 ft ceiling and 2 miles visibility for touch-and-go certified ACs.

9.2.3.4. RCR shall be 8 or higher.

9.2.3.5. Do not accomplish touch-and-go landings on slush covered runways.

9.2.3.6. Maximum crosswind component: 20 knots with an IP, 15 knots for ACs.

9.2.3.7. Passengers or cargo will not be carried during touch-and-go operations or multiple practice approaches.

9.2.3.7.1. Static display box, tow bar, tie-down equipment box, engine covers, crew baggage, and empty pallet sub-flooring are not considered cargo.

9.2.3.8. The center gear will be extended for touch-and-go landings.

9.2.3.9. A minimum of 9 wheel brakes must be operational. Anti-skid on all operational wheel brakes must be functioning normally.

9.2.4. Supervision of touch-and-go landings. Review the following:

9.2.4.1. Flight manual procedures.

9.2.4.2. Importance of smooth application of power to the touch-and-go N1 setting while maintaining symmetric thrust as the throttles are advanced.

9.2.4.3. Engine failure, including recognition and corrective action.

9.2.4.4. Proper use of spoilers, flaps, and trim.

9.3. Training on Operational Missions.

9.3.1. Crews may perform multiple approaches and touch-and-go landings on operational airlift (TWCF) and 618 AOC (TACC) directed missions provided the following requirements are met:

9.3.1.1. Normal touch-and-go limitations apply and MEPs are briefed of the activity.

9.3.1.2. All transition training will be accomplished during the first 12 hours of the FDP.

9.3.1.3. Pre-mission coordination requirements. Activity shall be approved by TWCF/618 AOC (TACC) tasking authority and unit training is charged to unit. As part of pre-mission planning, aircraft commanders will contact parent wing current operations and obtain training mission number(s) for use at each en route location(s) where training events are planned. In addition, aircraft commanders will coordinate with and receive approval from unit OG/CC and the airfield(s) where training is to be accomplished. They will then coordinate with the 618 AOC (TACC) to ensure adequate ground time is available at planned training locations to allow for planned training events, clearing customs, required crew rest, etc. Once complete, wing current operations will coordinate with 618 AOC (TACC) to re-cut the mission and add the training mission number(s) in GDSS2.

9.3.1.4. Upon initial arrival at the training location, close out the current line on the AFTO Form 781 and log the training time on the next line using the appropriate training mission symbol and number.

9.3.2. Crews may accomplish AAR training on operational missions provided applicable items of paragraph **9.3.1.3** and the following requirements are met:

9.3.2.1. All mission-required fuel on-loaded prior to commencing any training.

9.3.2.2. Passengers and MEPs are briefed on the activity.

9.4. Simulated Emergency Flight Procedures.

9.4.1. Unless specifically authorized elsewhere in this section, do not practice emergency procedures that degrade aircraft performance or flight control capabilities (in-flight).

9.4.2. In an actual emergency, terminate all training and flight maneuvers practice. Training should be resumed only when the PIC determines it is safe.

9.5. Flight Maneuvers.

9.5.1. Practice of the following maneuvers are prohibited in flight.

9.5.1.1. Stall and approach to stalls including initial buffet.

9.5.1.2. Dutch roll.

9.5.1.3. Emergency descent.

9.5.1.4. Unusual Attitudes

9.5.1.5. Not Used.

9.5.1.6. Not Used.

9.5.1.7. Bank angles greater than 30 degrees except steep turn demonstration (perform according to applicable training regulation). Minimum altitude for bank angles greater than 30 degrees is 10,000 feet AGL.

9.5.1.8. Abnormal configuration approaches.

9.5.2. The following maneuvers are authorized for qualification and continuation training. They are applicable to all KC-10 aircraft except when prohibited by or restricted by the flight manual or other current directives. The pilot or IP will alert all crew members prior to accomplishing the following:

9.5.2.1. Landing Attitude Demonstrations: (Direct IP supervision).

9.5.2.2. Steep Turns. ***NOTE:*** IP supervision is required when performing steep turns in the aircraft. Maximum aircraft gross weight for steep turn training is 450,000 pounds.

9.5.2.3. Slow Speed Refueling Demonstration (may be performed in-flight according to applicable training instructions. Perform at a minimum altitude of 10,000 feet AGL. Initial and re-qualification students will perform "Slow Speed Tanker Refueling Demonstration" under direct IP supervision. Intentional flights at speeds less than 1.2g or initial buffet onset is prohibited. Intentional in-flight demonstration of stick shaker activation or buffet onset is prohibited.

9.6. Briefing Requirements.

9.6.1. Training/Evaluation Briefing. Before all training/evaluation missions, instructors/flight examiners will brief the crew on requirements and objectives for each student or examinee.

9.6.2. Debriefing. Review and evaluate overall training performed. Each student or aircrew member should understand thoroughly what training has been accomplished. Ensure all training is documented.

9.7. Simulated Instrument Flight. Artificial vision restricting devices are not authorized for any phase of flight. Simulated instrument flight may be flown and logged without the use of a vision-restricting device.

9.8. Operating Limitations.

9.8.1. Planned Go-Arounds and Visual Low Approaches. Initiate a planned go-around or missed approach not later than:

9.8.1.1. Precision approach--DH (or 200-feet HAT, whichever is higher).

9.8.1.2. Non-precision approach--missed approach point (MAP).

9.8.1.3. Visual approach or VFR pattern--100 feet AGL.

9.8.2. Landings. The following limitations apply to touch-and-go and full-stop landings:

9.8.2.1. Flap setting - Do not practice landings with less than 35 flaps.

9.8.2.2. Multiple full-stop landings - Compute brake energy prior to each subsequent takeoff.

9.9. Not Used.

9.10. Not Used.

9.11. Not Used.

9.12. Maintenance Opportune Training.

9.12.1. All aircraft in the en route system on AMC missions are available for opportune training except those designated non-available in the advisory section of GDSS Form 59 by the 18 AF/TACC (i.e. SAAM, 1A1, Phoenix Banner, and Medevac missions). Mission planners will annotate the GDSS Form 59 for those missions not allowed to be used for opportune training. The en route maintenance production supervisor will brief the aircraft commander (aircraft of the intention to train, either at the aircraft or at the air mobility command center, prior to entering crew rest. If a conflict arises between the crew and en route maintenance teams it should be routed through TACC duty officer/operations director for resolution. ***NOTE:*** Aircraft Commander approval is not required.

9.12.2. Training will not be performed on aircraft carrying hot cargo or on CLOSE WATCH missions. All training will be complete and the aircraft ready for flight not later than 2 hours prior to crew show. Crews are not required to remain with the aircraft while training is performed.

Chapter 10

AIRCREW OPERATIONS IN CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR THREAT ENVIRONMENT

10.1. Overview. The proliferation of Chemical, Biological, Radiological, and Nuclear (CBRN) weapons and the means to deliver them present serious security threats to the global operations of air mobility forces. This chapter describes the CBRN threat, passive defense measures to mitigate that threat, and guidance for ground and flight operations in a contaminated environment.

10.2. Understanding the CBRN Threat.

10.2.1. Chemical Weapons. Militarily significant chemical weapons include nerve, blister, choking, and blood agents. A key point for aircrew members to remember is that time is on your side. The ultra-violet (UV) rays of the sun, high temperatures, and high absorption rates of chemicals all decrease their lethality. Most chemical agents will either evaporate or absorb into surfaces. For decontamination, cleaning with hot soap and water and/or a 5 percent bleach solution currently appears to be the best and most practical method of removing chemical agents that may remain as a contact hazard on glass, and unpainted metal. Currently, the only decontaminate authorized for use on aircraft is soap and water. ***NOTE:*** Recent tests indicate that as a decontaminated aircraft dries, the absorbed chemical warfare agent (CWA) may resurface from painted surfaces causing contact and vapor hazards.

10.2.2. Biological Weapons. Biological warfare agents (BWA) are normally divided into three areas: bacteria (i.e., Anthrax) that live outside the cell, reproduce, and are normally susceptible to antibiotics; toxins (i.e., Ricin), that are poisons produced by living organisms or plants; and viruses (i.e., Smallpox) that normally require the host of a living cell to survive and reproduce. Viruses and toxins do not respond to antibiotics. It is probable that the medical community would be the first to recognize that an upsurge in “flu-like symptoms” is actually a bio attack. Although BWA are degraded by UV rays, humidity and high/low temperatures, some BWA (i.e., Anthrax spores) may have a long life, lasting decades under the right conditions. Current immunizations and good personal hygiene help prevent infection.

10.2.3. Radiological Weapons. The radiation dispersal device (RDD), or so-called “dirty bomb,” is the typical radiological weapon. RDD is any device that disseminates radioactive material without using a nuclear detonation. Key points to remember are that shielding and distance are the best defenses against radiation exposure.

10.2.4. Nuclear Weapons. The threat from a nuclear device is from the initial blast, heat, initial radiation, and residual fallout. In addition, the Electromagnetic Pulse (EMP) from a nuclear detonation can damage electronic equipment. The best protection is a combination of shielding, distance from the blast, and limited time of exposure.

10.3. CBRN Passive Defense Measures. Passive defense measures are those activities conducted to negate, contain, and manage the effects of CBRN attack. Passive defense measures include pre, trans, and post-attack actions designed to mitigate the CBRN threat through contamination avoidance, protection, and contamination control.

10.3.1. Contamination Avoidance. Contamination avoidance is the most important passive defense measure. Techniques for contamination avoidance include: in-flight diversion, survival launch, and minimizing exposure to contaminated cargo, aerospace ground equipment (AGE), and material handling equipment (MHE).

10.3.1.1. In-flight Diversion. When advised that a destination airfield is under CBRN attack or has been contaminated, the aircrew will divert to an uncontaminated airfield, if at all possible. Authority to land at a contaminated airfield will be specified in the controlling OPORD.

10.3.1.2. Survival Launch. If caught on the ground during attack warning, every reasonable effort will be made to launch to avoid the attack. Upon proper clearances, aircrew may launch to survive if they have sufficient fuel and unrestricted, safe access to the runway. In practice, this option may only be practical for aircraft that have just landed or aircraft at or near the end of the runway. If launch is not possible, shut down engines and avoid running environmental control systems. Close aircraft doors and hatches, don Individual Protective Equipment (IPE), and seek personal protective cover on the base. If time does not permit using base facilities, and the attack is a missile attack, remain in the sealed aircraft for a minimum of one-hour after the attack and/or follow host-base guidance.

10.3.1.3. Avoiding Cross Contamination from AGE, MHE, and Cargo. All formerly contaminated equipment and cargo must be marked to facilitate contamination avoidance and the use of protective measures. Additionally, the air shipment of formerly contaminated cargo requires special precautions and must be specifically authorized by the senior transportation commander.

10.3.2. Protection. When exposure to chemical and/or biological agents cannot be avoided, protection provides the force with the ability to survive and operate in a CBRN environment. Protection is afforded by individual protective equipment, collective protection, and hardening of facilities.

10.3.2.1. Individual Protective Equipment. The current in-flight protective gear for aircrew members is the Aircrew Chemical Defense Ensemble (ACDE). The ACDE includes the Aircrew Eye/Respiratory Protection (AERP) or Joint Service Aircrew Mask (JSAM) “above the shoulder” equipment and the CWU-66/P Aircrew Chemical Ensemble (ACE). The Ground Crew Ensemble (GCE) consists of the protective mask, C2 series canister (or filter element for MCU-2A/P protective mask), and over garment, boots, and gloves. The ACDE and GCE provide protection against chemical and biological agents. They do not provide blast or radiation protection from an RDD or nuclear detonation. The ACDE requires care during donning using "buddy dressing" procedures and Aircrew Flight Equipment (AFE) expertise during processing through the Aircrew Contamination Control Area (ACCA). ***NOTE***: AECMs will utilize the MCU-2A series mask.

10.3.2.1.1. ACDE/GCE Issue. Aircrews will be issued sized ACDE and GCE at home station. Aircrews will ensure their ACDE and GCE are available at all times while in a CBRN threat area. Aircrew members will confirm the mobility bag contents and correct sizes.

10.3.2.1.2. ACDE Wear During Ground Operations. Because aircraft contamination is unlikely to occur during flight, ground operations represent the highest threat to aircrew safety. Protection from enemy attacks and exposure to liquid chemical agents is paramount. Aircrew should limit activities to essential duties only, and separate ground duties from air duties.

10.3.2.2. Collective Protection. Collective protection provides a temperature-controlled, contamination-free environment to allow personnel relief from continuous wear of IPE such as the ACDE. The basic concept for most facility collective protective solutions is to employ overpressure, filtration, and controlled entry/exit. The intent is to provide rest and relief accommodations, as well as provide medical treatment in contamination free zone. Crewmembers should avail themselves of facilities, if provided, on the airfield.

10.3.2.3. Hardening. Permanent and expedient hardening measures are used to strengthen buildings and utility systems or provide barriers to resist blast effects. To reduce the potential of vapor exposure in facilities without collective protection; seal windows and doors, turn off HVAC systems, and use room above the first floor when possible.

10.3.3. Contamination Control. In the post-attack environment, contamination control measures limit the spread of chemical, biological, and radiological contamination through disease prevention measures, decontamination, and use of Exchange Zone (EZ) operations. Effective contamination control helps sustain air mobility operations by minimizing performance degradation, casualties, or loss of material.

10.3.3.1. Disease Prevention. Up-to-date immunizations, standard personal hygiene practices, and the use of chemoprophylaxis are effective biological warfare defensive measures.

10.3.3.2. Decontamination.

10.3.3.2.1. In-flight Decontamination. Air washing is a useful in-flight decontamination technique for removing most of the liquid agent from aircraft metal surfaces. However, vapor hazards may remain in areas where the airflow characteristics prevent complete off-gassing (i.e., wheel wells, flap wells, rivet and screw heads, joints, etc.). Flights of at least 2 to 4 hours are recommended, and lower altitudes are more effective than higher altitudes. Fly with the aircraft configured (gear, flaps, and slats extended) as long as possible to maximize the airflow in and around as many places as possible. Be advised that exterior contamination may seep into the aircraft interior creating a vapor hazard for aircrews. Use of ACDE is recommended. Follow smoke and fume elimination procedures to help purge interior contamination.

10.3.3.2.2. Limits of Decontamination. Complete decontamination of aircraft and equipment may be difficult, if not impossible, to achieve. Formerly contaminated assets will be restricted to DoD-controlled airfields and not released from US government control.

10.3.3.3. Exchange Zone (EZ) Operations**.** The AMC Concept for Air Mobility Operations in a Chemical and Biological Environment (CB CONOPS) describes a method for continuing the vital flow of personnel into a contaminated airfield while

limiting the number of air mobility aircraft and personnel exposed to the contaminated environment. The purpose of the EZ is to minimize the spread of contamination within the air mobility fleet, preserving as many aircraft as possible for unrestricted international flight. The EZ is an area (located at uncontaminated airfield) set aside to facilitate the exchange of uncontaminated (clean) cargo/passengers to a contaminated (dirty) airframe, or vice versa, without cross-contamination. Additional information on the EZ is available through HQ AMC/A3X.

10.4. Flight Operations.

10.4.1. Mission Planning. Aircrews must be mentally prepared to face the dangers of CBRN weapons. Flight/mission planning must be thorough. Aircraft commanders should emphasize ACDE wear, crew coordination, CBRN hazards and countermeasures, in-flight diversion, plans for onload/offload in the event of a ground attack, and plans for the return leg in the event of aircraft contamination. Alternative scenario plans should also be considered in the event MOPP conditions change.

10.4.2. Establishing the Threat Level. Aircrews should monitor command and control channels to ensure they receive the latest information concerning the destination's alert condition. Diversion of aircraft to alternate "clean" locations may be required, unless operational necessity otherwise dictates. The 618 AOC (TACC) or theater C2 agency (normally through the controlling OPORD) will direct aircrew pre-exposure activities such as medical pre-treatment for chemical/biological exposure or issue of dosimetry for potential radiological hazards.

10.4.3. Fuel Requirements. Extra fuel may be needed to compensate for altitude restrictions as the result of CB agent exposure. During purge periods, the aircraft will be unpressurized. Although the aircrew can use the aircraft oxygen systems, passengers wearing GCE cannot, thus restricting the aircraft cruise altitude and increasing fuel requirements accordingly.

10.4.4. Oxygen Requirements. Operating a contaminated aircraft will increase oxygen requirements. Aircrew wear of ACDE will require use of the aircraft oxygen system to counter actual/suspected contamination. Using the 100 percent oxygen setting offers the greatest protection in a contaminated environment. Appropriate oxygen reservoir levels must be planned to meet higher consumption rates. Use the aircraft Dash 1 charts to calculate the required reservoir levels.

10.4.5. Donning Equipment. Aircrew will don ACDE based on the alarm condition (See Airman's Manual (AFPAM 10-100). Use the "buddy dressing" procedures, and refer to AMCVA 11-303, *AERP Donning Checklist* and AMCVA 11-304, *ACDE Donning Checklist*, to ensure proper wear. When wearing the ACDE, Atropine and 2 PAM Chloride auto injectors will be kept in the upper left ACDE pocket. If the integrated survival vest/body armor is worn, the Atropine and 2 PAM Chloride auto injectors may be kept in the lower right flight suit pocket. This standardized location will enable personnel to locate the medication should an individual be overcome by CWA poisoning. M-9 paper on the flight suit will facilitate detection of liquid chemical agents and ACCA processing. M-9 paper should be placed on the flight suit prior to entering the CBRN threat area or when an alarm "yellow" or higher has been declared. When inbound to a CBRN threat area, prior to descent, the aircraft commander will ensure crew and passengers don appropriate protective equipment IAW arrival destination's MOPP level and brief aircrew operations in the CBRN

threat area. As a minimum, this briefing will include: flight deck isolation, oxygen requirements, air conditioning system requirements, IPE requirements, ground operations, and MOPP levels. Aircrew members must determine if the wear of the integrated survival vest/body armor and LPUs will restrict dexterity and mobility to the point that it becomes a safety issue. If the aircrew deems the equipment to create a safety of flight concern, then the items may be pre-positioned (instead of worn) on the aircraft to be readily available to the aircrew.

10.4.6. Communicating Down-Line Support. Pass aircraft and cargo contamination information through command and control channels when inbound. This information will be used to determine if a diversion flight is required or decontamination teams are needed. Report the physical condition of any crew/passengers who are showing agent symptoms and whether they are wearing chemical defense ensembles.

10.5. Ground Operations.

10.5.1. Crew Rest Procedures. Operational necessity may require the aircrew to rest/fly in a contaminated environment. If the mission is not being staged by another aircrew or pre-flight crews are not available, the aircrew may pre-flight, load, and secure the aircraft prior to entering crew rest. The departing aircrew will perform necessary crew preparations and pre-flight briefings. Then, they will report to the ACCA for processing and ACDE donning with assistance from ALS personnel. If possible, aircrew transport should be provided in a covered vehicle. Aircrews should avoid pre-flighting the aircraft prior to departure to prevent contamination spread to them and/or the aircraft. As aircrews proceed to fly, they will require assistance from ground support personnel in removing their aircrew protective overcape and overboots prior to entering the aircraft.

10.5.2. Onload and Offload Considerations. Extreme care must be exercised to prevent contamination spread to the aircraft interior during ground operations, particularly to the flight deck area. Reduce the number of personnel entering the aircraft. Contaminated engine covers, safety pins and chocks will not be placed in the aircraft unless sealed in clean plastic bags and properly marked IAW technical order requirements. Aircrew members entering the aircraft will remove plastic overboots and overcape portions of the aircrew ensemble and ensure flight/mobility bags are free of contaminants and placed in clean plastic bags. Prior to entering the aircraft all personnel should implement boot wash/decontamination procedures. Aircrew exiting aircraft into a contaminated environment will don plastic overboots and overcape prior to leaving the aircraft.

10.5.3. Communications. Conducting on/offloading operations, while wearing the complete ACDE, complicates communications capability. Use the mini-amplifier/speaker or the aircraft public address system and augment with flashlight and hand signals, as required.

10.5.4. Airlift of Retrograde Cargo. Only CRITICAL retrograde cargo will be moved from a contaminated to an uncontaminated airbase. Critical requirements are pre-designated in theater war plans. Onload cargo will be protected prior to and while being transported to the aircraft. If contaminated, protective cover(s) will be removed/replaced just prior to placing the cargo on the aircraft. It is the user's responsibility to decontaminate cargo for air shipment. The airlift of contaminated or formerly contaminated cargo requires the approval of the senior transportation commander.

10.5.5. Passenger/Patients. A path should be decontaminated between the aircraft and the ground transportation vehicle to reduce interior contamination when loading/unloading passengers/patients. Normally, externally contaminated patients and those infected with contagious biological agents will not be transported onboard AMC or AMC-procured aircraft. The AMC/CC is the waiver authority to this policy. ***NOTE:*** An altitude below 10,000 feet is recommended due to AECM use of the ground chemical mask.

10.5.6. Physiological Factors. Aircraft commanders must be very sensitive to the problems resulting from physical exertion while wearing ACDE. The aircraft commander should consider factors such as ground time, temperature and remaining mission requirements when determining on/offload capabilities. Individuals involved should be closely monitored for adverse physiological effects.

10.5.7. Work Degradation Factors. Work timetables need to be adjusted to minimize thermal stress caused by wearing the ACDE. Aircrews must weigh all factors when performing in-flight and ground duties. The following are degradation factors for wearing full GCE, and may also be used to represent the Task Time Multipliers for the ACDE. A more extensive discussion of this subject is found in AFMAN 10-2602, *Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards*.

Table 10.1. Task Time Multipliers.

Heat Category	WBGT[1] Index (ºF)	Light (Easy) Work		Moderate Work		Hard (Heavy) Work	
		Work/ Rest[2]	Water Intake[3] (Quart/Hour)	Work/ Rest[2]	Water Intake[3] (Quart/Hour)	Work/ Rest[2]	Water Intake[3] (Quart/Hour)
1	78-81.9	NL[4]	1/2	NL	3/4	40/20 min	3/4
2	82-84.9	NL	1/2	50/10 min	3/4	30/30 min	1
3	85-87.9	NL	3/4	40/20 min	3/4	30/30	1
4	88-89.9	NL	3/4	30/30 min	3/4	20/40 min	1
5	≥90	50/10 min	1	20/40 min	1	10/50 min	1

NOTES:

1. If wearing MOPP 4, add 10ºF to Wet Bulb Globe Temperature (WBGT). If wearing personal body armor in humid climates, add 5ºF to WBGT.

2. Rest means minimal physical activity (sitting or standing), accomplished in shade if possible.

3. ***Caution:*** Daily fluid intake should not exceed 12 quarts. Hourly fluid intake should not exceed 1 quart. The work/rest time and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specified work category. Individual water needs will vary ±¼ quart/ hour.

4. NL=no limit to work time per hour.

10.5.8. Outbound with Actual/Suspected Chemical Contamination. Once airborne with actual/suspected vapor contamination, the aircraft must be purged for 2 hours using Smoke and Fume Elimination procedures. To ensure no liquid contamination exists, a close inspection of aircrew, passenger ensembles, and cargo will be conducted using M-8 and M-9 detection paper. Detection paper only detects certain liquid agents and will not detect vapor hazards. Above the shoulder ACDE should only be removed if there is absolutely no vapor hazard. Be advised that residual contamination (below the detectable levels of currently fielded detection equipment) may be harmful in an enclosed space. The aircrew must take every precaution to prevent spreading of liquid contaminants, especially on the flight deck area. The best course is to identify actual/suspected contamination, avoid those areas for the remainder of the flight, and keep the cargo compartments cool. If an aircrew member or passenger has been in contact with liquid contaminants, all personnel aboard the aircraft will stay in full ACDE/GCE until processed through their respective contamination control area (CCA). Upon arrival, the contaminated aircraft will be parked in an isolated area and cordoned to protect unsuspecting ground personnel.

10.5.9. Documenting Aircraft Contamination. When it is suspected or known that an aerospace vehicle or piece of equipment has been contaminated with a radiological, biological or chemical contaminant, a Red X will be entered and an annotation will be made in historical records for the lifecycle of the equipment.

10.5.10. 10-Foot Rule. The 10-foot rule was developed in order to provide guidance for protecting personnel using or handling contaminated resources (such as pallets) or working in locations with materials that might retain a residual chemical. The 10-foot rule embodies a safety factor that goes beyond current OSD guidance (which allows removal of IPE whenever detectors no longer detect a chemical agent vapor hazard). There are two phases associated with the 10-foot rule.

10.5.10.1. Initial Phase. During the initial phase, personnel will remain in MOPP 4 whenever they stay within 10 feet of the contaminated equipment for more than a few seconds. This MOPP level provides personnel the maximum protection from the chemical agent as it transitions from a contact and vapor hazard to a vapor hazard only.

10.5.10.2. Follow-on Phase. In the follow-on phase, personnel will use gloves of a sort (i.e. leather, rubber, cloth, etc.) when operating on or handling the contaminated equipment. Although a contact hazard is unlikely, relatively small amounts of the agent may still be present. The use of gloves will ensure that unnecessary bare skin contact with agent residue is avoided.

10.5.10.3. **Table 10 2.** Shows times associated with initial and follow-on phases of the 10-foot rule. To simplify response processes, commanders may choose to use the worst case scenario as the foundation for all 10-foot rule actions, i.e., 24 hours for the initial phase and all periods of time greater than 24 hours for the follow-on phase.

Table 10.2. Ten-Foot Rule Time Standards (Source: AFMAN 10-2602).

"10 Foot Rule" Time Standards*		
Agent	**Initial Phase**	**Follow-on Phase**
HD	0-12 HRS	Greater than 12 hrs
GB	0-12 HRS	Greater than 12 hrs
GD, GF, GA	0-18 HRS	Greater than 12 hrs
VX, R33	0-24 HRS	Greater than 24 hrs
* Rule is based on expected contamination on an airbase following a chemical attack. Adjust times if agent concentration is higher than expected.		

Chapter 11

NAVIGATION PROCEDURES

11.1. General. This chapter establishes procedures and requirements for worldwide enroute KC-10 navigation. It is to be used in conjunction with procedures and requirements set forth in AFI 11-202V3, AFI 11-217, and FLIP. Since airspace and associated navigational aid equipment capability are rapidly evolving, pilots must maintain an in depth knowledge of current requirements/policies.

11.1.1. Prolonged Loss of Contact. Aircrews must ensure they are following proper navigation crosscheck procedures to maintain airspace situational awareness.

11.1.1.1. Aircrews will use navigation charts to identify radio frequency changeover points to minimize the likelihood of prolonged loss of communication with ATC/radio operators. Additionally, crews must monitor both VHF and UHF Guard to the maximum extent possible.

11.1.1.2. In the event of known or suspected loss of two-way radio capability, follow the communications failure procedures published in the FIH.

11.1.1.3. In cases of suspected loss of contact with ATC, attempt to reestablish contact using other aircraft to relay messages to ATC controllers.

11.2. Operations in International/Territorial Airspace. (See FLIP, FCG, and AP, for further guidance). US Military aircraft and DoD personnel entering another nation to conduct US government business must have the approval of the foreign government concerned to enter their airspace. Foreign clearances for US international air operations are obtained through US officials known as Defense Attaché Officers (DAOs).

11.2.1. There are essentially two types of airspace: international airspace and territorial airspace. International airspace includes all airspace seaward of coastal states' territorial seas. Military aircraft operate in such areas free of interference or control by the coastal state. Territorial airspace includes airspace above territorial seas, archipelagic waters, inland waters, and land territory, and is sovereign airspace. Overflight may be conducted in such areas only with the consent of the sovereign country.

11.2.2. Consistent with international law, the US recognizes sea claims up to 12NMs. Diplomatic constraints and/or a lack of diplomatic clearances usually result in missions operating in international airspace. Therefore, it is imperative sufficient information be provided far enough in advance to allow compliance with FCG requirements established by the countries concerned. The US does not normally recognize territorial claims beyond 12NMs; however, specific guidance from certain US authorities may establish limits, which differ from the standard.

11.2.3. Flight Information Region (FIR). A FIR is an area of airspace within which flight information and related services are provided. An FIR does not reflect international borders or sovereign airspace. Aircraft may operate within an established FIR without approval of the adjacent country, provided the PIC avoids flight in territorial airspace.

11.2.4. Aircrews on a flight plan route, which takes them from international airspace into territorial airspace, for which approved aircraft clearances were obtained, should not amend entry point(s).

11.2.5. Violations of foreign sovereignty result from unauthorized or improper entry or departure of aircraft. Aircrews should not enter into territorial airspace for which a clearance has not been duly requested and granted through diplomatic channels.

11.2.6. ATC agencies are not vested with authority to grant diplomatic clearances for penetration of sovereign airspace where prior clearance is required from the respective country. Aircraft clearances are obtained through diplomatic channels only.

11.2.7. In the event ATC agency challenges the validity of a flight routing or attempts to negate existing clearances, PICs must evaluate the circumstances. The normal response will be to attempt to advise the ATC agency that the aircraft will continue to planned destination, as cleared in international airspace. The key phrase is "in international airspace." Safety of flight is paramount in determining mission continuation. Under no circumstances should aircrews construe a clearance, which routes their mission over sovereign airspace, which was not approved through diplomatic channels before mission departure, as being valid authorization.

11.2.8. Aircrews operating missions requiring unique or specially developed routing will normally be briefed at home station, onload station, and/or by the last C2 facility transited before performing the critical portion of the mission.

11.2.9. Aircrews (except on weather reconnaissance missions) normally are not tasked to and will not fly "due regard" routings unless coordinated with the appropriate MAJCOM C2 and specifically directed in the mission FRAG. The "due regard" or "operational" option obligates the military PIC to be their own ATC agency to separate their aircraft from all other air traffic. If operational requirements dictate, PICs may exercise the "due regard" option to protect their aircraft. Aircraft will return to normal air traffic services as soon as practical. Refer to FLIP GP for additional guidance on due regard.

11.3. Navigation Databases. Separate navigational databases are used for flight planning and in-flight navigation in the KC-10. Navigation databases are updated on a 28-day cycle.

11.3.1. Flight Planning Navigation Database. Flight plans created using the Advanced Computer Flight Plan (ACFP) or the Portable Flight Planning Software (PFPS) use navigation data from the Digital Aeronautical Flight Information File (DAFIF). Pilots are responsible for ensuring the accuracy of flight plan waypoints against current aeronautical charts, terminal instrument procedures, or FLIP documents (i.e. AP/1B). These flight plans may be saved to a PCMCIA card and loaded directly into the FMS-800 using the FMS data loader.

11.3.2. Aircraft Navigation Database. The FMS-800 uses a navigation database provided by a commercial vendor, Jeppesen. This database is stored on a PCMCIA card that is uploaded into the FMS prior to flight. When a terminal area procedure (departure procedure, STAR, instrument approach procedure) will be flown using FMS as the sole source of navigation information, the procedure to be flown must be retrieved in its entirety from the aircraft database and the database must be current.

11.3.2.1. All waypoint data retrieved from the aircraft navigation database will be verified by one or more of the following methods:

11.3.2.1.1. Latitude/longitude from current FLIP.

11.3.2.1.2. Bearing/distance from a flight plan after latitude/longitude are verified for each waypoint.

11.3.2.1.3. Ground Based NAVAIDs.

11.3.2.2. In some cases, waypoints in the database may differ from the charted instrument procedure. Differences less than 0.3nm are acceptable for GPS overlay approaches. For stand-alone GPS and RNAV approaches, the maximum allowable difference is 0.1nm. If distance information varies by more than these tolerances, the procedure shall not be flown. Variation between charted final approach course in the instrument approach procedure and the final approach course computed by the aircraft should be no more than 5 degrees. If the two differ by more than 5 degrees, the procedure is not authorized.

11.4. Oceanic Flight. Maintaining situational awareness during oceanic flight is essential to the safe conduct of the flight. Situational awareness includes, but is not limited to, positional awareness and accurate fuel updates. This requires due diligence on the part of all aircrew members.

11.4.1. Oceanic Plotting Charts.

11.4.1.1. Prior to flight, plot the oceanic portion of the flight on an appropriate chart. Annotate the chart with the mission number, PIC‘s name, preparer‘s name, and date. If practical, chart may be reused.

11.4.1.2. Obtain a coast out fix prior to, or immediately upon entering the Category I Route or over-water segment. Perform a gross error check using available NAVAIDS and annotate the position and time on the chart.

11.4.1.3. When approaching each waypoint on a Category I route, recheck coordinates for the next two waypoints.

11.4.1.4. Approximately 10 minutes after passing each oceanic waypoint, record and plot the aircraft position and time on the chart, and ensure compliance with courses and ETA tolerances.

11.4.1.5. If a revised clearance is received, record and plot the new route of flight on the chart.

11.4.1.6. Upon return to home station, turn in the charts (copies if reused) and applicable computer flight plans to the squadron. Squadrons will retain the charts, computer flight plans, and associated materials for a minimum of 3 months.

11.4.2. Computer Flight Plans.

11.4.2.1. Aircrews provided with winded flight plans should load planned winds from the CFP into the FMS. For Category I routing, aircrews will load planned winds in the FMS. Small changes (less than 30 degree direction change and/or 15 knots wind speed) need not be entered for every leg.

11.4.3. In addition to reviewing AP2, all aircrews planning to operate in Atlantic Oceanic airspace will conduct a detailed review of the North Atlantic Minimum Navigation Performance Specification (MNPS) airspace operations manual and review the associated FIR Oceanic NOTAMS.

11.4.3.1. In the event that conflicting information is discovered between FLIP and the MNPS manual, the MNPS manual takes precedence.

11.4.4. During mission planning for all oceanic sectors, crews are required to calculate an ETP. Guidance on calculating an ETP can be found on the Aircrew Standardization/Evaluation AF Portal web page in the flight planning section. See paragraph **14.4.8.3.1**

11.5. Navigation Capability.

11.5.1. Reduced Vertical Separation Minimum (RVSM). Airspace where RVSM is applied is considered special qualification airspace. Both the operator and the specific aircraft type must be approved for operations in these areas. The KC-10 is approved for unrestricted use in RVSM airspace. Always refer to the appropriate Area Planning (AP) publication for specific theatre RVSM requirements. In addition to the requirements established in the applicable AP publication, always comply with the following when operating in RVSM airspace:

11.5.1.1. Both primary altimeters, at least one autopilot, the altitude advisory system, and the transponder, must be fully operational. Request a new clearance to avoid this airspace should any of this equipment fail.

11.5.1.2. Engage the autopilot during level cruise, except when circumstances such as the need to re-trim the aircraft or turbulence require disengagement.

11.5.1.3. Crosscheck the altimeters before or immediately upon coast out. Record readings of both altimeters.

11.5.1.4. Continuously crosscheck the primary altimeters to ensure they agree within 200 feet.

11.5.1.5. Limit climb and descent rates to 1,000 feet per minute when operating near other aircraft to reduce potential TCAS advisories.

11.5.1.6. Immediately notify ATC if any of the required equipment fails after entry into RVSM airspace and coordinate a plan of action.

11.5.1.7. Document in the aircraft forms malfunctions or failures of RVSM required equipment, including the failure of this equipment to meet RVSM tolerances.

11.5.1.8. In the North Atlantic Region, Minimum Navigation Performance Specification (MNPS) airspace is a subdivision of RVSM airspace. Refer to the MNPS manual and FLIP AP/2 for detailed requirements when operating in MNPS airspace.

11.5.2. Required Navigation Performance (RNP) Airspace. Airspace where RNP is applied is considered special qualification airspace and can be determined by referencing the applicable theatre AP publication. The PIC is responsible for a thorough review of the aircraft forms and maintenance logs to ascertain the status of RNP equipment. During flight, immediately notify ATC if any of the required equipment fails after entry into RNP airspace

and coordinate a plan of action. Document in the aircraft forms, malfunctions or failures of RNP required equipment, including the failure of this equipment to meet RNP tolerances.

11.5.2.1. RNP-10. Compliance includes navigation accuracy within 10 NM of actual position 95% of the time. KC-10 aircraft may operate in RNP-10 without time limitations. If the capability to update the internal navigation solution with the GPS is lost, or if receiver autonomous integrity monitoring (RAIM) is lost, the aircraft is limited to 6.2 hours of operation in RNP-10 airspace after the GPS or RAIM is degraded.

11.5.2.1.1. At least two long range navigation systems certified for RNP-10 must be operational at the oceanic entry point. Periodic crosschecks will be accomplished to identify navigation errors and prevent inadvertent deviation from ATC cleared routes. Advise ATC of the deterioration or failure of navigation equipment below navigation performance requirements and coordinate appropriate actions.

11.5.3. Basic Area Navigation (BRNAV). The KC-10 is approved for BRNAV operations. BRNAV is defined as RNAV with an accuracy that meets RNP-5 for operations under IFR in that European airspace designated for BRNAV/RNP-5 operations. When operating in BRNAV airspace, pilots will immediately notify ATC if any of the required equipment fails, or if unable to meet BRNAV tolerances. Document in the aircraft forms malfunctions or failures of RNP required equipment, including the failure of this equipment to meet BRNAV tolerances.

11.5.3.1. Minimum equipment to operate in BRNAV airspace is one INS capable of updates or a FAA approved FMS-800 or equivalent system. Flights entering BRNAV airspace after long overwater flight must be especially aware of BRNAV tolerances and update accordingly. Refer to FLIP AP/2 for additional requirements.

11.5.4. Precision Area Navigation (PRNAV). Although the KC-10 is approved for PRNAV operations, there is currently no training program in effect for KC-10 aircrews. KC-10 crews are not approved to file or fly any procedure requiring PRNAV.

11.5.5. RNAV 1/RNAV 2. The KC-10 is not approved for RNAV 1 or RNAV 2 operations.

11.5.6. FM Immunity (FMI). The KC-10 is equipped with dual FMI VHF navigation receivers and is considered fully compliant and will follow normal procedures. Refer to the applicable Area Planning series for more information concerning FMI operations.

Chapter 12

FLIGHT ENGINEER / AIRCREW MAINTENANCE SUPPORT PROCEDURES

12.1. General: This chapter contains flight engineer procedures not contained in the flight manual, other portions of this AFI, or other publications.

12.2. Responsibilities. The flight engineer is responsible to the pilot in command for all inspections and procedures required by the applicable technical orders and regulations.

12.3. Authority to Clear a Red X. If a situation is encountered where the aircraft is on a Red X and qualified maintenance personnel are not available to clear it, the highest qualified flight engineer on scene may obtain authorization to sign off the Red X from the home station MXG/CC or designated representative, in accordance with T.O. 00-20-1. Other crew members are not authorized to clear a Red X. ***EXCEPTION:*** The flight engineer may clear Red Xs for engine covers, pitot covers, gear pins and SPR drains when qualified maintenance personnel are not available, unless prohibited by the home station MXG/CC or OG/CC.

12.4. Aircraft Servicing and Ground Operations. The flight engineer is qualified and authorized to accomplish these duties when maintenance personnel are not available. This policy is designed for support of the aircraft and its mission while away from home station. The applicable refueling and de-fueling checklists will be used during all refueling and de-fueling operations. If ground support personnel are not available, the aircraft commander will designate other crewmembers to assist the flight engineer. A flight engineer may assist the normal maintenance function when critical taskings dictate their use, provided this action does not impact crew duty and crew rest limits specified in Chapter 3 of this AFI. ***WARNING:*** Do not load/off-load cargo containing explosives, oxygen, flammable gases or liquids during fuel servicing operations.

12.4.1. Fuel Servicing Operations. Unless servicing JP-4, simultaneous servicing of fuel while loading passengers, cargo, performing maintenance, aircrew members performing inspections, or operating aircraft systems is considered to be a normal fuel servicing operation. If refueling/defueling with JP-4 Concurrent Servicing operations are required IAW TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding.* Aircrew members qualified in ground refueling may perform fuel servicing duties. Aircrews will only refuel in cases when maintenance support is not readily available and the mission would be delayed.

12.4.1.1. When aircrew members are required to refuel, the flight engineer will act as the refueling team supervisor. Flight engineers will comply with T.O. 00-25-172 and applicable T.O. 1C-10(K)A-2 series T.O.s. Two other aircrew members are required to assist in the refueling, one for safety duties and the other to act as fire guard. Four total will be required when the right wing SPR is inoperative and refueling must be accomplished from the flight engineer's panel.

12.4.1.2. Designate a current and qualified aircrew member to remain on the flight deck to monitor interphone and be prepared to broadcast a request for emergency assistance on a radio tuned to the appropriate agency with ready access to an emergency response team anytime aircrew members are in the aircraft and fuel servicing is being conducted. The PA may be used to direct passenger evacuation in an emergency.

12.4.1.3. Unless environmental conditions dictate, the primary emergency exit will remain open and stairs in place. Fuel servicing is limited to the right side. Close and arm all doors except the open entry door. If entry door is closed due to inclement weather, do not arm. Stairs shall remain in place.

12.4.1.4. With passengers on board a current and qualified aircrew member will be designated the passenger compartment monitor (PCM) and shall continuously monitor passengers during fuel servicing operations. PCMs will not perform other duties during fuel servicing.

12.4.1.5. The PCM shall brief passengers on emergency egress, exits, prohibitions, and hazards. Passengers will remain seated except for brief physiological needs, but will not wear seat belts. When possible, conduct this briefing prior to fuel servicing. If fuel servicing is in progress, the briefing will be given immediately after boarding.

12.4.1.6. When authorized, passengers may board or exit the aircraft for the express purpose of loading for departure or off-loading upon arrival. Boarding or exiting must be opposite of fuel servicing operations. Once onboard, except for emergencies, passengers shall not deplane once fuel servicing commences.

12.4.1.7. Passengers are not required to ground themselves.

12.4.1.8. The PIC, or designated maintenance/aircrew representative will advise PCMs when to evacuate passengers.

12.4.1.9. The PCM shall set the interior lighting as bright as possible to suit the combat environment.

12.4.1.10. The following guidance will be used for fuel servicing operations:

12.4.1.10.1. Electric and electronic equipment may be on and operated to include operations performed by aircrew members during required inspections with the following exceptions:

12.4.1.10.1.1. Pull circuit breakers for Radar Altimeters. TACANs must be turned off.

12.4.1.10.1.2. Radar may be in standby but, if time permits, should be turned off.

12.4.1.10.1.3. IFF/SIF may be in standby but, if time permits, should be turned off.

12.4.1.10.1.4. FMS/INU may be “on” and may be updated. Do not turn on or off during refuel operations.

12.4.1.10.1.5. Radio operations are authorized. EXCEPTION: Use of HF radios is prohibited.

12.4.1.11. Avoid refueling with JP-8+100 while transiting airfields with JP-8+100 capabilities. AMC aircraft are not allowed to operate on JP-8+100, except in emergency conditions. All JP-8+100 locations are required to maintain a clean JP-8 capability to support transient aircraft. If inadvertent refueling with JP-8+100 occurs comply with the following:

12.4.1.11.1. De-fuel the aircraft prior to flight.

12.4.1.11.2. Make an AFTO Form 781 entry stating "Caution: Aircraft refueled using JP-8+100, preventative measures must be taken when de-fueling."

12.4.2. Hot Refueling. Hot refueling (refueling with aircraft engines running) will only be conducted by crews that have been authorized and certified according to AFI 11-235, *Forward Area Refueling Point (FARP) Operations*.

12.5. Aircraft Recovery Away from Main Operating Base (MOB). The PIC is responsible for ensuring the aircraft is turned to meet subsequent mission taskings. If qualified maintenance specialists are unavailable, the aircrew is responsible for turning the aircraft to meet subsequent mission taskings.

12.5.1. The PIC is responsible for the recovery items including:

12.5.1.1. Parking and receiving.

12.5.1.2. Aircraft servicing, including Aircraft Ground Equipment (AGE) usage.

12.5.1.3. Supervision of minor maintenance within local capability.

12.5.1.4. Minor configuration changes to meet mission tasking.

12.5.1.5. Securing the aircraft before entering crew rest.

12.5.1.6. Coordinating aircraft security requirements.

12.5.1.7. Documenting AFTO 781-series forms.

12.5.2. In all cases where aircrews must service the aircraft without qualified maintenance specialist assistance, comply with the appropriate maintenance T.O.

12.5.3. Aircrews are not qualified to accomplish the required ground inspections. In those instances where maintenance personnel are not available, the aircrew will enter a red dash symbol in the AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document*, updating current status and enter a red dash symbol and a discrepancy that reflects that the applicable maintenance inspection (i.e. preflight, thru-flight, basic post-flight) is overdue.

12.6. Aircraft Structural Integrity Program. The flight engineer will complete AFTO Form 18, *Structural Assessment Record*, on every flight. The AFTO Form 18 documents usage data for the KC-10A Individual Airplane Tracking Program (IATP). IATP determines the current and projected structural status of each individual KC-10A and provides information for fleet management; TCTO modifications, inspections, structural maintenance actions and structural condition.

12.6.1. Use the following guidance and the abbreviated instructions on the form. This is a machine readable document utilizing an optical mark reading system. Do not use reproductions of the form to record flight information. Use a number 2 or softer pencil, darkening responses completely. Do not use ink or make stray marks outside of the REMARKS section. Do not staple or punch holes. The 1C-10(K)A-101 is obsolete, disregard reference to this technical order on the AFTO Form 18.

12.6.1.1. Segment Types.

12.6.1.1.1. CL (CLIMB) - Takeoff climb, and in-flight climb into another altitude band.

12.6.1.1.2. CR (CRUISE) - In-flight cruise enroute to destination or in-flight refueling station.

12.6.1.1.3. D (DESCENT) - Penetration descent, and inflight descent into another altitude band.

12.6.1.1.4. ON135 (FUEL ONLOAD) - Fuel onload from a KC135 tanker. Receiver type and number of contacts made ARE NOT recorded.

12.6.1.1.5. ON10 (FUEL ONLOAD) - Fuel onload from a KC-10A tanker. Receiver types and number of contacts made ARE NOT recorded.

12.6.1.1.6. OFFB (FUEL OFFLOAD VIA BOOM) - KC-10A operating as a tanker. Receiver types and number of contacts made ARE recorded.

12.6.1.1.7. OFFD (FUEL OFFLOAD VIA CENTER LINE DROGUE/WING PODS) - KC-10A operating as a tanker. Receiver types and number of contacts made ARE recorded.

12.6.1.1.8. P (PATTERN/PRACTICE) - This segment includes touch & go practice (T&G), fullstop-taxi-back and engine-running-crew change landings (FS), missed approach practice and aborted approaches (A). The total number of T&G's, FS's, and/or A's are recorded in this segment type. Low altitude-cruise and traffic-holding-pattern operations are recorded in this segment; however, NO ENTRIES are made in T&G, FS, or A.

12.6.1.2. Segment Guidelines

12.6.1.2.1. The first segment starts at brake release and will be a climb (CL) or pattern /practice (P). Speed and altitude are not required for the climb.

12.6.1.2.2. The last segment will be a descent (D) or pattern/practice (P).

12.6.1.2.3. Time spent in a traffic/holding pattern is a pattern/practice (P).

12.6.1.2.4. In-flight change-of-altitude (climb or descent) beyond an adjacent altitude band, as well as take-off climb and penetration descent, should be entered as CL or D.

12.6.1.2.5. A fuel on-load segment begins when the KC10A is stabilized in the astern position, and ends when the KC-10A departs from the tanker aircraft.

12.6.1.2.6. The off-load segment begins when the first receiver is stabilized in the astern position, and ends when the last receiver departs from the KC-10A.

12.6.1.2.7. A pattern/practice segment begins when the KC-10A enters the traffic-pattern for a planned practice (or unplanned with similar actions), reaches the altitude for a low altitude-cruise, or is halted in a traffic-holding pattern.

12.6.1.2.8. A flight consisting of more than eight segments is continued on another form.

12.6.1.2.9. On continuation pages, Blocks 1, 3, 4, and 5 are filled out along with segment blocks as required. Blocks 3, 4, and 5 should be the same on all forms for a given flight.

12.6.1.2.10. A new flight is defined and a new form must be completed when cargo/fuel are on or off-loaded on the ground, more than one hour elapses between landing and subsequent takeoff, or anytime engines are shut down.

12.6.1.3. Block 15. Receiver type and total number of contacts, wet or dry, made with each type. Record method as LP (left pod), B (boom), C (centerline drogue) or RP (right pod). Use Block 15 on any or every form as required. Do not enter the modified mission symbol (e.g., the "R" in RF-4), except for cases shown below. For AV-8, enter A-008. Enter receiver type only as follows. If the receiver is not listed, select a boom or drogue example and include actual type in REMARKS. See **Table 12.1**

12.6.1.4. REMARKS. Enter name & rank, duty AF base, duty phone, and mission number on each form. Enter receiver type if not listed. Track WARP cycles for the left and right pods separately and report at maintenance debriefing. The definition of a cycle is: fully extending and fully retracting the pod hose. Multiple contacts may be made in the interim period between extending and retracting the hose without logging additional cycles.

12.6.2. Complete any open items after landing. Turn in completed forms after each flight or upon return to the home station. The Chief Flight Engineer or designated representative will review completed forms. Each Monday, forward the past week‘s completed forms to OC-ALC/TILO, Attn: KC-10 7851 2nd St. Bldg 3, Tinker AFB, OK, 73145-9145.

Table 12.1. AFTO Form 18 Receiver Types.

Boom Offloads		Drogue Offloads
A-007	E-004	A-004
A-010	E-006	A-007
B-001	E-008	A-008
B-002	F-004	A-037
B-052	F-015	EA-006
C-005	F-016	F-004
C-017	F-022	F-014
C-130	F-035	F-018
C-135	F-111	F-035
E-003	KC-010	

12.7. Engine Performance Monitoring. Engine performance monitoring program data become a permanent part of the engine’s history. In order to track potential engine failure, make every

effort to record engine performance data on every sortie. Deliver engine coupons to debriefing as soon as possible (not to exceed 7 days) or faxed in the case of extended missions. Insure coupons are hand-carried to home station when returning from depot modifications or maintenance input.

12.7.1. The primary method of KC-10 engine performance monitoring is the EGT divergence method. This compares EGT from one engine to another on the same aircraft using number 2 engine as the baseline. Data may be collected with the boom and drogue deployed as long as airspeeds remain stable, no climbs or descents are initiated, and the receiver is no closer than pre-contact. Discontinue procedure any time safety would be compromised.

12.7.2. Instructions for engine performance monitoring:

12.7.2.1. Auto throttles off. If possible, allow power to stabilize for 5 minutes.

12.7.2.2. N1 RPMs aligned to within 0.3% of each other, at not less than 89%.

12.7.2.3. Stabilized cruise, power stabilized; light turbulence is permissible.

12.7.2.4. Altitude: 20,000 feet or greater. Above FL 270 is optimum.

12.7.2.5. Mach: 0.70 or greater.

12.7.2.6. Record at least one coupon per flight. Two is preferred on long flights.

12.7.3. Record the following data:

12.7.3.1. Air Force Serial Number (not tail number).

12.7.3.2. Zulu date readings are taken.

12.7.3.3. Zulu time readings are taken.

12.7.3.4. Flight engineer's name.

12.7.3.5. Altitude / 1000.

12.7.3.6. Total Air Temperature to the closest °C. Ensure positive or negative sign is recorded.

12.7.3.7. Mach: All 3 numbers, within +.001.

12.7.3.8. Flight engineer's flying squadron.

12.7.3.9. N1 to closest +0.1%.

12.7.3.10. EGT to the closest degree.

12.7.3.11. N2 to closest +0.1%.

12.7.3.12. Fuel flow to nearest 10pph.

12.7.3.13. Oil pressure to nearest psi.

12.7.3.14. Bleed configuration (normal is packs on).

12.7.3.15. Anti-ice configuration (normal is engine and wing anti-ice off).

12.7.3.16. Remarks/Abnormal Configuration: Record non-standard configurations, boom and drogue deployed, slats extended, turbulence, alternate method, etc.

12.7.4. If an indicator becomes erratic or inoperative, record the best estimate of data. Circle the estimate and document discrepancy on the form and AFTO Form 781A.

12.7.5. Alternate method. If the primary conditions cannot be met, use this alternate method.

12.7.5.1. May be accomplished at any altitude and airspeed/Mach.

12.7.5.2. Auto throttles must be off. Allow power to stabilize for 1 - 3 minutes.

12.7.5.3. Align N1 RPMs to within 0.3% of each other.

12.7.5.4. Record only N1 and EGT.

12.7.5.5. Fill in all heading information.

12.7.5.6. Compare EGT data with the engine EGT comparison sheet.

12.7.6. EGT comparison. EGT is the primary indication of CF-6 engine operating condition. Since EGT will never shift downward (unless caused by an instrument error), enter any upward shift of more than +15°C in the AFTO Form 781A. For example, if the EGT comparison page in the aircraft forms indicates engine #1: +13°C, engine #2: baseline, and engine #3: +6°C, then the maximum EGT for the #1 engine is baseline plus 28°C, and the maximum EGT for the #3 engine is baseline plus 21°C. Readings above these maximum values require a 781A entry. If a shift of more than +15°C is identified (a downward shift of both wing engines may indicate a problem with engine #2), confirm by another reading taken at a different power setting & altitude. If confirmed, immediately report the condition to home station for guidance.

12.7.6.1. EGT comparison sheets are maintained in each aircraft. Maintenance updates this sheet every 60 days based on the engine monitoring data received.

12.8. Performance Data Computations. TO 1C-10(K)A-1-1 is the source for all performance computations. Use AF Form 4089 or an approved electronic takeoff and landing data (TOLD) worksheet. Compute TOLD using TO 1C-10(K)A-1-1 or electronically on an HQ AMC approved KC-10 TOLD calculator. Data is computed (manual or electronic) by the flight engineer and checked by another current and qualified pilot or flight engineer. Check data using TO 1C-10(K)A-1-1, TO 1C-10(K)A-1CL-2 tab data or KC-10A Performance Data Computer (slipstick). If electronic data is found to be out of limits, not due to a data entry error, complete a manual TOLD card.

12.8.1. TOLD Check Limits. TOLD verification limits are: speeds +/- 3 KIAS; N1 settings +/- 0.3%; distances +/- 500 feet. Critical field length must be equal to or less than runway available. Landing distance must be equal to or less than runway length.

12.8.2. KC-10A Performance Data Computer (Slip Stick). KC-10 Slip Stick is authorized for use to verify KC-10A performance data computations. Without exception, anytime there is a conflict between the Slip Stick and TO 1C-10(K)A-1-1, the performance manual will remain the sole source.

12.8.3. Fixed Flap Takeoffs. Fixed flap takeoffs, at 15 or 22 degrees, may be executed for initial or full-stop taxi backs from a main operating base. Use optimum flap procedures at all other fields.

12.8.3.1. Compute an optimum flap takeoff setting for the given conditions.

12.8.3.2. A fixed flap takeoff may be executed if the 15- or 22-degree flap line for the Takeoff Gross Weight (TOGW) falls below the Runway Available Limiting Weight (RALW) and Climb Gradient Limiting Weight (CGLW) lines (sheet 3 tree chart of TO 1C-10[K]A-1-1), and the TOGW is less than Maximum Takeoff Gross Weight (MTOGW). Use fixed flap setting for all performance computations.

12.9. In-Flight Fuel Management/Monitoring. Fuel consumption will be monitored by comparing actual to predicted fuel remaining on the flight plan.

12.9.1. At a minimum, consumption comparisons will be accomplished:

12.9.1.1. As soon as practical after initial level off; record fuel total, compare to predicted total.

12.9.1.2. Prior to and after each AAR.

12.9.1.3. During over-water cruise at intervals not to exceed 1.5 hours.

12.9.1.4. Any time aircraft performance is critical or marginal.

12.9.2. Fuel monitoring may be discontinued at the discretion of the aircraft commander when all of the following conditions have been met:

12.9.2.1. All AARs have been completed.

12.9.2.2. The equal time point has been crossed (over-water missions).

12.9.2.3. The fuel systems and quantity indicators are functioning normally.

12.9.2.4. There is obvious extra fuel and the + FUEL trend is favorable.

12.10. General Navigation Duties. The flight engineer performs navigation duties using the FMS. FMS operations may include waypoint loading, updating navigation information for the various modes of FMS operation, extraction of coordinates from maps for loading into navigation equipment (e.g. revised AR tracks), recording of latitude and longitudinal coordinates during AR or emergencies, and use of computer flight plans to maintain a fuel "how goes it" log when required.

12.10.1. Mission Planning. The flight engineer assists the pilots in extracting data from maps and charts, plotting headings or TACAN and VOR radials, determining wind factors, and mission timing.

12.10.2. Preflight. Time permitting; the flight engineer may load the flight plan into the FMS.

12.10.3. In-Flight. Use the FMS to check flight progress and fuel status at pre-selected points along the route of flight. The flight engineer will take an active role in maintaining awareness of aircraft location and position along the flight path. This includes assisting pilots in loading and verifying new or updated waypoints. Use the FMS to determine time, distance, and fuel requirements for all in-flight diversions. The #3 FMS may be used to

monitor mission progress in relation to required AR start, end AR, and abort points during receiver deploy and re-deployment missions.

12.11. Not Used.

12.12. Weight and Balance. The flight engineer assists the boom operator by positioning fuel to satisfy ballast requirements for cargo loading operations. The flight engineer has sole responsibility for aircraft weight and balance after DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical*, is completed and the aircraft is ready for flight. The flight engineer is responsible for completion of DD Form 365-4, in the absence of a qualified boom operator.

12.12.1. Center of Gravity (CG) Computations. CG will be computed and tracked using the Zero Fuel Weight (ZFW) and ZFW CG provided by the boom operator using AF Form 4087, *KC-10 CG Graph* and AF Form 4088, *KC-10 Weight and Balance Fuel Vectors*.

12.13. In-Flight Troubleshooting. Flight engineers may accomplish minor troubleshooting in-flight. However, flight crews will not, nor will they allow, maintenance personnel to perform in-flight maintenance to include indiscriminately pulling circuit breakers or de-powering aircraft systems, swapping components, or any other actions that could jeopardize safety of flight.

Chapter 13

CARGO AND PASSENGER PROCEDURES

13.1. General. The boom operator coordinates loading or offloading with air terminal operations or the shipping agency; plans loads; provides in-flight services to passengers; and supervises onloading or off-loading operations.

13.2. Responsibilities for Aircraft Loading.

13.2.1. AMC Designated Stations:

13.2.1.1. Aerial port personnel are responsible for selecting cargo and mail for airlift, promptly completing documentation, palletizing cargo, load planning (as required), computing load distribution, and moving cargo to and from the aircraft to meet scheduled departure. Before starting loading operations, they will advise the boom operator of destination, size, weight, and types of cargo (classified, hazardous, etc.) to permit proper positioning. They will also coordinate traffic activities affecting loading and offloading, and assign sufficient aerial port loading personnel for cargo loading. Aerial port personnel are responsible for safe positioning of material handling equipment (MHE) and cargo to or from the aircraft cargo door. Under the supervision of the boom operator, aerial port personnel will prepare the aircraft for loading, stow loading equipment if the aircraft is not to be reloaded, physically load the aircraft, tie down cargo and equipment, release tie down and physically offload cargo.

13.2.1.2. The boom operator is responsible for aircraft preflight, load planning (as required), certifying load plans, preparing weight and balance documentation, completing all required load/tipping computations, operating aircraft equipment, and supervising cargo tie down. The boom operator coordinates with the loading crew supervisor to validate the cargo against manifests, supervises and directs on/offloading and is responsible for safe movement of cargo into and out of the aircraft. The boom operator will notify the PIC, C2, or terminal operations officer if loading personnel are injured or cargo, aircraft equipment, or aircraft structure is damaged during on/offloading. The boom operator will brief the PIC on any hazardous cargo prior to engine start. Boom operator's may be required to assist maintenance personnel to configure the aircraft for IAU on/offloading.

13.2.1.3. Loads planned by qualified load planners will be accepted by the aircraft boom operator and loaded aboard the aircraft as planned, unless the load or any portion of it will compromise flight safety or does not comply with applicable aircraft technical orders or USAF/MAJCOM publications. If cargo is refused or rearranged for these reasons, forward all applicable information, including a copy of the load plan, to MAJCOM Stan/Eval through Stan/Eval channels. AMC personnel attach an AMC Form 54, *Aircraft Commander's Report on Services/Facilities.* ***EXCEPTION:*** The boom operator may deviate from load plans to facilitate ease of on/offloading of cargo and to alleviate unnecessary aircraft reconfiguration without submitting documentation. The boom operator must take into consideration the next station's cargo configuration requirements and will ensure the aircraft is in proper weight and balance, zone and tipping limits. A new load plan is not required.

13.2.1.4. The boom operator is the on-scene expert for load planning and accepting cargo for airlift. Some loads are not specifically detailed in applicable directives and require the boom operator to use his/her best judgment based on training, experience, and knowledge to determine the best and safest method of loading the cargo. When difficulties arise, they should seek the advice of other personnel (i.e., squadron, group, wing or MAJCOM Stan/Eval personnel).

13.2.1.4.1. Non-standard cargo/equipment that exceed limitations and is not contained in the aircraft loading manuals requires certification for air shipment. The shipper will provide a copy of the certification to the boom operator prior to loading. If the certification letter with loading instructions/requirements is not provided to the boom operator the cargo will not be loaded. Contact Air Transportability Test Loading Agency (ATTLA) or ASC/ENFC at Wright Patterson AFB, OH, voicemail (937) 255-2330/2547 or MAJCOM Stan/Eval for questions concerning cargo certification.

13.2.2. At locations without AMC air terminal or traffic personnel, the shipper assumes responsibilities in paragraph **13.2.1.1**. and provides sufficient qualified personnel and MHE for on/offloading. Boom operator responsibilities and authority are the same as described in paragraphs **13.2.1.2**. and **13.2.1.3**.

13.2.3. During joint airborne air transportability training (JA/ATT), special assignment airlift missions (SAAM), and USAF mobility, and contingency missions, the boom operator can accept DD Form 2133, *Joint Airlift Inspection Record*, as valid pre-inspection of equipment being offered for air shipment**.** This form, validated by two joint inspector signatures (user and transporting force), may be used in lieu of the applicable loading checklist. However, this does not relieve the boom operator from ensuring accompanying loads are secured prior to takeoff. The DD Form 2133 will not be used to document preparation of hazardous materials. This will be accomplished using the Shipper's Declaration for Dangerous Goods.

13.3. Emergency Exits and Safety Aisles.

13.3.1. There must be a reasonable degree of access to the rear of the aircraft, and passengers and troops must have ready access to emergency exits. Load aircraft in such a manner that allows for movement from the flight deck to the ARO compartment and access to cargo for firefighting.

13.3.2. To assist in emergency evacuation of passengers, extra crew members or maintenance personnel knowledgeable of emergency evacuation procedures will occupy the seats closest to doors 1 R/L and 2 R/L (with IAU installed), for all takeoffs and landings. Passengers who meet the criteria in paragraph **13.4.2.4** may be used if extra crewmembers or maintenance personnel are not available. They will be briefed on emergency evacuation procedures/duties IAW Section II of T.O. 1C-10(K)A-1. ***NOTE:*** All passenger hand carried items must be of a size to fit under the seat and must not obstruct the safety aisle(s). Any items that do not fit under a seat, or obstruct an aisle way will be stowed with checked baggage and secured for flight.

13.3.3. When in Configuration Code J, no cargo or passengers (N/A MEP) will be carried. This is a modified Code D configuration with all four IAU seat pallets removed but Z Lav,

IAU storage, track mounted seats, emergency oxygen and exit signs still installed. ***NOTE:*** Configuration Code J will only be used on local sorties.

13.4. Pre-Mission Duties.

13.4.1. Cargo Missions:

13.4.1.1. The boom operator will coordinate with aerial port personnel to establish loading times. Loading times that differ from the normal pre-departure sequence of events will be established, with PIC coordination, before the boom operator enters crew rest. Loading time is governed by the type of load and complexity of loading procedures (bulk, palletized, etc.) not by port saturation or management of aerial port workload levels. When reporting for duty, the boom operator checks in with the air terminal operations center or other designated location to obtain load brief and assist in load planning as required.

13.4.1.1.1. Not Used.

13.4.1.1.2. Aerial Port Expediter (APEX) on/off load operations are not authorized for KC-10 aircraft.

13.4.1.2. Proper cargo documentation will accompany each load. A consolidated statement (manifest) will be delivered to the aircraft prior to departure unless one is not available due to a lack or failure of the manifest processing equipment. In this case, a cargo listing or load plan with transportation control numbers (TCN) will accompany the load.

13.4.1.3. Tiedown equipment will be exchanged on a one-for-one basis. If this is not possible, annotate the AF Form 4069, *Tiedown Equipment Checklist*.

13.4.1.4. Fleet Service Checklist.

13.4.1.4.1. Boom operators will make every effort to ensure that the AF IMT 4128, *Fleet Service Checklist*, is signed by the fleet service representative and placed aboard the aircraft prior to departure.

13.4.1.4.2. Annotate inventory changes in section III. Place item nomenclature, increase/decrease amounts, station, date, and reason for change.

13.4.2. Passenger Missions: Maximize seat availability on all missions. The fold-down observer seat on the flight deck is not normally considered an available seat; the PIC is the final authority when releasing this seat for crew or passenger use.

13.4.2.1. Manifesting. Passenger service or airfield management personnel manifest passengers at locations with an AMC passenger processing activity.

13.4.2.1.1. Whenever the aircraft is configured with an increased accommodation unit (IAU), ensure that all latch pawls, anti-rattle handles, ramps, and electrical connections are serviceable and in their proper configurations.

13.4.2.1.2. When planning any KC-10 mission that includes more than ten passengers, a dedicated baggage pallet is required. Floor loading of passenger baggage is not authorized. Floor loading of small amounts of crew baggage,

professional gear, meals, water jug or medical litters, etc., as detailed in T.O. 1C-10(K)A-9 is authorized.

13.4.2.2. The PIC and boom operator are responsible for ensuring all passengers are properly manifested.

13.4.2.3. At locations without an AMC passenger processing activity it may be necessary for crews to perform passenger service functions at stations that do not have this capability. These functions include manifesting, anti-hijacking processing, and ensuring visa/passport requirements are met. When the aircrew accomplishes manifesting, anti-hijack-processing is completed by the aircrew IAW AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking)* (FOUO). Do not hesitate to contact 618 AOC (TACC)/XOGX, Aerial Port Control Center (APCC); DSN 779-0350/0355, commercial; 618-229-0350/0355, if any questions arise such as who may travel to specific locations or pass-port/visa requirements. Aircraft operating within other MAJCOMs which have operational C2 over that aircraft will contact the appropriate AMOCC for specific details. File a copy of the DD Form 2131, *Passenger Manifest*, with the flight plan. If not filed with the flight plan, annotate the location of the manifest on the flight plan IAW AFI 11-202V3.

13.4.2.4. A passenger service representative or crewmember will assist passengers at the bottom of the steps/stairs, and the boom operator will assist in seating passengers. DVs, passengers requiring assistance, and families should be boarded first to minimize separation. Make every effort to seat families together. Ensure that only adult, English speaking, physically capable, and willing passengers are seated next to emergency exits. Do not seat mothers with infants or children under 15 years old in seats adjacent to emergency exits. Passengers occupying these seats will be briefed on emergency evacuation procedures/duties IAW Section II of T.O. 1C-10(K)A-1.

13.4.2.5. When children under the age of two are accepted as passengers, their sponsor has the option to either hold the child or place him/her in a Department of Transportation-approved Infant Car Seat (ICS). Although the use of ICS for children processed through AMC-owned or controlled terminals (including gateways) is no longer mandatory, all passengers (duty and space-A), regardless of age, are required to be assigned their own seat. This policy will provide an infant and their sponsor with a dedicated seat allowing the use of an ICS at the sponsors discretion; this mirrors current FAA (commercial) standards. The FAA has banned the use of booster seats, harnesses, and vest child restraints.

13.4.2.5.1. Passengers may hand-carry their ICS. If used, secure the ICS to the seat using the seat belt. Adults will not hold the ICS during any phase of flight. In the event of turbulence or emergency landing, it is highly recommended for infants to be secured in an ICS. To prevent blocking an exit route, the ICS should not be used in an aisle seat.

13.4.2.6. Decisions regarding eligibility or acceptance of a passenger with disabilities for flight need to be determined at the lowest level possible. Problems concerning eligibility or acceptance that cannot be resolved locally must be reported (circumstances, chronology, names, units, etc.) to HQ AMC/A4T. For time sensitive problems, telephone HQ AMC/A4TP DSN 779-4592 or 618 AOC (TACC)/APCC.

13.4.2.7. Download the baggage of no-show passengers and those removed from a flight. In the case of SAAM or exercise missions at non-AMC locations, coordinate with CRG or deploying unit CC to decide if downloading of baggage is necessary.

13.4.2.8. RUSH baggage movement will be accomplished IAW AMCI 24-101 V15, *Military Airlift—Baggage Service.* The boom operator will ensure ATOC provides a copy of the AMC Form 70, *RUSH Baggage Manifest*, for the shipment of RUSH baggage.

13.4.2.9. Ensure all food items are removed from the aircraft by fleet service and returned to the flight kitchen if an extended delay occurs. Ensure that a copy of AF IMT 3516, *Food Service Inventory Transfer Receipt*, is received from fleet service to relieve the boom operator of meal accountability.

13.4.2.10. Pillow and Blanket Distribution. Hand out pillows and blankets only when requested by passengers. At enroute locations, leave used pillows and blankets on seats for thru-load passengers. Do not mix used and unused pillows and blankets.

13.4.2.11. Ensure all cabin doors without stairs are closed and armed prior to passenger boarding. To ensure safety, air stairs will be utilized to the maximum extent possible for passenger and troop on/offloading. Once passengers have been on-loaded the air stairs may be released and a B1-1 stand may be repositioned at the door.

13.4.2.11.1. Use caution when on/offloading passenger without air stairs. The PIC is the final authority on whether passengers/troops will be on/offloaded when air stairs are unavailable.

13.5. Passenger Handling.

13.5.1. The boom operator is a key figure in good passenger relations. The following rules should be observed:

13.5.1.1. Address passengers by proper titles.

13.5.1.2. Avoid arguments and controversial subjects, national or international politics, criticism of other personnel or organizations.

13.5.1.3. Offer services or perform duties in a manner indicating a personal interest and willingness to help.

13.5.2. Comments by the boom operator and the manner in which they are made often determine passenger attitudes about the flight. Always remember that passengers are individuals; address them collectively only when making announcements.

13.5.2.1. Ensure crewmember's entertainment media (magazines, DVD, etc.) are of an appropriate nature.

13.5.3. In-flight Procedures:

13.5.3.1. Passengers may move about the cabin after reaching cruise altitude; however, judgment must be exercised on the number of passengers allowed out of their seats at any one time. Encourage passengers to remain seated with their seat belts fastened. Due to concern for their safety, passengers are not allowed to sleep on cargo or cabin/cargo

floor. Discourage passengers from congregating around galley, lavatory and crew bunk areas.

13.5.3.2. Make frequent checks on cabin temperature, passengers with small children, and cleanliness of the cabin and lavatories.

13.5.3.3. Do not allow passengers to tamper with cargo or emergency equipment. Passengers will not be permitted access to checked baggage. The cargo compartment is off limits to all passengers unless properly supervised.

13.5.3.4. On long flights, particularly during hours of darkness, use all possible means to make passengers comfortable. Dim and extinguish unnecessary cabin compartment lights.

13.5.3.5. Passengers may visit the flight deck or Air Refueling Operators (ARO) station only when approved by the PIC. Use good judgment when requesting this authority. Passengers must be escorted by a crewmember to and from these areas. Primary crewmembers will be notified when passengers are in transit between the passenger compartment and the ARO compartment. Brief all passengers visiting the flight deck or ARO compartment on the use of the quick-donning mask/oxygen system. The total number of individuals on the flight deck or in the ARO compartment at any one time will not exceed the number of seats with seat belts and operable oxygen regulators.

13.5.3.6. Supervise passengers for the entire period of flight. During AAR, if an extra crewmember is on board, one crewmember will remain in the passenger compartment. When this is not feasible the following procedures apply:

13.5.3.6.1. Brief passengers to remain seated and to observe and comply with advisory signs.

13.5.3.6.2. The FE may monitor passengers from the flight deck when 40 or fewer passengers are on board.

13.5.3.7. Notify the PIC of any unusual circumstance relating to the passengers.

13.5.3.8. When passengers are carried, a crewmember knowledgeable in passenger procedures will be in the passenger compartment for all takeoffs and landings. With a basic crew, carry a maximum of 40 passengers. Seat passengers from front to back using all available seats.

13.5.4. Body Fluid/Bio-Hazard Clean-Up:

13.5.4.1. Aircrew personnel are the first line of defense when human fluids/waste contaminate aircraft. Because of the potential health risk to passengers and crew, crewmembers will immediately clean-up, to the best of their ability, all body fluids/waste when it does not detract from their primary duties. Boom operators will request troop commanders, team leaders, or traveling companions assist with the in-flight clean-up whenever possible. The clean-up should be accomplished using kits (when available) provided by fleet service and the procedures listed below.

13.5.4.1.1. Cordon of the contaminated area if possible.

13.5.4.1.2. Use non-sterile vinyl or nitrile gloves that cover part of the arm.

13.5.4.1.3. Wear safety goggles or glasses and an N-95 disposable respirator or equivalent surgical mask to protect the mucous membranes and inhalation of blood-borne pathogens that may exist.

13.5.4.1.4. Wear disposable coveralls and footwear covers to protect skin, clothing and footwear if available.

13.5.4.1.5. Apply paper towels or other absorbent material to the fluid to absorb the fluids and minimize the spill area.

13.5.4.1.6. Use fluid from clean-up kit.

13.5.4.1.7. Place all material into bag.

13.5.4.1.8. Avoid touching the mouth or face area with soiled hands or gloves. Wash hands thoroughly with soap and water after cleaning or clean hands with a alcohol-based hand gel (at least 60% alcohol) when soap and water is not available.

13.5.4.1.9. Annotate type of body fluid/bio-hazard cleaned-up and location in AFTO Form 781A, *Aircraft Maintenance Discrepancy and Work Document*.

13.5.4.1.10. When it is not possible for aircrew personnel or passengers to clean-up during flight, fleet service will be notified prior to landing.

13.5.5. Meal Service.

13.5.5.1. Ensure each passenger receives the meal ordered by verifying the passenger's AMC Form 148, *AMC Boarding Pass/Ticket*.

13.5.5.2. Box Meals. After takeoff, distribute box meals to passengers who boarded at the previous station. This lessens confusion when flight segments are short and more passengers board at subsequent stations. Frozen/Cooked meals will not be accepted for passengers. Box meals should be served in the following sequence:

13.5.5.2.1. Small children requiring assistance.

13.5.5.2.2. Distinguished Visitors (DV).

13.5.5.2.3. All other passengers.

13.5.5.3. Do not serve liquids or hot foods during turbulence.

13.5.5.4. When purchased meals are not furnished to passenger(s), the boom operator will annotate the individual's AMC Form 148, *AMC Boarding Pass/Ticket* to reflect reimbursement is authorized. Inform the passenger(s) they may receive refunds at the passenger service counter at the next station, originating location, or destination terminal.

13.5.5.5. Complimentary snacks and beverages are authorized on Transportation Working Capital Fund (TWCF) funded missions (including AFRC flown missions) for passenger consumption only. Complimentary snacks are not authorized on JA/ATT, Joint Chief of Staff (JCS) exercises, or SAAM missions. The squadron or port operations officer will ensure snacks and beverages are placed on board when departing AMC stations. When departing from other stations and no snacks or beverages are placed onboard, the boom operator may obtain required snacks and beverages from the local in-flight kitchen.

13.6. En Route and Post-Flight Duties.

13.6.1. At stations where a crew change is made and loading or offloading is required, the inbound boom operator is responsible for offloading the aircraft. The outbound boom operator is responsible for planning and loading the outbound load.

13.6.2. At crew stage points, brief relief personnel about passenger and aircraft equipment, any missing items, the location of through cargo, mail and baggage, and any information pertinent to through passengers. Point out cargo requiring special consideration (hazardous material, perishables, etc.). If unable to conduct a face to face briefing, leave written instructions with the cargo manifest or local C2.

13.6.3. Assist passengers in deplaning. If BLUE BARK, DVs, COIN ASSIST, or couriers are onboard, the boom operator informs the traffic or protocol representative respectively. In addition, notify arrival base C2 using Flight Plan VIP Codes from General Planning Flight Information Publication.

13.7. Loaded Weapons. Weapons are considered loaded if a magazine or clip is installed in the weapon. This applies even though the clip or magazine is empty.

13.7.1. Personnel who will engage an enemy force immediately on arrival (actual combat) may carry basic combat loads on their person. Weapons will remain clear with magazines or clips removed until immediately prior to exiting the aircraft. The troop commander will coordinate with the boom operator prior to directing personnel to load any weapons.

13.7.2. Personnel who will not immediately engage an enemy force will store basic ammunition loads in a centralized palletized location for redistribution on arrival at the objective. Magazines or clips will not be inserted into weapons.

13.8. Weight and Balance. Accomplish weight and balance for this aircraft according to T.O.1-1B-50, *Weight and Balance*, and Addenda A of this AFI. The unit possessing the aircraft maintains the primary weight and balance handbook containing the current aircraft status and provides a supplemental weight and balance handbook for each aircraft. The supplemental handbook should be enclosed in a wear-resistant binder (preferably metal), stenciled "Weight and Balance" with the airplane model and complete serial number on the cover or a spine.

13.8.1. The supplemental handbook will include T.O. 1C-10(K)A-5, *Weight and Balance Manual*, AFI 11-2KC-10 V3 Addenda A, *KC-10 Aircraft Configuration*, sufficient copies of DD Form 365-4, *Weight and Balance Clearance Form F—Transport/Tactical*, and a certified copy of the current DD Form 365-3, *Chart C, Basic Weight and Balance Record*. Chart C will include the aircraft's basic weight, basic moment, and center of gravity.

13.8.2. The boom operator will file the original DD Form 365-4, *Weight and Balance Clearance Form F—Transport/Tactical*, at the departure airfield and maintain a physical or electronic copy for the duration of the flight.

13.8.3. The weight and balance section of the unit possessing the aircraft will provide the information required to maintain current and accurate documents to the appropriate agency.

13.8.4. Weight balance may be accomplished using anyone of following methods:

13.8.4.1. Manually using the DD Form 365-4.

13.8.4.2. Electronically using the HQ AMC/A3VK and KC-10 SG approved handheld computer and printer combinations.

13.9. Cargo Validation On/Offloading Procedures and Format. Use the following format when tasked to validate a new loading procedure or when encountering any cargo you feel requires special or specific on/offloading or tiedown procedures not currently listed in T.O. 1C-10(K)A-9, *KC-10 Cargo Loading Manual*. After completion, send through standardization channels to HQ AMC/A3VK.

13.9.1. General Loading Data:

13.9.1.1. Nomenclature of item. Give military or civilian name, national stock number (NSN), and a brief description of the item; i.e., dump truck, medical van, etc.

13.9.1.2. Dimensions (in inches). Length, width, and height. Rough drawing or picture of the unit pointing out critical dimensions, projections, overhangs, etc.

13.9.1.3. Weight (in pounds). Gross weight; individual axle weight; or data plate weight if possible.

13.9.2. Number of loading crew personnel and boom operators required to on/offload cargo and their position to observe clearances, if required.

13.9.3. Equipment and Material Requirements. Special equipment and material required to on/offload cargo; i.e., cargo winch, prime mover, shoring requirements.

13.9.4. Aircraft Configuration Required.

13.9.5. Preparation of Cargo for Loading. Components that must be removed or reconfigured to on/ offload cargo (i.e., helicopter struts, exhaust stacks, cabs, etc.).

13.9.6. On/offloading Procedures.

13.9.7. Location of Tiedown Points.

13.9.8. Comments.

13.10. Emergency Airlift of Personnel. Apply the following procedures to ensure a safe, efficient loading method for the emergency airlift of personnel and aeromedical evacuation (AE) of litter patients from areas faced with enemy siege, hostile fire, for humanitarian evacuations, or when directed by the MAJCOM C2.

13.10.1. Emergency airlift normally is accomplished without the use of individual seats or safety belts. The maximum number of personnel who may be airlifted by seating them on a pallet sub-floor in the cargo compartment will vary. Seat personnel in rows facing forward and load in small groups of 8-10 per pallet so they may be positioned and restrained by connecting the pre-positioned tie-down straps from the left and right outboard pallet rings. Load personal effects/baggage in any safe available pallet position.

13.10.2. The maximum altitude for emergency airlift will not exceed FL 250.

13.11. Rucksacks. The following procedures apply to loading of rucksacks.

13.11.1. During administrative (training) deployments, rucksacks may be loaded on deploying vehicles or palletized.

13.11.2. During tactical deployments into a FOB/OB, rucksacks not loaded on vehicles will be carried by the individuals onto the aircraft. Rucksacks will not fit under the seats without obstructing the aisle way. Allocate pallet space on the load plan for loading rucksacks.

13.11.3. Rucksacks will not be floor loaded.

13.12. Not Used.

13.13. Cargo and Material Handling Equipment (MHE) Issues.

13.13.1. Lithium Batteries and Pyrotechnic Material (Class/Division 1.3G). Aircraft halon fire extinguishers are ineffective in fighting fires involving primary (non-rechargeable) lithium batteries and pyrotechnic material. Primary lithium batteries shipped as cargo or installed/contained in equipment and pyrotechnic material will not be accepted as cargo without the shipper providing a suitable fire extinguisher(s). For non-rechargeable lithium batteries this may be C02, Class D, or a specialized fire extinguisher (e.g., LITH-X). Dry chemical agent is preferred extinguisher for pyrotechnic material. These extinguishers will only help reduce the intensity of the fire until the lithium and pyrotechnic material expends itself. Aircraft halon fire extinguishers are suitable when transporting only rechargeable (lithium ion) batteries. Fire extinguisher requirements for non-rechargeable lithium batteries and pyrotechnic material do not apply to items being hand carried by troops during Chapter 3 operations. ***NOTE:*** Aircraft potable water will not be used as a fire suppression system for lithium batteries or pyrotechnic material. Water presents a hazard to electronic equipment located in the center accessory compartment and ARO compartment and water, in less than a large quantity, is ineffective.

13.13.2. Hazardous Materials in ISU-90 Containers. Load plans must allow in-flight access in event of an emergency, or hazardous materials will be removed from the container. Some containers have built-in "HAZMAT" access panels; however, when these containers are utilized, any hazardous materials must be positioned to permit access through the panel. ***EXCEPTION:*** See AFMAN 24-204 for hazardous cargo not required to be accessible in-flight. Hazardous materials in the upper compartment of the container are inaccessible unless the adjacent pallet position is left empty to facilitate opening the doors. If the person responsible for the container is not on board, the key or combination for locks on containers must be on the container adjacent to the lock. AMC inspectors and aircrew are authorized access on all cargo containers placed on AMC aircraft except when waived by HQ AMC/A3 for security reasons.

13.13.3. Weissenfel MB-1 Chain and 1998 Davis MB-1 Devices. Effective immediately, the Weissenfel MB-1 chain will not be used. The Weissenfel MB-1 chain can be identified by the word W-ITALY stamped on the chain hook. The 1998 Davis MB-1 tiedown device will not be used. These devices can be identified by a stamp reading contract number SPO470-98-C-5103. Remove any Weissenfel MB-1 chain or 1998 Davis MB-1 device from the aircraft. Examine chained palletized cargo for these chains and devices. If they are found, replace them with other chains and devices. Return the chains and devices to maintenance or the aerial port activity.

13.13.3.1. Davis Aircraft Products MB-1 and CGU-4/E Cargo Aircraft Tiedowns. Do not fully extend any Davis aircraft tiedown devices at any time. Davis devices modified by the previously authorized repair kit must be adjusted so there is a minimum of 3

threads visible between the white spacer contacting the anti-rotation bar and the adjusting nut located on the inside of the tiedown main body frame. Unmodified Davis devices must be adjusted so there is a minimum of 3 threads visible between the anti-rotation bar and the adjusting nut located on the inside of the tiedown main body.

13.13.4. Commercial Cargo Straps. Do not use commercial cargo straps. The only authorized cargo straps are the CGU/1b, 5k air cargo strap, PN 1670-00-725-1437, strap, webbing universal tiedown, PN 5340-00-980-9277 (army version of the AF CGU/1b, 5k strap) and the 10,000-pound restraint assembly cargo, NSN 1670-00-406-2657.

13.13.5. Ratchet device stamped: PECK & HALE, LLC, CGU-1/B 5000 LBS CAP. 94658 6MRW/1465B with white unmarked strap will not be used. Remove any deficient devices found on the aircraft and turn them in to aerial port personnel for final disposition.

13.13.6. Removal/Addition of Aircraft Equipment. Missing or removed items that are considered part of the normal aircraft configuration, such as cargo loading rails or pieces of the walkway, do not constitute a non-standard configuration. If these items are onboard but strapped to a pallet or are completely removed from the aircraft, make an adjustment to the aircraft weight and balance computation. Carrying more than the normal (4) IAU pallets does not constitute a non-standard configuration. When the additional pallets are onboard and there is other cargo manifested as hazardous, check its compatibility with regard to the oxygen generating units on the IAU. The oxygen generators installed in the IAU seats are classified as Hazard Class 5.1, with a UN Identification Number of UN3356. Additional IAU pallets are still considered aircraft equipment and do not need to be manifested as cargo, nor do they require Shipper‘s Declarations for Dangerous Goods.

13.13.7. Flight Test Data Acquisition System Pallet. The KC-10 palletized flight test data acquisition system does not require a configuration wavier when loaded using TO 1C-10(K)A-9 criteria. Use the empty placarded weight of 1700 lbs.

Chapter 14

FUEL PLANNING AND CONSERVATION

14.1. General. This chapter is designed to assist pilots, flight engineers, and planners in fuel planning for KC-10 missions. The CFPS Computer Flight Plan (CFP) and TO 1C-KC-10A-1-1 Performance Manual is the primary preflight reference. The planning procedures in this chapter apply to all AMC-tasked and 618 AOC (TACC)-flight managed missions in addition to local missions. Missions should be planned at altitudes, routes, and airspeeds to minimize fuel usage.

14.2. Fuel Conservation. It is Air Force policy to conserve aviation fuel when it does not adversely affect training, flight safety, or operational readiness. Aircrew and mission planners will manage aviation fuel as a limited commodity and precious resource. Fuel optimization will be considered throughout all phases of mission planning and execution. Comply with the following whenever consistent with tech order guidance and safety:

14.2.1. Fuel Loads. Excessive ramp and recovery fuel adds to aircraft gross weight and increases fuel consumption. Do not ferry extra fuel beyond optimum requirements for safe mission accomplishment and training objectives.

14.2.2. Flight Planning. Aircrew and mission planners will optimize flight plans and flight routing for fuel efficiency.

14.2.3. APU Usage. Minimize the APU usage to the maximum extent possible. Early coordination may be required to ensure external power carts and heating/cooling units are available.

14.2.3.1. When Cockpit Instrument(s) are powered on the ground, the avionics compartment cooling fan and the appropriate equipment associated fan(s) must be operating. In addition, if cockpit temperature is above 85 degrees F, air conditioning (i.e. AGE/APU) must be used.

14.2.4. Center-of-Gravity (CG). Load and maintain aircraft at an aft CG whenever possible consistent with mission requirements and Flight Manual restrictions.

14.2.5. Engine Start. Delay engine start on all departures whenever practical to minimize fuel consumption.

14.2.5.1. Starting the number two engine should be delayed as long as practical prior to takeoff unless aircraft gross weight is 500,000 lbs or more.

14.2.6. Taxi. Consider engine out taxi when permitted by Flight Manual.

14.2.7. Departure Planning. Consider use of opposite direction runway to reduce taxi and/or expedite departure routing if winds allow.

14.2.8. Takeoff. Consider a rolling takeoff as well as reduced power when able. This saves fuel and engine wear. Clean up on schedule and don’t delay gear and flap retraction.

14.2.9. Climb/Descent. In-flight procedures such as climb/descent profiles and power settings should also be considered for efficient fuel usage.

14.2.10. Weather Deviations. Attempt to coordinate for off-course deviation early so gross maneuvering is not required.

14.2.11. Cruise techniques. Attempt to trim the aircraft and match throttle settings whenever possible. Fly fuel efficient speeds and altitudes to the maximum extent possible.

14.2.11.1. When time between air refueling exceeds 10 minutes, the boom/hose will be stowed.

14.2.12. Approach. Fly most direct routing to arrival approach consistent with mission requirements.

14.2.13. Holding. If holding is required, hold clean at the most fuel efficient altitude and request a large holding pattern. Hold at endurance or performance manual recommended holding speeds, conditions permitting.

14.2.14. Parking. Consider using shortest taxi route and avoid double blocking when able.

14.3. Fuel Planning Procedures. Aircrew should employ the following aviation fuel optimization measures without compromising flight safety or jeopardizing mission/training accomplishment:

14.3.1. Plan a 45-minute fuel reserve at destination or alternate (when an alternate is required).

14.3.2. Plan fuel to an alternate only when AFI 11-202V3 or AFI 11-2KC-10V3 require the filing of an alternate.

14.3.2.1. When only one alternate is required, use the closest suitable airfield meeting mission requirements (such as special requirements for hazmat or patients) and AFI 11-202V3 weather criteria.

14.3.2.2. If two alternates are required, use the two closest suitable airfields meeting AFI 11-202V3 weather criteria and fuel plan to the more distant of the two.

14.3.2.3. When selecting an alternate, suitable military airfields are preferred if within 75 nautical miles of destination. (The ACFP default distance to an alternate is 75 nautical miles. Consequently, where the alternate is less than 75 nautical miles from the primary destination, ACFP will assume that the airfield is 75 nautical miles away.)

14.3.2.4. The practice of selecting an alternate in another weather system or selecting an alternate based on maintenance capability will not be used.

14.3.2.5. ACFP will provide a route of flight to the primary alternate if greater than 75 miles from the destination.

14.3.2.6. For remote destinations, holding is authorized in lieu of an alternate airport. In such situations, use 2+00 hrs reserve fuel (1+15 holding in lieu of an alternate and 0+45 reserve).

14.3.3. For all missions other than local training missions, calculate 15 minutes of contingency fuel using destination gross weights. Local training missions are not required to carry contingency fuel. If contingency fuel is carried on local training missions, it should not exceed 15 minutes. Contingency fuel is not considered reserve fuel since it can be consumed at any point during the mission. Contingency fuel will be included in the initial RRFL calculation.

14.3.3.1. AMC's ACFP will calculate reserves and contingency fuel as holding fuel. Computer flight plans will have 1+00 holding when combining 0+45 reserve and 0+15 contingency fuel (for remote destinations ACFP will plan 2+15 holding, combining 2+00 reserve and 15 minutes contingency fuel).

14.3.3.2. Reserve and contingency fuel will be computed using consumption rates providing maximum endurance at 10,000 feet MSL at destination gross weight. If an alternate is required, compute using weight at alternate destination. When computing reserve and contingency fuel for remote destinations, use consumption rates providing maximum endurance at 20,000 feet MSL.

14.3.4. Using all available planning tools (including ACFP and CFP) and guidance in this chapter, PICs will determine the RRFL. When actual fuel load exceeds the RRFL by more than 5,000 lbs, defuel the aircraft to the RRFL.

14.3.4.1. Identified extra fuel may be added to RRFL:

14.3.4.1.1. When fuel availability is limited or not available at en route stops.

14.3.4.1.2. For known holding delays in excess of standard.

14.3.4.1.3. For anticipated off course weather avoidance.

14.3.4.1.4. When reliable wind data or receiver profiles are not available.

14.3.4.2. Airlift missions. Plan Long Range Cruise (LRC) and optimum altitude.

14.3.4.3. Tanker Mission. Plan to and from the AAR track or anchor at LRC and optimum altitude.

14.3.4.4. Aircraft Commanders will not add any additional fuel without first discussing the reason with their FM and receiving their agreement that additional fuel is justified. When an Aircraft Commander believes the fuel load is insufficient to execute the mission, they will call the appropriate FM to identify and resolve differences. When the Aircraft Commander and the FM do not reach agreement, the Aircraft Commander is the final authority for adding additional fuel.

14.3.5. Tankering fuel for convenience is prohibited. MAJCOM C2 or 618 AOC (TACC)-sanctioned tankered fuel is deemed operationally necessary, and will be included in the RRFL.

14.3.5.1. Force Extension/AAR. If during mission planning it is determined that scheduled AAR is not needed for operational or training purposes, attempt to get it cancelled through appropriate C2 channels.

14.3.6. When there is a conflict between an on-time departure and defueling, the 618 AOC (TACC), deputy director of operations (DDO) or MAJCOM C2 equivalent will determine which takes precedence. The OG/CC will make this determination when serving as mission execution authority.

14.4. Fuel Requirements. This section augments AFI 11-202V3 fuel requirements.

14.4.1. Required Ramp Fuel Load (RRFL). Minimum fuel required at engine start to complete tasked mission. RRFL will consist of all fuel required for engine start, taxi, APU operation, takeoff, hold down, enroute, enroute reserve, contingency, air refueling,

decompression (depressurization), early descent, descent, approach and landing, alternate, transition, holding/minimum landing. ***NOTE:*** The minimum RRFL is 50,000 lbs. Additional fuel required to achieve the 50,000 lb RRFL will be placed in the Identified Extra block.

14.4.2. Start Engines, Taxi, and APU operation. Normally 1500 pounds. When anticipating more than 15 minutes ground operation time, add 100 pounds for each minute in excess of 15 minutes, not to exceed 3000 pounds. If extended APU operations are anticipated, plan 350 pph.

14.4.3. Takeoff. Fuel used from the start of takeoff roll (brake release) to the start of climb (2000 feet). Normally 2.5 minutes and 2500 pounds.

14.4.4. Enroute. Fuel from start of climb segment at the departure location to Begin Descent Point at destination.

14.4.5. Category 1 Reserve. Category 1 Reserve Fuel is no longer used.

14.4.6. Air-to-Air Refueling (AAR). Scheduled offload minus scheduled onload. If scheduled onloads are not completed it may be impossible to complete the mission.

14.4.7. Identified Extra. Fuel which may be added for unplanned contingencies such as late receivers, increased offloads, ATC delays, unplanned holding, weather avoidance, hold down, early descent etc. Identified Extra block should not normally exceed 10,000 pounds. Additionally, this block may include transition fuel at destination minus alternate and landing fuel, or tankered fuel for subsequent sorties. If subsequent sortie is a NERCC, the first sortie‘s forecasted thunderstorms, hold down, early descent, alternate, holding, and contingency fuel will all be subtracted from the tankered fuel.

14.4.7.1. Consider 4,500 pounds of main tank fuel (1,500 pounds in each main tank) as unusable. Minimum planned final landing fuel at destination or alternate will consist of 4,500 pounds unusable plus 45 minutes holding fuel.

14.4.7.2. Use 4,500 pounds if forecasted thunderstorms are scattered or numerous along the route of flight, 2,300 pounds if forecast thunderstorms are few along the route of flight, and 1,200 pounds if forecast thunderstorms are isolated along the route of flight. Thunderstorm forecasts will be based on the DD Form 175-1, *Flight Weather Briefing* or equivalent.

14.4.7.3. 618 AOC (TACC) and local missions add 15 minutes (4,500 lbs) of East coast hold down fuel for departures from Andrews, Dover, Martinsburg, McGuire, Stewart, and Westover. ***NOTE:*** Hold down fuel is added as a departure bias and will be burned at the top of climb. For Flight managed missions, hold down fuel will be annotated on the ACFP as “Fuel D” at the beginning of the ACFP and accounted for in the top of climb fuel block on the ACFP.

14.4.7.4. 618 AOC (TACC) and local missions add 15 Minutes (4,500 lbs) of early descent fuel for Andrews, Dover, Martinsburg, McGuire, Stewart, and Westover arrivals. ***NOTE:*** Early descent fuel is added as an arrival bias and will be burned on the last leg. For Flight managed missions, early descent fuel will be annotated on the ACFP as “Fuel A” at the beginning of the ACFP and accounted for in the last leg fuel block on the ACFP.

14.4.7.5. Transition. Plan fuel for transition training at the destination or authorized enroute locations for training sorties. Compute ACFP at 18,000 pounds per hour (this includes fuel for the initial approach).

14.4.8. Decompression Fuel. Additional fuel may be needed to satisfy oxygen requirements for flights where the total number of individuals on board the aircraft exceeds the total number of operational flight crew oxygen system stations. Ensure there is sufficient fuel on board to allow for a loss of cabin pressurization from any point along the route, and emergency descent to 10,000 feet MSL minimum, and continued flight to the nearest suitable emergency airfield.

14.4.8.1. The ACFP calculates decompression fuel from the ETP at 10,000' altitude. If additional fuel is required from the ETP, the ACFP automatically adds it to Block 10 of the ACFP.

14.4.8.2. To calculate decompression fuel on a locally generated flight plan (CFP), examine the intended route of flight to determine the point furthest from recovery to a suitable emergency airfield. Compare the amount of fuel remaining at that point to the fuel required to recover at 10,000' to an emergency airfield, execute a descent, approach and land with 12,000 pounds.

14.4.8.3. Equal Time Point (ETP). First Suitable Airfield (FSAF) and Last Suitable Airfield (LSAF) are used in the ETP calculation. These are represented as the First Nearest and the Last Nearest airports in the ETP calculation. They are airports closest to the coast out and coast in waypoints that meet applicable destination alternate requirements.

14.4.8.3.1. ETP Calculation. ETP calculations are required on portions of routes when the total time between the LSAF and the FSAF is 3-hours or more. This hour requirement was derived from the minimum flight time on a trans-Atlantic flight. LSAF and FSAF selected for ETPs calculated in ACFP are authorized for use in-flight.

14.4.8.3.2. ACFP uses the following formula for calculating ETP:

$$\text{TIME in hours (ETP-FSAF)} = \frac{\text{DISTANCE (LSAF-FSAF)}}{(\text{WF2} - \text{WF1}) + 2\text{TAS}}$$

14.4.8.3.2.1. If the LSAF/FSAF is not on the flight plan course, ACFP will use a point 90 deg perpendicular from the LSAF and/or FSAF to the flight plan course to determine the total distance between LSAF and FSAF. ***NOTE:*** The closer the LSAF and FSAF are to the flight plan course the more accurate the ETP solution provided by ACFP.

14.4.9. Descent, Approach and Landing. ACFP flight plans calculate Descent, Approach and Landing Fuel in Block 6. CFP add fuel used from the Begin Descent Point to Initial Approach Fix for descent and then add 15 minutes and 3000 pounds for approach and landing.

14.4.10. Alternate. Fuel for missed approach and flight from intended destination to alternate aerodrome. Use Time and Fuel to Alternate, or Specific Range charts.

14.4.11. Reserve Fuel.

14.4.11.1. Holding Fuel. Fuel for 45 minutes of holding. Compute using planned destination gross weight at 10,000 feet. Use the Three-Engine Holding Table with a 25-degree bank angle. ***NOTE:*** ACFP does not use the Three-Engine Holding Table to compute holding fuel. Block 18 on the 4091 will always be less than the holding block on the ACFP. This is authorized extra fuel and the difference will be entered in block 21 of the 4091. If ACFP holding fuel is less than block 18 on the 4091, there is an error in your ACFP. Contact your flight manager to resolve.

14.4.11.2. Remote Destination. When holding is required in lieu of an alternate at a remote destination, carry an additional one hour and 15 minutes of holding fuel. A remote destination is defined as any aerodrome which, due to its unique geographic location, offers no suitable alternate (civil or military) within 2 hours flying time. When this option is used, calculate Reserve Fuel (Holding, Remote, and Contingency) using the Three-Engine Holding table with a 25-degree bank angle, planned destination gross weight, 20,000 feet MSL.

14.4.11.3. Contingency. For missions other than local training missions, calculate 15 minutes of contingency fuel. Local training missions are not required to carry contingency fuel. If contingency fuel is carried on local training missions, it should not exceed 15 minutes. In all cases, this fuel is to compensate for unforeseen circumstances during any phase of flight (i.e. Unforecasted weather, launch delay, etc). Contingency fuel will not be considered reserve fuel since crews may burn some or all of their contingency fuel at any time during the mission. Compute using planned destination gross weight at 10,000 feet. Use the Three-Engine Holding Table with a 25-degree bank angle.

14.4.11.4. ACFP flight plans will calculate reserves and contingency fuel as holding fuel. ACFP will have 1+00 holding when combined 0+45 reserve and 0+15 contingency fuel (for remote destinations ACFP will calculate 2+15 holding, combining 2+00 reserve and 15 minutes contingency fuel).

14.4.12. Minimum Planned Fuel at Begin Descent Point. Consists of fuel required for descent, approach and landing, alternate/missed approach, and holding/minimum landing fuel. Additional fuel may be added to allow crews some flexibility when dealing with unplanned contingencies (e.g., late receivers, extra receivers, increased off loads, weather avoidance, ATC delays, etc). This Identified Extra fuel should not normally exceed 10,000 pounds. When dealing with unplanned contingencies, crews will still plan to touchdown with minimum landing fuel. Units may develop standard alternate fuel requirements for local training missions however; these fuel requirements will not be less than those specified in this AFI. Local supplements will not dictate a standard “IAF” or “Top of Descent Fuel”.

14.5. AF Form 4091 Procedures. All fuel planning factors are described in paragraph **14.4 Fuel Requirements** above. AF Form 4091 is used to record pertinent data throughout mission planning, preflight, flight, and post-flight.

14.5.1. Instructions for completing AF Form 4091. Only those sections required for the mission or through local guidance need be completed. Units may supplement this with additional local guidance for NERCCs, standardized alternates, etc. Complete the Time and Fuel Analysis prior to every flight to verify flight plan computations. Most entries are self-

explanatory. Blocks 1 through 13 provide a worksheet to aid in completing Time and Fuel Analysis.

14.5.1.1. Block 14 - Enroute. Time and fuel from brakes release to Begin Descent Point at destination. Includes transition fuel at enroute locations.

14.5.1.2. Block 15 - Cat 1 reserve. This block is no longer used.

14.5.1.3. Block 16 - Decompression fuel. Enter fuel from Block 9 if using a locally generated flight plan. For ACFP (IFM Missions managed by 618th AOC (TACC)), compute by subtracting fuel available at ETP from fuel required at ETP. For multiple ETPs follow the procedure above. Enter in Block 16 if greater than zero.

14.5.1.4. Block 17 - Alternate. If required.

14.5.1.5. Block 18 - Holding. Enter total from Reserve Fuel Table (Holding+Remote+Contingency time and fuel)

14.5.1.5.1. Reserve Fuel Table

14.5.1.5.1.1. Holding - Enter 45 minutes of fuel.

14.5.1.5.1.2. Remote Destination - Since remote destination fuel may be required in lieu of an alternate, at remote destinations enter the additional 1+15 minutes of holding fuel here. Enter "zero" in Block 17 if adding fuel for a remote destination.

14.5.1.5.1.3. Contingency - Enter 15 minutes of fuel computed using planned destination gross weight at 10,000 feet. Use the Three-Engine Holding Table with a 25 degree bank angle.

14.5.1.6. Block 19 - Descent, Approach & Landing. ACFP use Approach and Landing Block 6 for Time and Fuel calculation. CFP add fuel used from the Begin Descent Point to Initial Approach Fix for descent, then add 15 minutes and 3000 pounds for approach and landing. Otherwise compute descent fuel from Section 8 of TO 1C-10(K)A-1-1 and then add 15 minutes and 3000 pounds for approach and landing.

14.5.1.7. Block 20 - AR On/Offload. Enter the amount from Block 12.

14.5.1.8. Block 21 - Identified Extra. Compute as per Fuel Requirements **14.4.7**

14.5.1.9. Block 22 - Taxi. Compute as per Fuel Requirements **14.4.2**

14.5.1.10. Block 23 - Required Ramp Fuel Load. Add Blocks 14 thru 22.

14.5.1.11. Block 24 - Actual Ramp Fuel Load. Self explanatory.

14.5.1.12. Block 25 - Unidentified Extra. Subtract Block 23 from Block 24. If this value exceeds 5,000 pounds, see Fuel Planning Procedures **14.3** This block should not be less than zero.

14.5.1.13. Block 26 - Required Overhead Destination is the minimum planned fuel at begin descent. Add blocks 17, 18 and 19 then subtract contingency fuel. ***NOTE:*** ACFP does not subtract contingency fuel from required overhead.

14.5.1.14. Block 27 - Endurance at Begin Descent Point. Block 24, minus Block 22, minus Block 14, plus/minus Block 20, divided by 15,000 pounds per hour.

14.5.1.15. Block 28 - Total Endurance. Block 14 plus Block 27. This value should be entered onto the DD Form 175 or 1801.

14.5.1.16. Block 29 - AR Onload Endurance. Planned onload divided by 15,000 pounds per hour. This value should be entered onto the DD Form 175 or 1801.

14.6. Computer Flight Plan. Only AMC-validated computer flight planning software is approved for use in producing CFPs. The CFP normally serves as the fuel log. AF Form 4090 *KC-10 Flight Plan and Fuel Log* is used when no CFP is available. It is the crew's responsibility to review each CFP and determine if the planned values chosen by the flight planner are sufficient and correct for the mission. The CFP fuel calculations must be verified using T.O. 1C-10(K)A-1-1. This ensures the flight plan has been computed with the correct values. The flight engineer does this by completing the time and fuel analysis block of the AF Form 4091. Use Section 5 Specific Range charts or Section 10 Flight Planning Tables to verify the enroute portion. Confirming each and every segment on the flight plan is not necessary. Every effort must be made to eliminate unnecessary "padding" of fuel figures.

14.6.1. When mission requirements dictate a change to the planned mission, the fuel must be recalculated to ensure safe completion of the flight. A pilot or flight engineer may insert the new FMS waypoints for flight plan changes and determine new leg distances. This distance must be converted to air distance by applying the FMS wind factor. When the new leg air distance is known, calculate the new leg burn-off and update the flight plan or AF Form 4090. It is recommended that the fuel difference be applied at the destination, then work the plan backwards, applying the new leg burn-offs and any air refueling on-loads or off-loads.

14.6.2. Drag degradation with WARP hoses deployed and slats and flaps extended can increase fuel consumption by nearly 10 percent. These and any other external configuration changes (i.e. gear down flights), will require modifications to increase standard fuel planning numbers. Consult drag index chart and gear down data in the performance manual.

14.6.3. **Table 14 1.** Provides drag index guidance when using PFPS to produce CFPs. Refer to T.O. 1C-10(K)A-1-1, Figure 1-14 for additional drag index information.

Table 14.1. PFPS/ACFP DRAG INDEX VALUES.

CONDITION	PFPS DRAG INDEX	ACFP DGDP VALUE
Tanker Boom Air Refueling	18.5	6
Tanker Centerline Drogue Air Refueling	10.0	4
Warp (clean wing, hose and drogue retracted)	10.0	4
Warp (clean wing, hose and drogue extended)	29.0	10
Receiver Air Refueling	44.0	15
Slow Speed Air Refueling (Flaps/Slats Extended)	28.0	11

Chapter 15

AIR REFUELING

15.1. General. This chapter establishes air refueling guidelines applicable to KC-10 aircraft and aircrews and is supplemental to those prescribed by the flight manual and other applicable directives.

15.2. AAR Limitations. The following limitations apply.

15.2.1. AAR altitudes. AAR operations will be conducted above 12,000 feet MSL, or 10,000 feet AGL, whichever is higher. ***EXCEPTION:*** C-130, CV-22 and A-10 receivers may be refueled as low as 5,000 feet AGL, if mission requirements dictate.

15.2.1.1. AAR operations based at or above 12,000 feet MSL, which momentarily fall below 10,000 feet AGL, but no lower than 5,000 feet AGL, due to over flight of mountain ridges, peaks, etc., are permissible.

15.2.1.2. If refueling must be accomplished below 10,000 feet AGL, limit refueling time to the minimum required to meet operational requirements and then immediately recover to normal refueling altitudes. Crews must ensure thorough knowledge of terrain features when operating below 10,000 feet AGL and will limit operations to flat or rolling terrain, or over water.

15.2.1.3. Pilots will fly no lower than an altitude that provides at least 5,000 ft. of clearance above the highest obstruction or terrain within 5 nautical miles either side of the planned course centerline.

15.2.2. Refueling During Training Missions. AAR should not be accomplished during training missions when:

15.2.2.1. Conditions result in marginal control of either aircraft or the boom (in the opinion of either the pilot or boom operator).

15.2.2.2. Either the tanker or the receiver (except B-52) has less than the full number of engines operating.

15.2.2.3. Tanker aircraft is unable to retract the landing gear.

15.2.3. Tanker Autopilot. Tanker pilots will notify receiver pilots when any axis of the autopilot is not used.

15.2.4. AAR Without Tanker Disconnect Capability. Without tanker disconnect capability means the boom operator cannot trigger an immediate disconnect using either the normal disconnect system or the independent disconnect system (IDS). AAR (tanker or receiver) will not be conducted after a known loss of tanker disconnect capability. ***EXCEPTION:*** Fuel emergency situations, contingency missions, JCS alert, ORI, receiver over water deployment or re-deployment, operational reconnaissance missions, prime nuclear airlift force (PNAF) support missions under normal conditions when the refueling is essential for home base recovery, or when authorized in the mission directive.

15.2.5. Manual Boom Latching (MBL) (also referred to as Emergency Boom Latching (EBL), Override Boom Latching (OBL), and amplifier override). Normal tanker disconnect

capability and automatic disconnect limits are inoperative. Training and evaluation in MBL procedures may only be accomplished under the following conditions:

15.2.5.1. Direct IP supervision is required on board receiver aircraft (if other than fighter type).

15.2.5.2. Limit contacts to the minimum required.

15.2.5.3. Receiver and tanker AAR systems must be fully operable.

15.2.5.4. Do not accomplish boom limit demonstrations, or practice emergency separations while in contact. ***NOTE:*** The boom operator and receiver pilot must coordinate all actions as required by applicable directives and checklists when making AR contacts during the situations listed above. ***NOTE:*** MBL with IDS system operative may be accomplished without restrictions.

15.2.6. Reverse Air Refueling. See T.O. 1C-10(K)A-1.

15.2.6.1. Reverse AAR into a KC-135 is only permitted in an emergency, for operational necessity, or IAW FTU syllabus training requirements.

15.2.6.2. There are no additional restrictions for reverse AAR into another KC-10.

15.2.7. Practice Emergency Separations.

15.2.7.1. Prior to the actual accomplishment of a practice emergency separation, coordination between the tanker pilot, boom operator, and receiver pilot is mandatory. Coordination must include information on when the separation will occur and who will give the command of execution. Tanker pilot coordination may be accomplished over interphone with the boom operator.

15.2.7.2. Unless an actual breakaway is required, prior to calling for a Practice Emergency Separation, ensure the boom nozzle is separated from the receiver's receptacle. In this instance, the tanker boom operator will call the breakaway.

15.2.7.3. Practice emergency separations may be accomplished with passengers on board. Ensure all passengers are seated with seat belts fastened.

15.2.8. Limits Demonstration. KC-135 tanker disconnect capability must be verified by a boom operator initiated disconnect prior to receivers conducting limits demonstrations.

15.2.9. For receiver pilot initial qualification or requalification, the receiver instructor/examiner pilot will be in one of the pilot seats with immediate access to the controls through all phases of the refueling from astern until post air refueling.

15.2.10. If a change of receiver pilot control is made, the receiver aircraft will move back to at least the astern position except for immediate assumption of control by the instructor pilot.

15.2.11. If a tanker or receiver seat change takes place, the receiver will move back to at least 100 feet in trail of the tanker and to a point where the receiver pilot can maintain visual contact with the tanker until the seat change is complete.

15.2.12. Receiver A/R Training for Unqualified Receiver Pilots. (This includes copilots, aircraft commander upgrade candidates and aircraft commanders refueling from the right

seat). In-flight training will be accomplished under direct IP supervision. The following procedures apply:

15.2.12.1. The receiver pilot must inform and receive acknowledgment from the tanker.

15.2.12.2. The boom operator operating the boom controls must be qualified. ***NOTE:*** This restriction does not apply during FTU training provided the student boom operator is under direct instructor supervision.

15.2.12.3. If the tanker autopilot is off, the tanker copilot will not fly the aircraft. ***NOTE:*** This restriction does not apply during FTU training provided the student receiver pilot and the student tanker copilot are under direct IP supervision.

15.2.13. Boom Operator Qualification or Training. Unqualified and non-current boom operators must be under direct instructor supervision to conduct AAR operations.

15.2.14. Operator Fatigue. If boom operator or receiver pilot fatigue becomes a factor during AAR operations, the receiver will maintain no closer than the astern position until fatigue is no longer a factor (operator judgment).

15.2.15. Weather limitations.

15.2.15.1. Terminate refueling if moderate turbulence is encountered.

15.2.15.2. Discontinue refueling if in-flight visibility is insufficient to continue safe refueling operations.

15.2.16. The normal method of boom control during refueling operations is with the automatic load alleviation system (ALAS) "ON". AAR will not be conducted with an ALAS malfunction or ALAS inoperative. ***EXCEPTION:*** Fuel emergency situations, contingency missions, JCS alert, ORI, receiver over water deployment or re-deployment, operational reconnaissance missions, PNAF support missions under normal conditions when the refueling is essential for home base recovery, or when authorized in the mission directive.

15.2.17. AAR with Single Rudder Failure. Under normal conditions both boom rudders must be operational. AAR will not be conducted with a single rudder failure. ***EXCEPTION:*** Fuel emergency situations, contingency missions, JCS alert, ORI, receiver over water deployment or re-deployment, operational reconnaissance missions, PNAF support missions under normal conditions when the refueling is essential for home base recovery, or when authorized in the mission directive. ***NOTE:*** When conducting AAR with a single rudder failure, limit contacts to the minimum number necessary to complete the mission. AAR training will not be conducted during single rudder operations.

15.3. Communications Failure. Aircraft experiencing two-way communications failure during the conduct of AAR shall continue flight in accordance with the following procedures:

15.3.1. Squawk code 7600 for at least 2 minutes prior to exiting the track or anchor.

15.3.2. Receiver aircraft that have not received altitude instructions beyond the exit point shall exit the track or anchor at the lowest altitude specified in the clearance for the refueling portion of the of the flight and proceed in accordance with "Procedures for Two Way Radio Failure IFR-VFR" as set forth in DoD Flight Information Handbook.

15.3.3. Tanker aircraft that have not received altitude instructions beyond the exit point shall exit the track or anchor at the highest altitude specified in the clearance for the refueling portion of the flight and proceed in accordance with "Procedures for Two Way Radio Failure IFR-VFR" set forth in DoD Flight Information Handbook.

15.4. Operational Reporting. Air refueling command and control reporting will be in accordance with **Chapter 2** of this instruction.

15.5. Military Assumes Responsibility for Separation of Aircraft (MARSA) Applicability for AAR. MARSA begins between the tanker and receiver when the tanker advises ATC that it is accepting MARSA. MARSA is not an ICAO recognized term. Query the controlling agency if in doubt as to what separation is provided by ATC, or what separation the aircrew is responsible for.

15.5.1. After MARSA has been declared, controller-assigned course or altitude changes prior to rendezvous completion will automatically void MARSA and are to be avoided.

15.5.2. Once the rendezvous is completed, headings and altitude assignments may be made with the tanker concurrence with MARSA remaining in effect.

15.5.3. Upon rendezvous completion, receiver aircraft shall remain within 3 miles of the tanker until MARSA is terminated.

15.5.4. After air refueling clearance is received and until rendezvous is completed, aerial refueling airspace from the ARIP to the ARCP is sterilized. After rendezvous is completed and the tankers or receivers proceed down track, other non-participating aircraft may be cleared through the refueling block airspace with proper separation.

15.5.5. MARSA ends between the tanker and receiver when the tanker advises ATC that the tanker and receiver aircraft are vertically positioned within the air refueling airspace and ATC advises MARSA is terminated.

15.6. Altitude Reservation (ALTRV). An ALTRV is authorization by a central altitude reservation function (CARF, EUCARF, PACMARF, CARU) or the appropriate ARTCC/CERAP under certain circumstances, for airspace utilization under prescribed conditions. AAR on operational missions often utilizes an ALTRV under these conditions. ALTRVs may include all, a portion, or portions of the intended route of flight. Request and approval format can be found in FAA 7610.4.

15.6.1. Ensure ALTRV approval is received prior to mission execution. ALTRV status may be verified through the appropriate AOC (TACC) cell.

15.6.2. Aircraft must depart within the assigned AVANA (ALTRV Void if Aircraft Not Airborne) time for the purpose of providing separation between altitude reservations. Normal AVANA will be 1 hour. If a mission is to be delayed beyond the AVANA time, coordinate with the C2 authority as soon as possible. Rescheduling will normally be in 24-hour increments after the original schedule.

15.6.3. ALTRV Procedures. Prior to accomplishing a mission requiring an ALTRV, crews will review their respective AFTTP 3-3.KC-10, Flip General Planning, and Area Planning to ensure compliance. These publications are the main source of information for aircrews, but other pertinent information regarding ALTRVs may exist for the specific country or countries in which the ALTRV is established.

15.6.3.1. FAA Airspace. Aircraft on an ALTRV must operate within the altitude, time, and areas specified in the approval. An ALTRV APVL authorizes the aircraft to climb or descend as specified in the approval. Controllers are not required to issue a climb or descent clearance for the various flight segments. They may, however, request that the pilot advise them prior to initiating an altitude change.

15.6.3.2. ICAO Airspace. Fundamentally, ICAO acknowledges ALTRVs but they do not recognize them in official publications. An ICAO ALTRV may or may not be an actual ATC clearance depending on the region. For instance, the United Kingdom requires aircraft to obtain ATC approval for all altitude changes. Furthermore, aircraft transiting multiple countries need to be aware that ALTRV procedures may change when crossing FIR boundaries. In Europe, Letters of Agreement (LOA) maintained at EUCARF explain ALTRV procedures and routings for individual countries. LOAs are coordinated on a one-to-one basis between EUCARF and each controlling agency/nation, not for the whole region. Crews will consult paragraph of the ALTRV message for country-specific information and explicitly follow all paragraph instructions. If further clarification is required, contact the ALTRV planner first, followed by the appropriate altitude reservation facility.

15.6.4. In a non-radar environment, the aircraft shall advise ATC if actual fix timing will be more than plus or minus 5 minutes from the planned ALTRV en route fix estimate.

15.6.5. File flight plans (1801 or DD175) containing ALTRVs IAW FLIP GP. Include the name of the ALTRV in the remarks section of the flight plan. ALTRV requests or approvals do not eliminate the responsibility to obtain proper diplomatic clearance or file flight plans.

15.6.6. Country-Specific Aeronautical Information Publications (AIP) contains useful information for operating within their airspace boundaries. Flip Area Planning documents incorporate the procedures in the AIP and remain the primary source of worldwide aeronautical information for AMC crews. AIPs can be found on Eurocontrol‘s website for the countries that have chosen to provide guidance. EUCARF‘s website also provides country-specific guidance. At a minimum, crews should make every attempt to become familiar with the specific ALTRV procedures for countries they will land at and overfly. Useful websites (links must be entered with all lower case letters):

15.6.6.1. CARF (FAAH 7610.4M *Special Military Operations* chapters 3 and 10).

15.6.6.1.1. **www.faa.gov/atpubs/mil/ch3/chp3.htm**

15.6.6.1.2. **www.faa.gov/atpubs/mil/ch10/chp10.htm**

15.6.6.2. EUCARF. **https://wwwmil.usafe.af.mil/direct/a3/a3y/apf/eucarf/index.htm**

15.6.6.3. PACMARF. **https://www.ops.hickam.af.mil/aos/aoo/aooa/html/index.htm**

15.6.6.4. Worldwide AIP Information. **www.eurocontrol.int/aim/public/standard_page/ais_online.html**

15.6.6.5. Military Aeronautical Information Publications (AIP). **www.eurocontrol.int/aim/public/standard_page/web_mil.html**

15.7. Receiver Pilot Responsibilities. Receiver pilots are responsible for:

15.7.1. Squawking normal when separation from the tanker is greater than 3 miles.

15.7.2. Maintaining two-way radio contact with ATC until cleared to the AAR block altitude, established in that block, and cleared to the AAR frequency by ATC.

15.7.3. Pilots are reminded that oceanic clearances and an acknowledged read back are required for all flights within North Atlantic (NAT) controlled airspace. References for oceanic clearance procedures are FLIP Area Planning AP/2 and the NAT Minimum Navigation Performance Specification (MNPS) Manual.

15.7.3.1. Receiver pilots will not rely on the tanker to obtain and read back oceanic clearance. To the maximum extent possible, receiver pilots should obtain their own, individual clearance from the oceanic control authority of the airspace in which they intend to operate, prior to entering oceanic airspace. Pilots will request oceanic clearance prior to oceanic entry point IAW procedures established in AP/2 and NAT MNPS Manual. Consider obtaining clearance and providing read back prior to rendezvous and air refueling.

15.7.3.2. Tanker aircraft will not accomplish clearance read back for receiver aircraft. Receiver PICs are responsible for ensuring that oceanic clearance is always read back to the controlling authority by a member of their crew, and acknowledged by the oceanic controlling authority, prior to entering oceanic airspace.

15.8. Tanker Pilot Responsibilities. Tanker pilots are responsible for:

15.8.1. Remaining within the protected lateral, longitudinal, and vertical airspace of the refueling track or anchor including orbit patterns.

15.8.2. Notifying the appropriate ATC facility of all altitudes vacated and not anticipated for further use by refueling aircraft. Such altitudes shall not be re-occupied without further ATC clearance.

15.8.3. Receiver navigation, regardless of the number of tankers or receivers, after rendezvous completion through completion of refueling operations (AAR and MARSA have been terminated) except when under control responsibility of a military radar facility while in an anchor area.

15.8.4. Maintaining communications with the appropriate ATC facility. All communications during refueling operations, including those concerning the receivers, shall be between the ATC facility or military radar unit and tanker. To the extent practical, receivers shall establish communications with the tanker prior to or when departing the ARIP on the specified AAR frequency. The tanker shall assume position reporting responsibility for the receivers upon rendezvous completion.

15.8.5. Coordinating altitude and route clearance:

15.8.5.1. From the ATC facility for receivers and tanker at least 5 minutes prior to refueling completion except when both aircraft are operating on an approved altitude reservation (ALTRV).

15.8.5.2. Through the radar controller when operating in refueling anchors with military ground radar. At least 5 minutes prior to completing refueling operations, the military radar facility shall forward requests to the assigned ATC facility and subsequently relay ATC clearances for the tanker and receiver aircraft from the ATC facility.

15.8.5.3. Tanker aircrews should not normally obtain oceanic clearances for receiver aircraft intending to operate in NAT oceanic airspace. This is a receiver PIC responsibility.

15.8.5.4. Tanker aircrews will not read back receiver aircraft oceanic clearance. This is a receiver PIC responsibility.

15.8.6. Vertically positioning aircraft prior to reaching the planned exit point, to facilitate the safe and efficient transfer of separation responsibility from the military, under the provisions of MARSA, to the ATC facility on completion of refueling operations. Vertical separation of receivers and tankers shall be accomplished within the assigned altitudes.

15.8.7. Providing each receiver, upon request, with the aircraft's position at the completion of refueling operations. Additional information concerning amendments or changes to the receiver's ATC clearance shall also be provided as appropriate.

15.8.8. Coordinating all refueling formation operations to ensure all aircraft are in proper post air refueling formation prior to cell breakup. Prior to terminating air refueling, the lead tanker will confirm all aircraft in the formation are in proper post air refueling position with required lateral/vertical separation.

15.8.9. Accomplishing Search and Rescue (SAR) procedures IAW AFI 11-207. In an emergency, the flight leader immediately notifies the tanker commander. The tanker aircrew notifies ATC. In the event of a downed or ditched receiver, ATC notifies the Rescue Coordination Center, which in turn alerts the nearest SAR assets. The tanker provides cover as long as fuel reserves allow. Remaining receivers proceed unescorted to the nearest abort base or continue the mission with remaining tankers.

15.9. ATC Clearance. AAR operations are normally conducted on tracks or anchor areas published in DoD FLIP. Operational considerations may require AAR outside published areas or within an ALTRV. The tanker aircraft commander shall receive specific ATC clearance from the appropriate ATC facility for the following:

15.9.1. Entry to/exit from assigned aerial refueling altitude block (except on an approved ALTRV).

15.9.2. Altitudes requested for tanker and receiver aircraft upon completion of air refueling.

15.9.3. Routing for each aircraft or formation flight when exiting the refueling track prior to or beyond the exit point, or different from the flight plan routing.

15.9.4. Extending the refueling operations beyond the track or anchor exit point due to adverse winds, mission requirements, etc.

15.9.5. Use of altitudes in excess of those for which specific clearance has been granted (i.e., tobogganing). ***NOTE:*** Protected airspace for AR tracks is defined in FAA order 7610.4N *SPECIAL MILITARY OPERATIONS*. If tankers need to exceed these bounds to accomplish the rendezvous, they must request clearance from ATC prior to exiting the protected orbit pattern airspace.

15.10. Emergency AAR. When an emergency AAR requirement arises, units tasked will attempt to fill the requirement from available unit resources. Use unit training sorties as first

priority and generated alert sorties as second priority. If no capability exists, notify the controlling agency of the requirement and unit shortfall. The following procedures apply:

15.10.1. Units will not routinely preposition additional aircraft to satisfy potential emergency AAR requirements.

15.10.2. Time permitting, coordinate emergency AAR requirements with receiver parent MAJCOM or NAF.

15.10.3. The unit command post should coordinate or direct unit actions.

15.10.4. Identify unit sortie when notified of emergency AAR requirement.

15.10.5. Coordinate with the OG/CC.

15.10.6. Notify AOC (TACC) of requirement and proposed actions.

15.10.7. Notify squadron or aircrew of requirement. Provide ARCT, rendezvous information, altitude, receiver call sign, and communication plan.

15.10.8. Advise receiver of planned actions.

15.10.9. Notify the ARTCC liaison of requirement.

15.11. AAR with Commercial or non-USA military Aircraft. All tanker and receiver aircraft must be technically compatible and have operational authority prior to conducting AAR.

15.11.1. Confirmation that a receiver technical compatibility assessment has been conducted and found to be satisfactory is published in Appendix 6 of Annex ZE. Confirmation that a tanker technical compatibility assessment has been conducted and found to be satisfactory is published in Annex ZF.

15.11.2. The authority to undertake AAR with commercial or non-USA military aircraft (tanker or receiver) is provided through formal agreements between the participants such as a Foreign Military Sales (FMS) case, theatre Air Tasking Order (ATO) and/or Special Instructions (SPINS), an Exercise/Operations Order (OPORD) or an Implementing Arrangement (IA). Opportune AAR with foreign or commercial aircraft is prohibited.

15.12. Coronet East Mission Over Flights in France. Aircrews must explicitly follow pre-coordinated mission profiles on missions that transit French airspace. Although ALTRVs are not formally recognized in the French ATC system, pre-coordinated Coronet East Missions are afforded a certain degree of additional protection while in French airspace. In exchange for this special handling, it is absolutely essential that aircrews adhere to pre-coordinated routes and altitudes to avoid problems (including the portion of the flight to/from the ALTRV). Failure to do so creates difficult diplomatic situations and jeopardizes future authorization for US Military over flights of France. Aircrews will not request any maneuvers that have not been coordinated in advance with French ATC. Examples of these maneuvers include formation split up and rejoin (unless pre-coordinated). During the portion of the flight to/from the ALTRV, tanker and receivers must remain in formation at a single altitude while in French airspace. If a request (even if pre-coordinated) is denied by the controller, follow their instructions.

Chapter 16

MISSION PLANNING

16.1. General. This chapter standardizes procedures for planning, briefing, and reviewing all missions. The PIC is ultimately responsible for the accuracy of the mission materials. Unit mission planning facilities should possess essential mission planning material.

16.1.1. Mission planning is normally conducted the day before the mission. Operations group commanders may elect to use a "same day mission plan" option.

16.1.2. Mission Commander. **Chapter 2**, paragraph **2.6**, of this instruction specifies mission commander requirements and qualification criteria. AFTTP 3-3.KC10 contains a mission commander's checklist that is intended to assist mission commanders with their duties and responsibilities.

16.1.3. Theater Indoctrination Folders (Part IV of FCIF) should provide additional information for aircrew and planning staff review. (Not applicable for ANG or AFRC)

16.2. Briefings.

16.2.1. Pre-Deployment Briefing. Prior to deployments, the operations officer, mission commander, or designated representative should assemble the crew and brief description and purpose of the mission, tentative itinerary, aircraft configuration, special equipment, fuel load, clothing required, anticipated housing and messing facilities, sufficient money to defray individual's anticipated expenses, personal equipment/field equipment requirements, special clearance requirements, and flying safety.

16.2.2. Other Briefings. In addition to the briefings above, mission participants will also conduct briefings as required in paragraph **6.12** of this AFI.

16.3. Mission Debriefing. Hold immediately after the mission if practical. Include the following:

16.3.1. Aircrews will attend the operations and maintenance debriefings as directed by unit or mission commander. Maintenance debrief should be conducted ASAP after flight.

16.3.2. Intelligence debriefings will be accomplished as soon as practical after mission recovery, normally within 30 minutes. Debriefings will be as prescribed in USTRANSCOMR 200-3, *Intelligence Debriefing and Reporting.*

16.3.3. Aircrew Debrief. Mission critiques and debriefings are perhaps the most important learning tool available to aircrews and will be done after each mission. All crewmembers will attend. Use this time to review the entire mission.

Chapter 17

EMPLOYMENT TRAINING

17.1. General. Refer to AFTTP 3-3.KC-10 and 11-2KC-10 Vol 1 for guidance on tactics training, specific maneuver descriptions, and tactical maneuver procedures.

17.2. Responsibilities. The tactics training program is a coordinated effort between the unit intelligence office, wing/group training office, and wing/group weapons and tactics flight, in order to ensure continuity and the unit's specific mission tasking is addressed.

17.2.1. Tactics Reference Library and Tactics Read File. The unit tactics officer is responsible for developing procedures for timely dissemination of tactical information to unit aircrew members. See AMCI 11-207, *AMC Weapons and Tactics Program*, for the Tactics Reference Library.

17.3. Tactics Simulator Training.

17.3.1. Scope. Aircrews should practice all applicable tactical maneuvers in the simulator prior to attempting the maneuvers in-flight. Units may attempt any maneuver in the simulator.

17.3.2. Responsibilities. The tactics simulator training is directed by the wing/group weapons and tactics flight. Suggestions for tactics simulator profiles must be forwarded for approval to DET 1, AMCAOS, prior to incorporating the profile into refresher simulator periods. Because no threat specific information is required for this training, the simulator training is unclassified.

17.3.3. Tactical Maneuvers. Spiral Up Departure and Random Steep (Spiral) Arrival are no longer continuity training events and will not be flown to satisfy continuation training requirements. Tactics training will be primarily accomplished in the simulator.

17.3.3.1. For continuation training, aircrew members will practice maneuvers as part of M050 Basic Tactical Sortie; and this should be accomplished in the simulator.

17.4. Tactics Flight Training.

17.4.1. Scope. The tactics flight training program is designed to provide KC-10 crew members with the training necessary to confidently and successfully survive the wartime threat environment without endangering aircrews or aircraft in peacetime. AFTTP 3-3.KC-10 details the approved maneuvers applicable to the KC-10 community; however, do not attempt any maneuver that is not specifically approved by HQ AMC/A3. ***NOTE:*** Maneuvers identified under the Aircraft column in **Table 17.1** below may be accomplished in the aircraft on a non-interference basis during operational or continuation training missions. ***NOTE:*** All maneuvers and tactical events may be flown in the aircraft when operationally directed or required.

17.4.2. Tactical Maneuvers. Accomplish tactical maneuvers IAW procedures provided in AFTTP 3-3.KC-10. Once certified, tactical maneuvers may be flown on continuation training and operational missions with passengers on board. Notify passengers prior to conducting tactics maneuvers training.

17.4.3. Flight Training Limitations and Restrictions:

17.4.3.1. Limitations. The following limitations apply to all in-flight tactics training. Events accomplished in the simulator may be accomplished IAW AFTTP 3-3.KC-10 without restriction. Refer to **Table 17.1** to determine which maneuvers are permitted in the aircraft.

17.4.3.1.1. Aircraft tactical arrival and departure (TAD) training is limited to single ship, VMC, 30 degree angle of bank maximum, and 1000‘ AGL minimum ingress/egress altitudes. ***NOTE:*** VFR Overhead (P061) is limited to no more than three-ship formation.

17.4.3.1.2. Aircraft scram training is limited to VMC, 45 degree angle of bank maximum, 10,000’ AGL minimum altitude, and 400,000 pound maximum gross weight. Scatter turns are limited to two-ship formations.

17.4.3.1.3. Limit formation in-place turns to a maximum of 30 degrees of bank and 90 degrees of turn.

17.4.3.1.4. Use a maximum of CLIMB power on the thrust rating computer when accomplishing scram training in the aircraft.

17.4.4. Before accomplishing P063 Tactical Arrival in the aircraft, pilots will review the following items: Chum, study, and carry a chart (minimum TPC scale) covering the VFR route of flight; Civilian sectional or host nation equivalent chart before accomplishing VFR training; VFR weather requirements; Airspace and VFR pattern entry requirements; Class B, C, and D airspace ATC services; VFR cruising and minimum altitudes and flight following.

Table 17.1. Simulator/Aircraft Tactical Maneuver Limitations.

Simulator (Note 1)		Aircraft (Note 2)	
Event ID	Maneuver	Event ID	Maneuver
P062	Tactical Departure (High-Speed/Low Altitude Departure Option)	P061	VFR Overhead
P063	Tactical Arrival	P063	Tactical Arrival (options other than High-Speed/Low Altitude Arrival and Spiral)
P068	Combat Descent	P064	Slide Exercise
P069	Defending Climb	P065	Single Ship
		P066	Maneuver-Steep Turns

		P067	Contingency Rejoin

NOTES:

1. These maneuvers are restricted to the simulator, except for operational necessity.

2. These maneuvers should be performed in the simulator during continuation refresher training but may be accomplished in the aircraft during operational or continuation training missions on a non-interference basis.

Chapter 18

AIRCRAFT FORMATION

18.1. General. This chapter covers basic formation procedures and operations. All procedures described apply to all KC-10 and KC-135 aircraft. The broad term formation as used does not differentiate between specific tactics of en route formation or visual formation. Specific references to each tactic must be made to ensure complete understanding.

18.1.1. All formation flights will be planned, briefed, and critiqued in accordance with the applicable Technical Order, this chapter, ATP-56 and AFTTP 3-3. KC-10.

18.1.2. These procedures are standardized with KC-135 formation operations.

18.2. Specified Times. The formation leader determines the sequence of events and mission times based on mission requirements. Local SOEs for formation training missions may be established for use at home station. Changes in briefing or mission timing will be relayed to all formation members at the earliest opportunity.

18.3. Weather Minimums. Comply with weather minimums for takeoff and landing established in AFI 11-202V3 and **Chapter 6** of this instruction.

18.4. Ground Operations. The formation leader should accomplish radio checks and copy ATC clearance in the chocks. All formation members should make every effort to accomplish HAVE QUICK and SECURE VOICE radio operations on all local formation training missions. All participating crews will accomplish as much of the pre-takeoff checklists as possible prior to taxi. Lead will obtain taxi and takeoff clearance.

18.5. Communications and Radio Procedures. Radio and interphone discipline are critical factors in maintaining formation integrity. The formation leader will ensure all formation members have a complete understanding of the radio monitoring plan.

18.5.1. Formation will not be flown on training sorties without inter-plane voice communications capability.

18.5.2. When radio silent operations are required, the formation leader will pre-brief all formation members on specific procedures for frequency changes (i.e. timing, visual signals, etc.).

18.5.3. Visual signals may be used as an alternate or secondary means of communication between aircraft.

18.5.4. The flight lead will initiate all frequency changes. Wingmen should acknowledge in order and wait for every flight member to acknowledge before changing frequencies. Lead will allow enough time for frequency change to be accomplished before initiating check-in. Lead must ensure all flight members are on frequency before initiating any action or making any radio calls to ARTCC, etc. If a flight member does not respond, a secondary radio or guard may be used to direct the wingman to the proper frequency. Specific procedures should be pre-briefed by the flight lead. Crews should maintain non-primary radios during silent operations; however, planned frequency changes may be performed on briefed timing or visual signals. All flight members must be on a common frequency.

18.6. Launch, Departure, and Level-Off.

18.6.1. Formation Briefing. The formation leader will conduct a detailed briefing for all crew members covering the planned activities, procedures, techniques, specific EMCON procedures, and division of formation responsibilities. PICs may excuse crew members from the formation briefing to perform preflight duties, however the PIC will back brief all appropriate items. If lead changes are planned, each formation lead will brief their portion of the mission. The recommended formation briefing guide (**Attachment 4**) should be used to conduct the briefing. As a minimum, the briefing must include all applicable items listed in the guide. The formation leader will ensure all crew members thoroughly understand their responsibilities, to include assumption of formation leadership.

18.6.1.1. When deviations from the briefed mission are necessary, they will be directed by the leader. No actions will be taken until they have been coordinated with and are understood by all formation members.

18.6.1.2. Non-collocated Units. If aircraft depart from separate bases and then rendezvous for formation activity, the formation leader should make every effort to conduct a telephone briefing with joining tanker and receiver formation leaders. If this is not possible, after detailed sortie study, the coordination and briefing between the appropriate lead planning agencies or mission commanders will satisfy formation briefing requirements. Coordination of these formations will include designation of mission commander responsibilities for all phases of the formation operation.

18.6.1.3. Unit Responsibilities. Each unit will develop post takeoff separation procedures and departure separation plans with the local controlling agency. Each plan must consider emergency aspects, aircraft performance capabilities, terrain features, penetration of weather after takeoff, and local ATC restrictions. Procedures should also be developed for items such as aborts, lost communications, EMCON, and the recovery of formation aircraft.

18.6.2. Filing Procedures. Flight plans for all formation members will reflect the same route of flight for the portion of flight the aircraft will be in formation. Local procedures for filing may be used provided they are coordinated and documented in writing by the unit and local FAA (or ICAO) representatives.

18.6.3. Taxi Procedures. Follow the taxi sequence established in the briefing. Maintain safe interval and a safe speed during taxi.

18.6.4. Takeoff Timing Interval. Defined as the time between initiation of takeoff power for each successive aircraft in the formation. Use of takeoff power radio calls is not recommended. Minimum takeoff timing interval is 60 seconds between KC-10s and other aircraft in the formation. Takeoff intervals may be increased, or sequence may be varied as necessary, depending on aircraft acceleration and performance, training requirements, weather, airfield conditions, and mission requirements. See AFTTP 3-3.KC-10, Chapter 5 for more guidance.

18.6.5. Formation Takeoff Procedure (Hold-Line through Takeoff). Receivers should takeoff first. Any time a takeoff is aborted, an abort call will be made by the aborting aircraft over the ATC radio frequency being used by the formation. At bases with dual runway

operations, aborting aircraft should identify the runway in use. An additional radio call announcing an abort is recommended over the formation inter-plane frequency.

18.6.6. Departure. Normal planned climb speed below 10,000 feet MSL is 250 KIAS, unless a higher speed is required to accommodate the Vmm of the heaviest aircraft in the formation. Above 10,000 feet MSL, for KC-10/KC-10 or KC-10/KC-135 cell formation departures, the normal planned climb speed is 290 knots (***NOTE:*** this equates to 295 KIAS in the KC-135) for formations with KC-10s less than 500,000 pounds gross weight and 310 knots (***NOTE:*** this equates to 315 KIAS in the KC-135) for formations with KC-10s equal to or greater than 500,000 pounds gross weight. Planned climb speeds apply to the lead aircraft only. Following aircraft may exceed/lag these speeds as necessary to accomplish the rejoin and maintain proper formation position. In all cases, formation leaders may adjust the climb speed schedule as mission requirements and aircraft performance dictate. Planned climb speed will not be less than Vmm of the heaviest aircraft in the formation. If visual, radar, A/A TACAN, TCAS, and radio contact are all lost, and altitude separation cannot be ensured, lost wingman and locally developed abort procedures will be accomplished.

18.6.6.1. Formation Join-Up. Differential airspeed and/or visual cut-off in departure turns are the approved methods for formation join-up. The use of visual cut-off is restricted to day/VMC operations only. Altitude separation will be carefully monitored during closure to enroute spacing. Under other than VMC or when visual contact cannot be maintained with all formation members, altitude separation will be accomplished using TCAS or by periodically having each aircraft in the formation report its altitude or flight level. During night or instrument flight conditions, aircraft should turn at the same geographic points as the preceding aircraft.

18.6.6.2. Buddy Departures. Buddy departures may be used by collocated tanker and fighter or bomber units. The intent of this type of departure is to facilitate the join-up of receivers with their mated tankers. The procedures below are generalized and may require modification based on aircraft and airspace limitations.

18.6.6.2.1. VMC Procedures. VMC procedures may be used when weather (ceiling and visibility) is 3000/5 or greater. Receivers will normally launch first and intercept an arc to place themselves on extended (approximately 10 NM) final to the departure runway. When the receiver calls 10 NM final, or the last receiver turns cross wind, or on predetermined timing, the tanker will launch. Continue with a straight ahead rejoin or according to briefed departure routing.

18.6.6.2.2. IMC Procedures. Under IMC or when weather is less than 3000/5, plan to rendezvous the formation at an orbit point along the route of flight. Tankers will normally launch first unless mission fuel load and performance considerations dictate otherwise. Receivers should be rejoined prior to rendezvous with the tankers.

18.6.7. Level-Off. An altitude block will be obtained for all intermediate and final level-off altitudes. Block altitudes will provide a minimum of 500-foot separation between aircraft. If ARTCC will not approve a block altitude, then request IFR separation or hard IFR altitudes for each aircraft in formation.

18.6.8. Airborne Aborts. Any aborting aircraft should clear the planned launch stream and take appropriate actions dictated by the reason for abort. Aborting aircraft will obtain ATC

clearance prior to altering their route, or declare an emergency and deviate as necessary. The formation leader and other formation members should be ready to assist the aborting aircraft in any way possible.

18.7. En Route Formation. En route formation consists of multiple tanker aircraft in trail, stacked up at 500-foot intervals with 1 NM separation (2 NM may be used for contingency operations). The primary means of maintaining proper formation position are radar under instrument conditions and visual or radar under visual conditions. When visual conditions permit, minimize radio transmissions. Heading and airspeed changes need not be announced. In IMC, the formation leader should ensure all formation members are aware of heading and airspeed changes, either through thorough pre-briefing, or use of inter-plane communications. Aircrews will monitor the position of all other aircraft and, on inter-plane, notify any aircraft excessively out of position.

18.7.1. Turns. The formation leader should pre-brief specific bank angles for turns. This will help reduce inter-plane communications and aid in maintaining formation position. To maintain formation position during turns, all aircraft must initiate the turn over the same geographic point, unless executing a formation retrograde training maneuver as described in AFTTP 3-3.KC-10.

18.7.1.1. Echelon Formation. Turns greater than 30 degrees into the echelon are permitted only in an emergency. Turns into an echelon are limited to 15 degrees of bank. All aircraft must execute the turn at the same time, or when time permits, start with the last aircraft, then the next to last aircraft, etc. If turns greater than 30 degrees are necessary for mission requirements, the formation leader should direct all aircraft to assume normal en route trail formation.

18.7.2. Airspeed and Altitude. Formation climbs and descents will be accomplished using a constant airspeed and vertical velocity. The formation leader will ensure enroute airspeed is compatible with the most restrictive aircraft in the formation. Pre-brief, or announce on inter-plane frequency, rates of climb/descent and airspeed increases/decreases.

18.7.3. Autopilot Operations. The autopilot should be used to reduce fatigue and aid in altitude separation. Consideration should be given to placing an aircraft with an inoperative or malfunctioning autopilot in last position in the formation for missions with extended duration in formation.

18.7.4. Visual Station-Keeping. Refer to AFTTP 3-3.KC-10 for visual station-keeping techniques. During operational situations requiring EMCON 3 or 4, and marginal visibility prohibits normal formation spacing, a compressed trail formation may be used. Formations may be compressed, but should not be less than 1/2NM spacing between aircraft.

18.8. Lost Wingman Procedures. These procedures are to be used when visual, A/A TACAN, TCAS, radar, or radio contact cannot be maintained and altitude separation cannot be ensured. In any lost wingman situation, immediate separation of aircraft is essential to safety. Upon losing all contact with the leader, or if unable to maintain formation due to disorientation, the wingman will simultaneously execute the applicable lost wingman procedure while transitioning to instruments. The bank angle used to achieve separation should equal the number of degrees to be turned. Smooth application of control inputs is imperative to minimize the effects of spatial disorientation. Any aircraft, which can maintain contact with an aircraft executing a lost

wingman maneuver will remain in formation with that aircraft until otherwise, directed by the leader. When lead is notified of a lost wingman, lead will take appropriate action, as the situation dictates, until positive separation is assured. Lead will establish a reference heading and altitude after initial separation is assured. During recovery, if the flight has a block altitude clearance, wingmen should establish appropriate altitude separation.

18.8.1. Two Aircraft Flights:

18.8.1.1. In wings-level flight (climbing, descending, or level) simultaneously transition to instruments, inform lead, turn 15 degrees away and maintain new heading for 15 seconds, then resume course. Adjust to formation or obtain separate clearance if required.

18.8.1.2. In turns (climbing, descending, or level):

18.8.1.2.1. On the outside of the turn, transition to instruments, roll to wings level and inform the leader. Continue straight ahead to ensure separation prior to resuming turn. Adjust to formation or obtain separate clearance as required.

18.8.1.2.2. On the inside of the turn, simultaneously transition to instruments to maintain established bank angle, reduce airspeed by 10 KIAS to ensure clearance, and inform lead. Lead will simultaneously roll wings level, maintain airspeed, and acknowledge wingman‘s call. If lead has acknowledged the lost wingman call and confirms he or she has rolled wings level, the wingman will, after 15 seconds, roll wings level, establish 500 feet altitude separation, turn to lead‘s referenced heading and attempt to acquire lead on radar. If loss of visual contact is not acknowledged by lead, maintain established bank angle, establish 500 feet altitude separation, roll out on new heading, attempt to acquire lead on radar, and form into enroute formation position. If radar contact cannot be re-established, obtain separate clearance from the controlling agency.

18.8.2. Three Aircraft Flights. If only one aircraft in the flight becomes separated, the procedures above would provide safe separation. However, as it is impossible for number three to immediately ascertain that number two still has visual contact with the leader, it is imperative number three‘s initial action be based on the assumption number two has also become separated. If number two is still in visual or radar contact, he or she will maintain position. If number two goes lost wingman, he or she will follow the procedures outlined above. Number three will follow the procedures listed below:

18.8.2.1. In wings level flight (climbing, descending, or level) simultaneously transition to instruments, inform lead, turn 30 degrees away, and maintain new heading for 30 seconds, then resume course. Adjust to formation or obtain separate clearances as required.

18.8.2.2. In Turns (climbing, descending, level):

18.8.2.2.1. On the outside of the turn, simultaneously transition to instruments, inform lead and reverse direction of turn for 15 seconds to ensure separation from lead and number two. Adjust to formation or obtain separate clearance as required.

18.8.2.2.2. On the inside of the turn, simultaneously transition to instruments to maintain established bank angle, reduce airspeed by 20 KIAS to ensure clearance, and

inform lead. Lead will simultaneously roll wings level, maintain airspeed and acknowledge the wingman‘s call. If lead has acknowledged the lost wingman call and confirms he or she has rolled wings level, number three will, after 30 seconds, roll wings level, establish 1000 feet altitude separation, turn to lead‘s referenced heading, and attempt to acquire lead and number two on radar. If loss of visual contact is not acknowledged by lead, maintain established bank angle, establish 1000 feet altitude separation, roll out on new heading, attempt to acquire lead on radar, and form into en route formation position. If radar contact is not re-established, obtain separate clearance from the controlling agency.

18.8.2.3. Lost Wingman Procedures During Receiver AR. Depending on the makeup of the AR formation, it is possible that in the event of a breakaway, receiver aircraft may find themselves co-altitude with another aircraft in the formation. If, during a breakaway, the receiver aircraft loses sight of the tanker aircraft, ATP-56(B) requires the receiver aircraft to descend to an altitude 1000 feet below the tanker. In the event this places the receiver aircraft co-altitude with another aircraft in the formation and visual, A/A TACAN, TCAS, or radar contact with the co-altitude aircraft cannot be maintained, descend to an altitude that will provide positive separation from other aircraft and decrease airspeed to ensure lateral separation.

18.9. Formation Position Changes. Prior to executing any position change, the formation leader must ensure all formation members understand the procedures to be followed for intra-formation position changes. Formation position change procedures will be covered in the formation leader‘s briefing. Formation position changes should only be accomplished in straight and level flight, and once initiated, they will take priority over all other activities. Comply with the following when accomplishing formation position changes:

18.9.1. Maintain radar and/or visual contact throughout the formation position change.

18.9.1.1. If radar and visual contact are lost during a position change, maintain altitude, and advise formation lead contact has been lost. Ensure positive separation by any means available and do not attempt to rejoin the formation until positive radar or visual contact is established.

18.9.2. Do not attempt to refuel receiver aircraft or obtain individual ARTCC clearances during formation maneuver and position changes.

18.9.3. Altitude Changes. Ensure lateral separation between formation members prior to conducting altitude changes. Coordinate altitude changes over inter-plane frequency.

18.9.4. Aircraft changing positions will assume the call sign of their new intra-formation position (TOGA 1, TOGA 2, etc.) and formation leadership, if appropriate, when all aircraft are level at their new altitude and established in their new position. All aircraft will then acknowledge with their new intra-formation call sign. Aircraft will not change their individual call sign that is filed on the flight plan. Call sign of the flight will be the call sign of the lead aircraft, or as directed by ARTCC. The new lead aircraft will squawk the assigned mode 3, or as directed by ARTCC.

18.9.5. VMC Position Change Procedures. The following procedures will be used to affect an aircraft lead or position change with other aircraft during VMC. All changes in heading, position, and altitude will be pre-briefed and coordinated on inter-plane frequency.

18.9.5.1. Wingmen will maintain a minimum 1/2 mile in trail and descend or maintain 500-foot altitude separation. The aircraft to assume the lead will move laterally (normally to the right) 1/2 mile. Use 15 degrees of bank to turn 15 degrees from heading then turn back to heading using 15 degrees of bank. The wingman will accelerate and pass the leader. Maintain 1/2 mile lateral separation.

18.9.5.2. As the wingman passes the leader, the leader will pass the lead to the overtaking aircraft. The wingman will assume lead responsibilities and be directive for all formation members to climb, descend, or maintain altitude as required after positive visual separation is confirmed.

18.9.5.3. When directed, the new wingman (old lead) will obtain or maintain a 500-foot altitude separation as required, place IFF to STBY or ATC OFF, notify the new lead when approaching position in-trail, and confirm his or her altitude. At this time, the new leader will decelerate to briefed airspeed.

18.9.5.4. The wingman will assume trail position behind the leader and make a normal closure to proper position.

18.9.6. IMC Position Change Procedures (Any Aircraft Moves to Lead). The following procedures will be used during IMC for position changes requiring any aircraft, or element, in the formation to move to the lead position. These procedures are applicable for 2- through 6-ship IMC formation position changes.

18.9.6.1. Lead determines the aircraft or element to move forward (maneuvering aircraft). The maneuvering aircraft or element will echelon (normally right) using approximately 30 degrees of bank and turning 30 degrees from formation heading. When 30 degrees off heading, reverse the turn using approximately 30 degrees of bank and return to formation heading. This will provide an offset of approximately 2 NMs.

18.9.6.2. After established in echelon, the maneuvering aircraft or element will accelerate forward, increasing airspeed a recommended 15 KIAS. The maneuvering aircraft or element should then resume formation airspeed and stabilize approximately 1 1/4 NMs forward range from the original lead. When the maneuvering aircraft or element is in the forward echelon position and positive visual or electronic contact is established, conduct the required altitude changes.

18.9.6.2.1. For 2 NM in-trail formations, the maneuvering aircraft or element will accelerate forward, increasing airspeed a recommended 30 KIAS. The maneuvering aircraft or element should then resume formation airspeed and stabilize approximately 2 1/4 NMs forward range from the original lead.

18.9.6.3. The maneuvering aircraft or element will then move into lead position using no more than 15 degree heading corrections.

18.9.6.4. If applicable, the formation will then establish proper aircraft spacing. The formation lead should be advised by the last aircraft after the formation is reformed. Assume new intra-formation call signs (TOGA 1, TOGA 2, etc.) and reset rotating beacon or strobe and navigation lights.

18.9.7. IMC Position Change Procedures (Any Aircraft Moves to Trail). The following procedures will be used during IMC for position changes requiring any aircraft, or element,

in the formation to move to the trail position. These procedures are applicable for 2- through 6-ship IMC formation position changes.

18.9.7.1. Lead determines the aircraft or element to move aft (maneuvering aircraft). The maneuvering aircraft or element will echelon (normally right) using approximately 30 degrees of bank and turning 30 degrees from the formation heading. When 30 degrees off heading, reverse the turn using approximately 30 degrees of bank and return to formation heading. This will provide an offset of approximately 2 NMs.

18.9.7.2. After established in echelon, the maneuvering aircraft or element will decelerate toward the end of the formation, decreasing airspeed a recommended 15 KIAS. The maneuvering aircraft or element should then resume formation airspeed and stabilize approximately 3/4 NM aft of the last aircraft or element. When the maneuvering aircraft or element is in the aft echelon position and positive visual or electronic contact is established, formation lead directs required altitude changes.

18.9.7.2.1. For 2 NM in-trail formations, the maneuvering aircraft or element will decelerate toward the end of the formation, decreasing airspeed a recommended 30 KIAS. The maneuvering aircraft or element should then resume formation airspeed and stabilize approximately 1 3/4 NMs aft of the last aircraft.

18.9.7.3. The maneuvering aircraft or element will then move into position using no more than 15 degree heading corrections.

18.9.7.4. If applicable, the formation will then establish proper aircraft spacing. The formation lead should be advised by the last aircraft after the formation is reformed. Assume new intra-formation signs (TOGA 1, TOGA 2, etc.) and reset rotating beacon and strobe and navigation lights.

18.10. Formation Break-Up and Recovery. Formation separation procedures will be thoroughly planned and briefed by the formation leader. Do not initiate formation separation procedures without ATC approval.

18.10.1. If formation descent and arrival is desired, detailed descent profile, airspeed reduction, and configuration procedures will be thoroughly briefed.

18.11. Mission Debriefing and Critique. A complete mission debriefing and critique should be conducted by the formation leader following the mission.

Chapter 19

AIRDROP OPERATIONS

19.1. General. This chapter is not used for KC-10 operations.

Chapter 20

AEROMEDICAL EVACUATION

20.1. Mission.

20.1.1. This chapter applies to all Air Force Aircrews, aeromedical evacuation (AE) aircrews and all management levels concerned with operations of the KC-10 aircraft. All operators involved in AE missions on KC-10 aircraft will use this AFI.

20.1.2. KC-10 aircraft may be used for AE transport of ill or injured DoD members and their dependents. These AE missions may be directed at any time by C2 agencies. AE personnel will utilize the procedures in applicable AFI 11-2AE-V3 series and 41-307, in conjunction with this publication, to accomplish the AE mission.

20.2. Operational Control and Reporting of Aeromedical Evacuation Forces.

20.2.1. HQ AMC is lead command for AE. HQ AMC Directorate of Operations (AMC/A3) is the executive agent for operational AE missions.

20.2.2. Command and control of AE missions is the same as other airlift missions.

20.2.3. The PIC is a qualified pilot responsible for command and control of all persons aboard the aircraft during an AE mission. In matters of flight safety, crew duty waivers, or operational considerations, his/her decisions are final (see AFI 11-2KC-10 V3 for a more detailed list of PIC responsibilities). In matters of patient care, decisions of the Medical Crew Director (MCD) are final.

20.2.4. Medical Crew Director (MCD). The MCD is a qualified flight nurse responsible for the overall supervision of patient care and management of AECMs assigned to AE missions. He/she advises the PIC on patients' conditions and the use of medical equipment that may affect aircraft operations. The MCD is directly responsible for the safety and medical well-being of patients on the aircraft and coordinates enplaning and deplaning procedures with supporting agencies. In matters of patient care, the decisions of the MCD are final.

20.3. Alerting Procedures.

20.3.1. At all locations AMC C2 agency will alert the PIC/MCD. The MCD will alert the medical crew. The goal is to link the primary PIC, local AMC C2 agency and MCD before mission execution.

20.3.2. When the AE crew is staged separate from the front-end crew, the MCD will contact AMC local C2 agency and establish alert, showtime, etc. with the C2 agency. The MCD will make every effort to communicate with the front-end crew any mission irregularities prior to crew rest. Utilize local AMC C2 agency to leave messages for non-emergency. Crew rest will be based on scheduled launch time. Do not violate crew rest.

20.3.3. The local AMC C2 agency will provide PIC/MCD AE mission information when he/she checks on mission status. Local C2 agency will be the link between the AE crews and the PIC, thus permitting mission status updates to both parties without interruption of crew rest.

20.3.4. AE mission requirements can change depending on clinical status of patient(s) and aircraft availability. There will be occasions when aircraft cannot depart (i.e. MX problems) or emergency patient movement that may separate an AE crew from the front-end crew. The MCD is responsible for communicating these changes with the PIC and local AMC C2 agency to de-conflict problems.

20.4. Pilot in Command Responsibilities.

20.4.1. Establish communications link with the MCD during pre-mission planning and throughout the mission.

20.4.2. Brief AE crew on the mission, flight plan, flight profile, and current threat (as applicable). Identify armed crewmembers (as required).

20.4.3. The PIC will fully integrate front-end and Aeromedical Evacuation Crew Members (AECM) into single crew throughout mission including enroute transportation, dining, billeting, etc.

20.4.4. Coordinate with MCD and C2 agencies for cabin altitude/flight restrictions based on patient requirements. When the sortie is being flight managed, coordinate flight restrictions with the FM if the FM provided plan needs to be modified.

20.4.5. For missions with combined cargo and patients, coordinate with the MCD for loading, positioning, and egress considerations.

20.4.6. Comply with hazardous cargo/passenger restrictions in AFI 24-101.

20.4.7. Advise AECMs of intentions to start engines, taxi, itinerary changes, in-flight difficulties, and additional responsibilities of the flight crew.

20.4.8. Transmit load messages and radio transmissions to tasking AE C2 agency as requested by the MCD.

20.4.9. Brief the MCD on additional responsibilities of the flight crew.

20.5. Boom Operator Responsibilities.

20.5.1. Assist the AE crew with aircraft systems.

20.5.2. Coordinate emergency evacuation plan with the MCD.

20.5.3. Operate aircraft systems, (i.e. doors, emergency exits, etc).

20.5.4. Assist the AE crew as necessary, providing such assistance does not interfere with primary duties.

20.5.5. Operate galley and prepare food and beverages for food service provided to patients by AECMs.

20.5.6. Assist with aircraft configuration for AE operations.

20.5.7. The BO will provide the MCD with an interphone cord when mission requirements allow. Ensure MCDs are provided instruction regarding the use of aircraft communication equipment and location of cargo/passenger compartment interphone jacks.

20.6. Aeromedical Evacuation Crew Responsibilities.

20.6.1. Responsible for patient clinical care activities including loading, positioning, and off-loading.

20.6.2. Assist BO/maintenance crew with aircraft configuration for AE operations.

20.6.3. Install and remove medical equipment/supplies.

20.6.4. The MCD or designated AECM should monitor interphone (headset) during flight. The MCD will be on headset with the PIC during critical phases of flight and during in-flight emergencies.

20.6.5. The charge medical technician (CMT) is responsible for all ground operations involved with patients. The CMT, in coordination with the boom operator, is responsible for vehicle movement and positioning around the aircraft.

20.7. Ground Operations.

20.7.1. Engines should be shut down during enplaning and deplaning of patients.

20.8. Aircraft Refueling.

20.8.1. Refueling normally begins after deplaning patients are off the aircraft and prior to enplaning that station's patients. Fuel servicing will not be accomplished with patients onboard the KC-10.

20.9. Aircraft Configuration.

20.9.1. On designated aeromedical readiness missions (ARMs) and operational AE missions, configure the aircraft during pre-flight per TO 1C-10(K)A-9 and AFI 11-2KC-10 V3 Addenda A.

20.9.2. Litter Support Provisions. Use floor loading procedures outlined in paragraph **20.15**

20.9.3. Available litter spaces and ambulatory seating will depend on the aircraft cabin's mission configuration. Seat ambulatory patients and attendants in KC-10 airline seats.

20.9.4. Therapeutic Oxygen. Therapeutic oxygen is not an integral system on the KC-10 aircraft. Use the Patient Therapeutic Liquid Oxygen (PTLOX) system.

20.9.5. Integral patient/passenger emergency oxygen is not available on the aircraft. In the event of an emergency, patients and passengers will use the aircraft drop down/seat back or wall mounted Emergency Oxygen System, or Emergency Passenger Oxygen System (EPOS).

20.9.6. AECMs will have portable oxygen available. The four portable oxygen cylinders located in the crew bunks and one portable oxygen cylinder from the ARO will be made available for AE crew use. Bunk occupants will use EPOS in place of portable oxygen cylinders. Maximum number of personal in ARO will be two. If portable oxygen cylinders are not available, PBE's may be used as portable oxygen.

20.9.7. Do not secure aircraft or medical equipment adjacent to an emergency exit in a manner that will prevent or impede egress.

20.9.8. Life Preservers. Use the Adult/Child life preserver for patients.

20.9.9. The electrical cable assembly set (ECAS) provides an approved adapter (pigtail) for use on KC-10, 110vac/400hz electrical outlets. The adapter allows the "modified" avionics frequency converter to be connected to aircraft power. AE equipment is then plugged into

the frequency converter for use. AE personnel are required to coordinate with the boom operator prior to electrical outlet and converter use.

20.10. Passengers and Cargo.

20.10.1. The PIC, with the concurrence of the MCD, will ensure maximum aircraft utilization for passengers and cargo. Passenger restrictions based upon patient considerations will be identified when seats are released. The PIC will advise the appropriate C2 agency of the number seats available for passengers.

20.10.2. Cargo and passengers may be carried with patients unless a clear detriment to the health and well being of the patient or passengers can be demonstrated. The decision will be made by the MCD, considering the need for maximum utilization of the aircraft. Refer to AFMAN 24-204, *Preparing Hazardous Materials for Air Shipments* for hazardous product special provisions rating. P4 and P5 rated hazardous material have no AE restrictions. Conflicts will be referred to the respective tasking AE command element for decision. Litter patients will be positioned forward of cargo pallets.

20.10.3. Cargo will not be bumped except in unusual/abnormal cases, and only after the MCD has coordinated with the PIC and notified the tasking AE command element.

20.10.4. Do not move ambulatory patients to litters in order to provide seating for additional patients or passengers.

20.10.5. PTLOX may be transported for positioning and de-positioning AE Crews. A maximum of 25 PTLOX serviced units may be transported simultaneously without Hazmat certification. Processing through aerial port is not required. If shipping more than six PTLOX containers as cargo, do not cover with plastic. This will prevent potential high concentration of oxygen levels. ***WARNING*:** Ensure the cargo floor is free from any oil or petroleum products.

20.10.6. AE Movement of Contaminated/Contagious Personnel. It is United States Transportation Command (USTRANSCOM) policy that patients personnel, or casualties with known or suspected contamination from chemical, biological, or nuclear warfare agents will not be transported within the aeromedical patient movement system. Decontamination must be performed prior to transport to prevent the potential spread of contamination. In rare cases, transport may be essential to preserve life or continue critical missions. If such transport is deemed essential, all efforts must be made to prevent the spread of contamination. In these cases, prior approval must be given by the involved geographic combatant commanders, Commander USTRANSCOM, and the Secretary of Defense (SECDEF) in consultation with Department of Defense medical authorities.

20.10.6.1. Patients with known or suspected or highly contagious disease will not be transported within the patient movement system. These include infections with any agent that may pose a potential threat to national security, require special public health actions, and/or have the potential to cause public panic and social disruption. Patients known or suspected to be infected with a highly contagious disease should be treated “in place” or with minimal transportation to medical authorities. In extreme circumstances there may be a requirement to move index cases (approximately two) for evaluation or critical medical care. If patient movement is required, prior approval must be given by the

involved geographic combatant commanders, Commander USTRANSCOM, and SECDEF in consultation with medical authorities.

20.10.6.2. AMC will train and equip AE crews and stage required equipment at key hubs to carry out these limited missions for movement of contaminated and contagious patients. ***NOTE:*** If AECMs are utilizing the MCU-2A ground chemical mask, a FL below 10,000 feet is recommended due to reported valve failure during rapid decompression.

20.10.7. Hazardous cargo will not normally be transported aboard AE missions except in extreme circumstances.

20.11. Crash/Fire/Rescue.

20.11.1. Aircraft carrying patient(s) will be provided CFR protection per TO 00-25-172. When concurrent fuel servicing with patients/passengers on board a major aircraft rescue and fire vehicle will be available to respond within three minutes or as determined by the base Fire Chief. ***NOTE***: When servicing with JP-4 or Jet B Fuel, a major aircraft rescue and fire vehicle will be positioned at the aircraft. The flight crew will coordinate CFR requirements.

20.11.2. At non-AMC bases, non-U.S. military bases, and civilian airfields, the controlling agency will coordinate the CFR coverage, as necessary. The request for CFR vehicle coverage may be denied. This will not prevent refueling operations from occurring.

20.12. AE Call Sign/Use of Priority Clearance. If a medical emergency occurs during flight, and is determined by the MCD to be an urgent situation, a request for AIR EVAC Priority will be requested. The PIC may request "AIR EVAC priority" for preferential ATC handling if a delay will affect a patient's well being. AIR EVAC priority will only be used for that portion of the flight requiring expedited handling. Do not request priority for routine air evacuations to avoid ATC delays or inconveniences. It is the PIC's responsibility to use this option only for bona fide medical situations that demand priority handling. Use this status judiciously.

20.13. Load Message.

20.13.1. The MCD will complete an AF IMT 3858, C-130/C-141 Aeromedical Evacuation Mission Offload Message and coordinate for transmission of patient information to C2 a minimum of 30 minutes prior to estimated time of arrival.

20.14. Not Used.

20.15. Floor Loading Procedures.

20.15.1. Floor loading of litter patients is authorized for all contingency operations when a time critical environment exists (i.e. non-secure landing zones, areas faced with enemy siege/hostile fire, humanitarian reasons, etc.), and minimum ground time is essential. Maximum altitude for floor loaded litter patients is FL 350. Patients will have an EPOS pre-positioned on their litter when floor loaded. When floor loading litter patients is required, comply with the following.

20.15.1.1. Patients will be floor loaded in the forward passenger area only. Patients are positioned with head toward the flight deck, longitudinally on the aircraft floor. Seats will need to be removed.

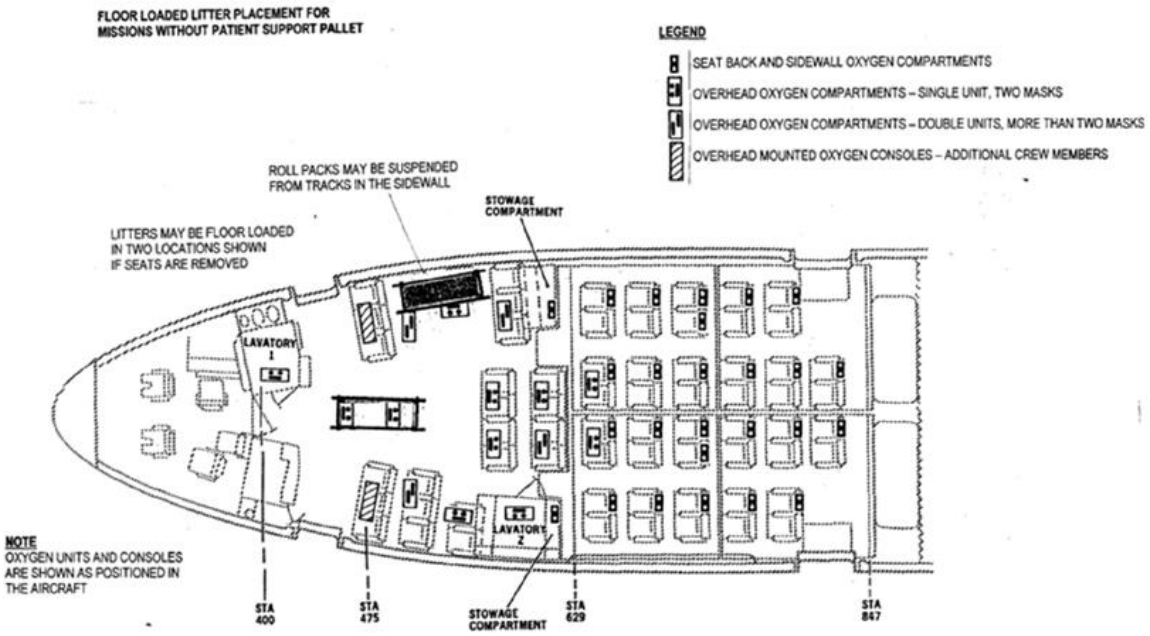
20.15.1.2. In the B or D configuration, a single litter may be placed on the aircraft centerline, replacing the first two rows of center seats. Refer to **Figure 20.1**

20.15.1.3. Alternatively when in the D configuration, remove the two rows of seats immediately aft of the first row of outboard right seats. Refer to **Figure 20.1** some medical equipment may be placed in the seats aft of the litter.

20.15.1.4. Use A-7000 tie-down fittings in the seat tracks and 5000 lb tie-down devices. Shoring is not required, however the litters should be placed with metal stirrups in the seat tracks, or put protective material under the litter stirrups to protect the aircraft floor. Use one tie down device at the end of each litter.

20.15.1.5. Refer to AFI 11-2AE V3 Addenda A for additional floor loading litter procedures.

Figure 20.1. Floor Loading.



Chapter 21

SEARCH AND RESCUE OPERATIONS

21.1. General. This chapter is not used for KC-10 operations.

Chapter 22

EMERGENCY NUCLEAR AIRLIFT

22.1. General. This chapter is not used for KC-10 operations.

HERBERT J. CARLISLE, Lt Gen, USAF
DCS, Operations, Plans and Requirements

ATTACHMENT 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoD 4515.13R, *Air Transportation Eligibility,* 1 November 1994

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems,* 8 March 2007

AFPD 11-2, *Aircraft Rules and Procedures,* 14 January 2005

AFPD 10-21, *Air Mobility Lead Command Roles and Responsibilities,* 1 May 1998

AFPD 62-6, *USAF Airworthiness,* 11 June 2010

AFPD 90-9, *Operational Risk Management,* 1 April 2000

AFI 10-206, *Operational Reporting,*15 October 2008

AFI 10-245, *Antiterrorism (AT),* 30 March 2009

AFI 10-707, *Spectrum Interference Resolution Program,* 20 June 2005

AFI 10-801, *Assistance to Civilian Law Enforcement Agencie,* 15 April 1994

AFI 10-403, *Deployment Planning and Execution,* 13 January 2008

AFI 11-2AEV3, Addenda A, *Aeromedical Evacuation Operations Configuration/Mission Planning,* 27 May 2005

AFI 11-2KC-10V1, *KC-10 Aircrew Training,* 1 December 2009

AFI 11-202V1, *Aircrew Training,* 22 November 2010

AFI 11-202V2, *Aircrew Standardization/Evaluation Program,* 13 September 2010

AFI 11-202V3, *General Flight Rules,* 22 October 2010

AFI 11-207, *Combat Aircraft Delivery,* 24 October 2007

AFI 11-209, *Aerial Event Policy and Procedures,* 4 May 2006

AFI 11-215, *USAF Flight Manual Program (FMP),* 22 December 2008

AFI 11-218, *Aircraft Operations and Movement on the Ground,* 11 May 2005

AFI 11-221, *Air Refueling Management (KC-10 and KC-135),* 1 November 1995

AFI 11-222, *Tanker Activity Report (RCS: HAF-XO(W)9375),* 6 June 1994

AFI 11-235, *Forward Area Refueling Point (FARP) Operations,* 15 December 2000

AFI 11-289, *Phoenix Banner, Silver, And Copper Operations,* 16 February 2006

AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program,* 25 February 2009

AFI 11-301V2, *Maintenance and Configuration Requirements For Mobility Air Forces (MAF) Aircrew and Aircraft-Installed Aircrew Life Support Equipment (ALSE),* 1 May 2006

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

AFI 11-299, *Nuclear Airlift Operations (FOUO),* 19 March 2008

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

AFI 21-101, *Aircraft and Equipment Maintenance Management,* 26 July 2010

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting,* 9 April 2010

AFI 31-101 *Integrated Defense (FOUO),* 8 October 2009

AFI 31-207, *Arming and Use of Force by Air Force Personnel,* 29 January 2009

AFI 31-401, *Information Security Program Management,* 1 November 2005

AFI 33-324, *The Information Collections and Reports Management Program: Controlling Internal, Public, and Interagency Air Force Information Collections,* 1 June 2000

AFI 33-360, *Publications and Forms Management,* 18 May 2006

AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel,* 2 August 2006

AFI 48-123, *Medical Examinations and Standards,* 24 September 2009

AFI 91-202, *The US Air Force Mishap Prevention Program,* 1 August 1998

AFI 91-204, *Safety Investigations and Reports,* 24 September 2008

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

AFJI 48-104, *Quarantine Regulations of the Armed Forces,* 24 January 1992

AFMAN 10-2602, *Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards,* 29 May 2003

AFMAN 11-217V1, *Instrument Flight Procedures,* 22 October 2010

AFMAN 11-217V2, *Visual Flight Procedures,* 22 October 2010

AFMAN 11-217V3, *Supplemental Flight Procedures,* 23 February 2009

AFMAN 15-129, *Air and Space Weather Operations-Processes and Procedures,* 21 June 2004

AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments,* 1 September 2009

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

AFMAN 91-223, *Aviation Safety Investigations and Reports*, 6 July 2004

AFOSHSTD 91-100, *Aircraft Flight Line - Ground Operations and Activities,* 1 May 1998

AFPAM 10-100, *Airman's Manual,* 1 March 2009

ATP-56A, *NATO Air to Air Refueling,* 22 January 2010

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification,* 8 December 2006

AF IMT 15, *United States Air Force Invoice,* 1 August 1991

AF IMT 72, *Air Report (AIRPEP),* 1 September 1987

AF IMT 457, *USAF Hazard Report*, 1 September 1973

AF Form 523, *USAF Authorization to Bear Firearms,* 1 February 1998

AF IMT 651, *Hazardous Air Traffic Report (HATR),* 1 October 1998

AF IMT 664, *Aircraft Fuels Documentation Log,* 11 December 1999

AF Form 673, *Request to Issue Publication,* 1 April 2010

AF IMT 711B, *USAF Mishap Report,* 8 November 2003

AF IMT 813, *Request for Environmental Impact Analysis,* 1 September 1999

AF Form 847, *Recommendation for Change of Publication,* 22 September 2009

AF Form 1199, *USAF Entry Control Card,* 1 November 1986

AF IMT 1297, *Temporary Issue Receipt,* 1 July 1987

AF Form 1631, *NATO Travel Order,* 1 August 1986

AF Form 3211, *Customer Comments,* 21 October 2006

AF IMT 3516, *Food Service Inventory Transfer Receipt,* 1 January 1991

AF IMT 3578, *Tanker Activity Report,* 1 November 1995

AF IMT 3858, *C-130/C-141Aeromedical Evacuation Mission Offload Message,* 1 September 1994

AF IMT 4031, *CRM Skills Criteria Training/Evaluation Form,* 1 March 1998

AF IMT 4069, *Tiedown Equipment Checklist,* 1 March 1999

AF IMT 4075, *Aircraft Load Data Worksheet,* 14 April 2003

AF Form 4076, *Aircraft Dash 21 Equipment Inventory,* 25 October 2006

AF IMT 4080, *Load/Sequence Breakdown Worksheet,* 1 June 2001

AF Form 4087, *KC-10 CG Graph,* 1 July 1999

AF Form 4088, *KC-10 Fuel Vector,* 1 January 2001

AF IMT 4089, *KC-10 TOLD Card Worksheet,* 1 July 1999

AF IMT 4090, *KC-10 Flight Plan and Fuel Log,* 11 March 2003

AF IMT 4091, *KC-10 Flight Engineer Worksheet,* 26 November 2008

AF Form 4095, *KC-10A Load Planning Worksheet,* 10 May 1999

AF IMT 4128, *Fleet Service Checklist,* 1 July 1999

AF IMT 4130, *KC-10 Restraint Computation Worksheet,* 14 April 2003

AF IMT 4327a, *Crew Flight (FA) Authorization,* 24 October 2003

AMC Operational Risk Management Worksheet, 14 June 2007

AMC Form 43, *AMC Transient Aircrew Comments,* 1 June 1998

AMC Form 54, *Aircraft Commander's Report on Services/Facilities,* 1 November 1993

AMC Form 97, *AMC In-Flight Emergency and Unusual Occurrence Worksheet,* 1 May 2003

AMC Form 148, *Boarding Pass/Ticket/Receipt,* 1 June 1992

AMC Form 196, *Aircraft Commander's Report on Crew Member,* 1 June 1992

AFTO Form 18, *KC-10 Structural Assessment Record,* 1 August 1995

AFTO Form 46, *Prepositioned Life Support Equipment,* 1 July 1984

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document,* 11 September 2008

AFTO Form 781A, *Maintenance Discrepancy and Work Document,* 8 January 2008

AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document,* 15 September 2010

CBP Form 6059B, *US Customs and Border Protection Declaration Form,* 1 January 2004

CBP Form 7507, *General Declaration (Outward/Inward),* 1 August 2009

DD Form 175, *Military Flight Plan,* 1 May 1986

DD Form 175-1, *Flight Weather Briefing,* 1 October 2002

DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical,* I August 1996

DD Form 365-3, *Chart C, Basic Weight and Balance Record,* 1 August 7996

DD Form 791, *In-Flight Issue Log,* 1 December 2002

DD Form 1351-2, *Travel Voucher or Subvoucher,* 1 March 2008

DD Form 1351-2C, *Travel Voucher or Subvoucher (Continuation Sheet),* 1 August 1997

DD Form 1385, *Cargo Manifest,* 1 November 1978

DD Form 1610, *Request and Authorization for TDY Travel of DoD Personnel,* 1 May 2003

DD Form 1801, *DoD International Flight Plan,* 1 May 1987

DD Form 1854, *US Customs Accompanied Baggage Declaration,* 1 April 1977

DD Form 1896, *Jet Fuel Identaplate,* 1 March 1973

DD Form 1898, *Energy Sale Slip,* 1 July 2008

DD Form 1907, *Signature and Tally Record,* 1 October 2010

DD Form 2130-6, *KC-10A Load Plan (17 Pallets Configuration),* 1 September 1998

DD Form 2130-7, *KC-10A Load Plan (23 Pallets Configuration),* 1 September 1998

DD Form 2131, *Passenger Manifest,* 1 September 2005

DD Form 2133, *Joint Airlift Inspection Record,* 1 October 1998

SF 44, *Purchase Order-Invoice-Voucher,* 1 October 1983

Abbreviations and Acronyms

AAR—Air-to-Air Refueling

AC—Aircraft Commander

ACDE—Aircrew Chemical Defense Ensemble

ACF—Acceptance Check Flight

ACM—Additional Crew Member

AE—Aeromedical Evacuation

AECM—Aeromedical Evacuation Crew Member

AFRC—Air Force Reserve Command

AGE—Aircraft Ground Equipment

AGL—Above Ground Level

AMC—Air Mobility Command

AMCC—Air Mobility Control Center

AOR—Area of Responsibility

APU—Auxiliary Power Unit

AR—Air Refueling

ARCP—Air Refueling Control Point

ARCT—Air Refueling Control Time

ARIP—Air Refueling Initial Point

ASRR—Airfield Suitability and Restrictions Report

ATC—Air Traffic Control

BASH—Bird/Wildlife Aircraft Strike Hazard

BO—Boom Operator

BRNAV—Basic Area Navigation Airspace

C2—Command and Control

C2IPS—Command and Control Information Processing System

CCA—Contamination Control Area

CCM—Command Control Module

CDT—Crew Duty Time

CECR—Crew Enhancement Crew Rest

CFL—Critical Field Length

CFP—Computer Flight Plan

CG—Center of Gravity

COE—Certification of Equivalency

COMSEC—Communications Security

CRG—Contingency Response Group

CRM—Crew Resource Management

CW—Chemical Warfare

CSS—Chief Servicing Supervisor

CVR—Cockpit Voice Recorder

DCS—Defense Courier Service

DGDP—Degrade Percentage

DH—Decision Height

DoDAAC—Department of Defense Activity Address Code

EAL—Entry Access List

EAR—End Air Refueling

EHSI—Electronic Horizontal Situation Indicator

EMCON—Emission Control

EP—Evaluator Pilot

ETA—Estimated Time of Arrival

ETE—Estimated Time En route

ETIC—Estimated Time in Commission

ETP—Equal Time Point

FAF—Final Approach Fix

FCB—Flight Crew Bulletin

FCF—Functional Check Flight

FCIF—Flight Crew Information File

FDP—Flight Duty Period

FE—Flight Engineer

FIR—Flight Information Region

FLIP—Flight Information Publication

FM—Flight Manager

FMC—Fully Mission Capable

FMI—FM Immunity

FMS—Flight Management System

FOD—Foreign Object Damage

FOL—Forward Operating Location

FSO—Flying Safety Officer

FTU—Formal Training Unit

GDSS—Global Decision Support System

GMT—Greenwich Mean Time

GPS—Global Positioning System

HATR—Hazardous Air Traffic Report

HF—High Frequency

ICAO—International Civil Aviation Organization

ICS—Infant Car Seat

IFF—Identification Friend or Foe

IFM—Integrated Flight Management

IFR—Instrument Flight Rules

ILS—Instrument Landing System

IMC—Instrument Meteorological Conditions

IMT—Integrated Management Tool

INS—Inertial Navigation System

IP—Instructor Pilot

JOSAC—Joint Operational Support Airlift Center

JTF—Joint Task Force

KIAS—Knots Indicated Airspeed

LAAR—Low Altitude Air Refueling

LNAV—Lateral Navigation

LRC—Long Range Cruise

MAF—Mobility Air Forces

MARSA—Military Assumes Responsibility for Safe Altitude

MC—Mission Commander

MCD—Medical Crew Director

MDA—Minimum Descent Altitude

MDS—Mission Design Series (e.g., KC-10)

ME—Mission Essential

MEL—Minimum Equipment List

MNPS—Minimum Navigation Performance Specification

MOB—Main Operating Base

MSL—Mean Sea Level

NAF—Numbered Air Force

NDB—Non Directional Beacon

NEW—Net Explosives Weight

NM—Nautical Mile

NMR—Non-Mission Ready

NOTAM—Notice to Airmen

OCS—Obstacle Clearance Surface

OEI—One Engine Inoperative

ORM—Operational Risk Management

OST—Off-Station Trainer

PDO—Publication Distribution Office

PF—Pilot Flying

PIC—Pilot In Command

PLOC—Prolonged loss of contact

PM—Pilot Monitoring

PMCR—Post Mission Crew Rest

PMSV—Pilot to Meteorologist Service

PNF—Pilot Not Flying

PPR—Prior Permission Required

PSN—Proper Shipping Name

RCR—Runway Condition Reading

RDS—Records Disposition Schedule

RNAV—Area Navigation

RNP—Required Navigation Performance

ROE—Rules of Engagement

RRFL—Required Ramp Fuel Load

RSC—Runway Surface Condition

RVSM—Reduced Vertical Separation Minimum

SAAM—Special Assignment Airlift Mission

SATCOM—Satellite Communication

SID—Standard Instrument Departure

SIGMET—Significant Meteorological Information

SLICC—Senior Leader In-transit Conference Capsule

SLIP—Senior Leader In-Transit Pallet

SPR—Single Point Refueling

STM—Supplemental Training Mission

STT—Special Tactics Team

TKACT—Tanker Activity Report

TOLD—Takeoff and Landing Data

UE—Unit Equipped

UIC—Unit Identification Code

VMC—Visual Meteorological Conditions

ZFW—Zero Fuel Weight

Terms

Terms—The following is a list of common mobility terms and associated abbreviation. Additional terms common to the aviation community may also be found in FAR, Part 1 and DoD FLIP General Flight Planning, Chapter 2.

Advanced Computer Flight Plan (ACFP)—An Air Force-level system that is the follow on replacement for the Optimized AMC Flight Plan. The system brings an improved user interface to the customer, runs in Microsoft Windows, and communicates with a mainframe located at Scott AFB IL. Once the optimized flight plans are produced on the mainframe, they are transmitted back to the Window's PC.

Aeromedical Evacuation (AE)—Movement of patients under medical supervision between medical treatment facilities (MTFs) by air transportation.

Aeromedical Evacuation Crew Member (AECM)—Qualified Flight Nurse (FN) and Aeromedical Evacuation Technician (AET) performing AE crew duties.

Aeromedical Evacuation Operations Officer (AEOO)—Medical Service Corps (MSC) officer or medical administrative specialist or technician (AFSC 4A0X1) assigned to the AE system to perform duties outlined in applicable Air Force policy directives, instructions, 41-series handbooks, and this AFI.

Aeromedical Readiness Missions (ARMs)—Training missions using simulated patients to prepare for the wartime/contingency movement of patients.

Air Force Mission Support System (AFMSS)—Provides the Air Force with common interoperable automated flight mission planning hardware and software. Consists of a ground and portable (laptop) system. Interfaces with theater, MAJCOM, and joint data bases from fixed or deployed locations worldwide. Automates previously manually accomplished tasks. Passes

Air Tasking Order through C2IPS or CTAPS. Threats are provided via the Combat Intel System. AFMSS is multimedia capable with modem provided on ground and portable systems. The portable has a 1553B interface bus for uploading data to the aircraft. AFMSS displays and prints full color charts, NITF imagery, perspective views, mission rehearsals, 3-D fly through, flight planning forms and logs, and Digital Aeronautical Flight Information File information. Uses industry standardized data bases and complies with open system architecture and multilevel security requirements. Built with Commercial Off-The-Shelf (COTS) hardware, and implements nonproprietary software.

Air Force Component Commander (AFCC)—In a unified, sub-unified, or joint task force command, the Air Force commander charged with the overall conduct of Air Force air operations.

Air Refueling Control Point (ARCP)—The planned geographic point over which the receiver(s) arrive in the observation/pre-contact position with respect to the assigned tanker.

Air Refueling Exit Point (AR EXIT PT)—The designated geographic point at which the refueling track terminates. In a refueling anchor it is a designated point where tanker and receiver may depart the anchor area after refueling is complete.

Air Refueling Initial Point (ARIP)—A point located upstream from the ARCP at which the receiver aircraft initiates a rendezvous with the tanker.

Aircraft Commander (AC)—A qualified pilot graduate of an aircraft commander upgrade course or aircraft commander initial qualification training, certified by the squadron commander to act as pilot in command of an aircraft. Capable of holding the A-code.

Aircrew Chemical Defense Ensemble (ACDE)—Individually fitted aircrew unique chemical protective equipment for the sole purpose of protecting aircrew while flying into and out of a chemically contaminated environment.

Aircrew Eye/Respiratory Protection (AERP)—New generation individually sized aircrew chemical defense protective equipment system designed to protect aircrew from toxic chemical exposure to the head, neck, face, eyes, and respiratory tract.

Airfield Suitability and Restrictions Report (asrr)—a quarterly publication, electronically available to aircrews on the airport search page at **https://www.afd.scott.af.mil**/ , or from the HQ AMC aircrew portal at **https://private.amc.af.mil/a3/aircrewportal** to establish airfield suitability and restrictions for AMC and AMC-gained C-5, C-9, KC-10, C-17, C-21, C-130, KC-135, and C-141 aircraft operations. GDSS2 provides the most up to date information available. Others use as information only, or as directed by the assigned MAJCOM.

Airlift—Aircraft is considered to be performing airlift when manifested passengers or cargo are carried.

Air Mobility Control Center (AMCC)—Provides global coordination of tanker and airlift for AMC and operationally reports to the 618 AOC (TACC). Functions as the AMC agency that manages and directs ground support activities and controls aircraft and aircrews operating AMC strategic missions through overseas locations.

Air Mobility Division (AMD)—One of five divisions of the AOC, responsible for integrating and supporting air mobility missions. Coordinates with JFC, theater AMOCC (if established) and 618 AOC (TACC) in planning, tasking, and executing theater air mobility missions.

Air Mobility Operations Control Center (AMOCC)—Operations center which controls movement of theater assigned air mobility assets.

Air Reserve Component (ARC)—Refers to Air National Guard and Air Force Reserve Command forces, both Associate and Unit Equipped.

Air Route Traffic Control Center (ARTCC)—The principal facility exercising enroute control of aircraft operating under instrument flight rules within its area of jurisdiction. Approximately 26 such centers cover the United States and its possessions. Each has a communications capability to adjacent centers.

Air Traffic Control (ATC)—A service provided by an appropriate authority to promote the safe, orderly and expeditious use of the air transportation system and to maximize airspace utility.

Airfield Suitability and Restrictions Report (ASRR)—A quarterly publication, published by HQ AMC/A36AS, to establish airfield suitability and restrictions for AMC and AMC-gained C-5, C-9, KC-10, C-17, C-21, C-130, KC-135, and C-141 aircraft operations. GDSS/GDSS2 provides the most up to date information available. Others use as information only, or as directed by the assigned MAJCOM.

Allowable Cabin Load (ACL)—The maximum payload which can be carried on an individual sortie.

AMC History System (AHS)—Database that compiles and stores tanker activity input by line units.

Augmented Crew—Basic aircrew supplemented by additional qualified aircrew members to permit in-flight rest periods.

Automatic Link Establishment (ALE)—Automated process of setting up a communications link between two operating stations. Process involves periodic scanning of frequency spectrum and over-the air "handshaking" to select and maintain highest quality and most reliable radio channels. Primarily used in the HF band.

Aviation Into- Plane Reimbursement (AIR) Card—A credit card that can be used to purchase aviation fuels, related fuel supplies and ground services at commercial airports where no DoD or Canadian Into- Plane contract exists.

Bird Aircraft Strike Hazard (BASH)—An Air Force program designed to reduce the risk of bird strikes.

Bird Watch Condition Low—Normal bird activity [as a guide, fewer than 5 large birds (waterfowl, raptors, gulls, etc.) or fewer than 15 small birds (terns, swallows, etc.)] on and above the airfield with a low probability of hazard. Keep in mind a single bird in a critical location may elevate the Bird Watch Condition (BWC) to moderate or severe.

Bird Watch Condition Moderate—Increased bird population (approximately 5 to 15 large birds or 15 to 30 small birds) in locations that represent an increased potential for strike. Keep in mind a single bird in a critical location may elevate the BWC to moderate or severe.

Bird Watch Condition Severe—High bird population (as a guide, more than 15 large birds or 30 small birds) in locations that represent an increased potential for strike. Keep in mind a single bird in a critical location may cause a severe BWC.

Block Time—Time determined by the scheduling agency responsible for mission accomplishment for the aircraft to arrive at (block in) or depart from (block out) the p

BLUE BARK—US military personnel, US citizen civilian employees of the Department of Defense (DoD), and the dependents of both categories that travel in connection with the death of an immediate family member. It also applies to designated escorts for dependents of deceased military members. Furthermore, the term is used to designate the personal property shipment of a deceased member.

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

Category 1 (CAT 1) Route—Any route on which the position of the aircraft cannot be accurately determined by the overhead crossing of a radio aid at least once each hour with positive course guidance between such radio aids.

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.

Chalk Number—Number given to a complete load and to the transporting carrier.

Charge Medical Technician (CMT)—A qualified AET who supervises other AETs in aircrew positions on AE missions.

COIN ASSIST—Nickname used to designate dependent spouses accompanying dependent children and dependent parents of military personnel reported missing or captured who may travel space available on military aircraft for humanitarian purposes on approval of the Chief of Staff, United States Army; Chief of Staff, United States Air Force; Chief of Naval Operations; or the Commandant of the Marine Corps.

Combat Control Team (CCT)—A small task organized team of Air Force parachute and combat diver qualified personnel trained and equipped to rapidly establish and control drop, landing, and extraction zone air traffic in austere or hostile conditions. They survey and establish terminal airheads as well as provide guidance to aircraft for airlift operations. They provide command and control, and conduct reconnaissance, surveillance, and survey assessments of potential objective airfields or assault zones. They also can perform limited weather observations and removal of obstacles or unexploded ordinance with demolitions.

Command and Control (C2)—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

Command and Control (C2) Center—Each C2 Center provides supervision, guidance, and control within its assigned area of responsibility. For the purpose of this AFI, C2 Centers include operations centers, command posts, air mobility elements, contingency response groups (CRG), air mobility control centers, and tanker task forces.

Command and Control Information Processing System (C2IPS)—Computer-based information transmission and information handling for C2 functions associated with the Director of Mobility Forces (DIRMOBFOR), Air Mobility Division (AMD), Wing Operations Center

(WOC), and CRG. Interfaces to and automatically updates the Global Decision Support System (GDSS).

CONFERENCE SKYHOOK—Communication conference available to help aircrews solve in-flight problems that require additional expertise.

Contingency Fuel—Contingency fuel is an identified extra to compensate for unforeseen circumstances during any phase of flight (i.e. Unforecasted weather, launch delay, etc).

CONTINGENCY MISSION—Mission operated in direct support of an OPORD, OPLAN, disaster, or emergency.

Contingency Response Group (CRG)—Team of qualified Air Force personnel established to control, coordinate, and function as an Air Force tanker and airlift C2 facility at a base where normal AMC C2 facilities are not established or require augmentation.

Critical Phase of Flight—Takeoff, air refueling, approach, and landing.

Deadhead Time—Duty time for crew members positioning or de-positioning for a mission or mission support function.

Decompression (Depressurization) Fuel—The additional fuel required to protect the aircraft and occupants in the event of a cabin depressurization followed by an extended diversion to an alternate airport at low altitude where fuel consumption is increased.

Degrade Percentage (DGDP)—Percentage of fuel to be added or subtracted to enroute calculations.

Department of Defense Activity Address Code (DoDAAC)—A six-position, alpha-numeric code assigned to identify the unit, activity, or organization within DoD that owns the aircraft.

Designated Courier—Officer or enlisted member in the grade of E-5 or above of the US Armed Forces, or a Department of State diplomatic courier, selected by the Defense Courier Service (DCS) to accept, safeguard, and deliver DCS material as directed. A primary aircrew member should be used as a courier only as a last resort.

Desolate Terrain Missions—Any mission in excess of one hour over desert, tropical, or jungle terrain (not to include flights conducted over the CONUS.

Deviation—A deviation occurs when takeoff time is not within -20/+14 minutes of scheduled takeoff time. Scheduled takeoff time may be adjusted to make good an ARCT. Notify controlling agency prior to takeoff to adjust the scheduled takeoff time.

Direct Instructor Supervision—Supervision by an instructor of like specialty with immediate access to controls (for pilots, the instructor must occupy either the pilot or copilot seat; for boom operators conducting air refueling, the instructor must occupy the instructor seat).

Director, Mobility Forces (DIRMOBFOR)—The COMAFFOR's and/or JFACC's designated coordinating authority for air mobility with all commands and agencies internal and external to the joint force. Provides mobility direction and guidance to the AMD in the AOC.

Distinguished Visitor (DV)—Passengers, including those of friendly nations, of star or flag rank or equivalent status, to include diplomats, cabinet members, members of Congress, and other individuals designated by the DoD due to their mission or position (includes BLUE BARK and COIN ASSIST).

Diverse Departures—The airfield has been assessed for departure by TERPS personnel and no penetration of the obstacle surfaces exists. An aircraft may depart the field, climb to 400 feet above the departure end of the runway elevation, turn in any direction, and if a minimum climb gradient of 200'/NM is maintained be assured of obstacle clearance. This normally indicated on DoD/NOAA publications by the absence of any published departure procedures.

Double Blocking—When an aircraft is required to block-in at one parking spot, then move to normal parking for final block-in. The extra time required for double blocking will be taken into account during mission planning/scheduling. To compensate for double blocking on departure, the aircrew "legal for alert time" may be adjusted to provide additional time from aircrew "show time" to departure. When double blocking is required on arrival, the aircrew's entry into crew rest will be delayed until post flight duties are complete.

Dual Role—Any mission where both air refueling and airlift are provided to the user. Primary mission role is normally air refueling. Missions where cargo movement is primary require a dedicated funded special assignment airlift mission (SAAM) number.

Due Regard—Operational situations that do not lend themselves to International Civil Aviation Organization (ICAO) flight procedures, such as military contingencies, classified missions, politically sensitive missions, or training activities. Flight under "Due Regard" obligates the military aircraft commander to be his or her own air traffic control (ATC) agency and to separate his or her aircraft from all other air traffic. (See FLIP General Planning, section 7.)

Equal Time Point (ETP)—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.

Equal Time Point (ETP) for ACFP—Point along a route at which an aircraft may either proceed to First Suitable Airfield (FSAF) or return to Last Suitable Airfield (LSAF) in the same amount of time based on all engines operating. FSAF/LSAF are airports closest to the coast out and coast in route of flight that meet applicable destination alternate requirements.

Estimated Time In Commission—Estimated time required to complete required maintenance.

Execution—Command-level approval for initiation of a mission or portion thereof after due consideration of all pertinent factors. Execution authority is restricted to designated command authority.

Experienced Copilot (ECP)—Copilot with 500 total flying hours (not including "other" time) of which a minimum of 200 hours are in the primary assigned aircraft (PAA). Individual must also be designated an "experienced copilot" by the squadron commander. Designation indicates the squadron commander certifies the individual is progressing normally toward upgrade to aircraft commander.

Familiar Field—An airport in the local flying area at which unit assigned aircraft routinely perform transition training. Each operations group commander will designate familiar fields within their local flying area.

Firm Scheduled Return Time (FSRT)—Scheduling tool used by air mobility units to predict when crews will return to home station. FSRT for active duty and AFRC is defined as SRT plus 24 hours.

Force Rendezvous Point (FRP)—A checkpoint at which formations of aircraft join and become part of the main force. Also called group rendezvous point.

Fuel Reserve—Amount of usable fuel that must be carried beyond that required to complete the flight as planned.

Global Decision Support System (GDSS)—AMC's primary execution command and control system. GDSS is used to manage the execution of AMC airlift and tanker missions.

Global Patient Movement Requirements Center (GPMRC)—A joint activity reporting directly to the Commander in Chief, USTRANSCOM, the DoD single manager for the regulation of movement of uniformed services patients. The GPMRC authorizes transfers to medical treatment facilities of the Military Departments of the Department of Veterans Affairs and coordinates intertheater and CONUS patient movement requirements with the appropriate transportation component commands of USTRANSCOM.

Ground Time—Interval between engine shut down (or arrival in the blocks if engine shutdown is not scheduled) and next takeoff time.

Hazardous Cargo or Materials (HAZMAT)—Articles or substances that are capable of posing significant risk to health, safety, or property when transported by air and classified as explosive (class 1), compressed gas (class 2), flammable liquid (class 3), flammable solid (class 4), oxidizer and organic peroxide (class 5), poison and infectious substances (class 6), radioactive material (class 7), corrosive material (class 8), or miscellaneous dangerous goods (class 9). Classes may be subdivided into divisions to further identify hazard, i.e., 1.1, 2.3, 6.1, etc.

Instructor Supervision—Supervision by an instructor of like specialty. For critical phases of flight, the instructor must occupy one of the seats or stations, with immediate access to the controls.

In- Place Time (IPT)—Time when an aircraft and crew are at an operating base and prepared to load for the mission.

Integrated Flight Management—The set of integrated C2 processes and supporting technologies for the planning and execution of air mobility sorties.

Interfly—The exchange and/or substitution of aircrews and aircraft between Mobility Air Forces (MAF) including crew members and/or aircraft from AETC, ACC, PACAF, and AMC-gained ANG and AFRC forces.

International Maritime Satellite (INMARSAT)—United Nations-sponsored organization with controlling authority over a commercial satellite constellation. The constellation provides near global voice/data communications coverage for land-based, maritime and aeronautical radio operations. Users of the system are required to register with the organization, abide by the charter, and pay "by the minute" usage fees.

Joint Airborne/Air Transportability Training (JA/ATT)—Continuation and proficiency combat airlift training conducted in support of DoD agencies. Includes aircraft load training and service school support. AMC headquarters publishes JA/ATT tasking in AMC OPORD 17-76, annex C, appendix 1.

Joint Task Force/C2 Module (CCM)—36-foot long Airstream C2 Module (trailer) built in 3 sections.

L-Band SATCOM—600 BPS satellite communications (SATCOM) system contracted through the International Maritime Satellite Organization (INMARSAT), used primarily for command and control. The system consists of a satellite transceiver, a laptop computer, and a printer.

Loading Time—A specific time, established jointly by the airlift and airborne commanders concerned, when aircraft and loads are available and loading is to begin.

Local Training Mission—A mission scheduled to originate and terminate at home station (or an offstation training mission), generated for training or evaluation, and executed at the local level.

Maintenance Status—**A-1:—**No maintenance required.

A-2 (Plus Noun):—Minor maintenance required, but not serious enough to cause delay. Add nouns that identify the affected units or systems, i.e. hydraulic, ultra high frequency (UHF) radio, radar, engine, fuel control, generator, boom or drogue, etc. Attempt to describe the nature of the system malfunction to the extent that appropriate maintenance personnel will be available to meet the aircraft. When possible, identify system as mission essential (ME) or mission contributing (MC).

A-3 (Plus Noun):—Major maintenance. Delay is anticipated. Affected units or systems are to be identified as in A-2 status above.

A-4:—Aircraft or system has suspected or known biological, chemical, or radiological contamination.

Medical Crew Director (MCD)—A qualified FN responsible for supervising patient care and AECMs assigned to AE missions. On missions where an FN is not onboard, the senior AET will function as MCD.

Mission Contributing—Any discrepancies that are not currently designated Mission Essential (ME).

Mission Essential—An item, system, or subsystem component essential for safe aircraft operation or mission completion.

Mission—Movement of aircraft from a designated point of origin to a designated destination as defined by assigned mission identifier, mission nickname, or both in the schedule, mission directive, OPORD, OPLAN, or FRAG order.

Mission Advisory—Message dispatched by C2 agencies, liaison officers, or aircraft commanders advising all interested agencies of any changes in status affecting the mission.

Mobility Air Force—Forces assigned to mobility aircraft or MAJCOMs with operational or tactical control of mobility aircraft.

Off Station Training Flight—A training flight that originates or terminates at other than home station that is specifically generated to provide the aircrew experience in operating away from home station. Off station trainers will not be generated solely to transport passengers or cargo.

Operational Control (OPCON)—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and

giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish the assigned missions. Operational control does not, in and of itself, include authoritative direction for logistical matters of administration, discipline, internal organization, or unit training.

Operational Missions—Missions executed at or above 618 AOC (TACC) level. Operational missions termed "CLOSE WATCH" include CORONET missions and AFI 11-221, Air Refueling Management (KC-10 and KC-135), priority 1, 2, and 3 missions tasked by the 618 AOC (TACC). Other operational missions such as deployment, re-deployment, reconnaissance operations, operational readiness inspections (ORI), AMC channel or SAAM, and JA/ATT missions may be designated "CLOSE WATCH" as necessary.

Operational Risk Management (ORM)—A logic based, common sense approach to making calculated decisions on human, materiel, and environmental factors before, during, and after Air Force operations. It enables commanders, functional managers, and supervisors to maximize operational capabilities while minimizing risks by applying a simple, systematic process appropriate for all personnel and Air Force functions.

Opportune Airlift—Transportation of personnel, cargo, or both aboard aircraft with no expenditure of additional flying hours to support the airlift.

Originating Station—Base from which an aircraft starts on an assigned mission. May or may not be the home station of the aircraft.

Over— water Flight—Any flight that exceeds power off gliding distance from land.

Patient Movement Categories—

Urgent—Patients who must be moved immediately to save life, limb, or eyesight, or to prevent complication of a serious illness.

Priority—Patients requiring prompt medical care that must be moved within 24 hours.

Routine—Patients who should be picked up within 72 hours and moved on routine/scheduled flights.

Patient Support Pallet (PSP) M—A PSP with mixed seat/litter configuration, either two or three seat mixed with litters.

Permit to Proceed—Aircraft not cleared at the first US port of entry may move to another US airport on a permit to proceed issued by customs officials at the first port of entry. This permit lists the requirements to be met at the next point of landing, i.e. number of crew and passengers, cargo not yet cleared. Aircraft commanders are responsible to deliver the permit to proceed to the customs inspector at the base where final clearance is performed. (Heavy monetary fines can be imposed on the aircraft commander for not complying with permit to proceed procedures.)

PHOENIX RAVEN Security Teams—Supports mobility operations by providing security protection for aircraft transiting high threat locations where host, or enroute security support may be marginal, unreliable, or nonexistent. PHOENIX RAVEN Security teams consist of two to six US Air Force security force members, depending on security requirements.

Pilot In Command (PIC)—The aircraft commander, instructor pilot, or evaluator pilot designated on the flight authorization to act in command of a particular flight, or flights. Normally denoted by the A-code remark on the applicable flight authorization.

Point Of No Return—Most distant point along the planned route from which an aircraft may safely return to its point of departure or alternate airport with approach and landing fuel.

Point of Safe Return—Most distant point along the planned route from which an aircraft may safely return to its point of departure or alternate airport with required fuel reserve.

Positioning and De—positioning Missions—Positioning missions are performed to relocate aircraft for the purpose of conducting a mission. De-positioning missions are made to return aircraft from bases at which missions have terminated.

Protective Clothing Kit (PCK)—The PCK contains items for use by aircrew during emergencies aboard aircraft carrying hazardous cargo IAW AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*.

Quick Stop—Set of procedures designed to expedite the movement of selected missions by reducing ground times at en route or turnaround stations.

Ramp Coordinator—Designated representative of the C2 Center whose primary duty is the coordination of ground handling activities on the ramp during large scale operations.

Required Ramp Fuel Load (RRFL)—Minimum fuel required at engine start to complete tasked mission.

Rush Baggage—Baggage or articles, which have been misrouted or separated from the owner, are to be forwarded as RUSH baggage.

Scheduled Return Time—Scheduling tool used by air mobility units to predict when crews will return to home station. It allows force managers to plan aircrew availability and provide crews visibility over monthly flying activities. AMC and AMC-gained aircrews (except those on standby at home station) will have an SRT established on their flight orders.

Scheduled Takeoff Time—Takeoff time is established in the schedule or OPORD. For air aborts and diversions, this will be engine shut down time (or arrival in the blocks if engine shutdown is not scheduled) plus authorized ground time. Early deviation does not apply to aborts or diversions unless the mission is formally rescheduled by current operations.

Significant Meteorological Information (SIGMET)—Area weather advisory issued by an ICAO meteorological office relayed to and broadcast by the applicable ATC agency. SIGMET advisories are issued for tornadoes, lines of thunderstorms, embedded thunderstorms, large hail, severe and extreme turbulence, severe icing, and widespread dust or sand storms. A SIGMET frequently covers a large geographical area and vertical thickness. They are prepared for general aviation and may not consider aircraft type or capability.

Special Assignment Airlift Mission (SAAM)—Funded airlift that cannot be supported by channel missions because of the unusual nature, sensitivity, or urgency of the cargo or that requires operations to points other than the established channel structure.

Stations Time (Air Force)—The time at which the crew, passengers, and cargo are to be on board and ready for the flight. Normally, 30 minutes prior to takeoff time for the KC-10, KC-135, C-130, C-141, and OSA aircraft (45 minutes for C-5 and C-17). Aircrews will have

completed their pre-flight duties and be at their crew positions. Passengers will be seated and cargo will be secured.

Tanker Airlift Control Center (18 AF TACC)—18 AF direct reporting unit responsible for tasking and controlling operational missions for all activities involving forces supporting USTRANSCOM's global air mobility mission. The 18 AF TACC contains the following functions: Command and Control, Current Operations, Mission Support, Logistics Operations Center, Aerial Port Control Center, Flight Planning, Diplomatic Clearance, Weather, and Mission Support Planning Office. Also called 18 AF TACC.

Tanker Task Force (TTF)—Force of tanker aircraft assembled and tasked to perform a specific function.

Tankered Fuel—Additional fuel carried through a primary destination for use on a subsequent leg.

Theater Patient Movement Requirements Center (TPMRC)—The TPMRC is responsible for theater wide patient movement (e.g., medical regulating and AE scheduling), and coordinates with theater MTFs to allocate the proper treatment assets required to support its role. The primary role of the TPMRC is to devise theater plans and schedules and then monitor their execution in concert with the GPMRC. The TPMRC is responsible to the Combatant Commander through the Combatant Command Surgeon. The TPMRC is also responsible for all aspect of intratheater patient movement management. A TPMRC provides command and control for patient movement management operations in its theater of operations, as directed by its Combatant Commander's operational policy, and in coordination with USTRANSCOM, acting as a supporting combatant command, responsible for intertheater and CONUS

Time Out—Common assertive statement used to voice crew member concern when safety may be jeopardized.

Training Mission—Mission executed at the unit level for the sole purpose of aircrew training for upgrade or proficiency. Does not include operational missions as defined in this AFI.

Transportation Working Capital Fund (TWCF)—Formerly known as Defense Business Operations Fund-Transportation (DBOF-T). Part of the Air Force Working Capital Fund (AFWCF). Normally used to cover costs that can be recovered from an air mobility customer. Examples include TDY costs, site surveys of CRG or airlift unit deployment bed down locations, airlift unit level mission planning expenses, and support or contract costs for deployed TWCF units/personnel.

Unilateral—Operations confined to a single service.

Unit Move—Unit relocation in support of a contingency or exercise deployment/re-deployment. These moves are made to desired areas of operation or to designated locations, and are made IAW a troop movement schedule.

Zero Fuel Weight—Weight, expressed in pounds, of a loaded aircraft not including wing and body tank fuel. All weight in excess of the maximum zero fuel weight will consist of usable fuel.

Attachment 2

AF FORM 4095, KC-10A LOAD PLANNING WORKSHEET INSTRUCTIONS

A2.1. General. The AF Form 4095 is an easy to use optional form designed as a worksheet for KC-10 load planners. When completed, it provides all the necessary computational data for KC-10 cargo operations. Variations in completing the form are allowed; however, the load planner is responsible for the accuracy of the computations. The following simplified instructions are a guide for completion of the form.

A2.2. AFT BODY/FWD BODY FUEL. Enter the applicable fuel quantities from your planned fuel load, T.O. 1C-10(K)A-5, Figure 3-19.

A2.3. ZONE LOAD. Enter allowable weights from T.O. 1C-10(K)A-9, Zone Chart, based on the fuel quantities (Item 1).

A2.4. PALLET BLOCKS; RIGHT, LEFT. Enter the desired information (identifiers, weights, axle locations, coupled pallets, etc.) to depict load arrangement and weight distribution. The INCH scale on each side of the pallet blocks may be used to record the CB of an item (i.e. engine trailer).

A2.5. RIGHT MOMENT; LEFT MOMENT. Record computed moment for the weight distribution as depicted in item 3.

A2.6. TOTALS: MOMENT RIGHT; WEIGHT RIGHT; WEIGHT LEFT; MOMENT LEFT. Compute the totals of the applicable columns and enter the results. Enter the combined totals of the Right and Left side in the TOTAL CARGO blocks, lower left side of the form, Weight and Moment columns. TOTAL CARGO ARM is computed based on the combined totals entered in the lower left blocks. For LATERAL DIF, enter the computed difference between the right and left sides of the aircraft cargo distribution.

A2.7. WEIGHT AND BALANCE DATA BLOCKS. These blocks provide an area to record and compute the aircraft overall status. The SUB-TOTAL and TOTAL ZFW entries are transcribed to the right side of the form and used for TIPPING ON-LOAD and TIPPING OFF-LOAD computations.

A2.8. TIPPING ON-LOAD. Record and compute the applicable data. The actual fuel load on the aircraft during the ON-LOAD is recorded on the right side of the form, FUEL ACTUAL, the total weight and computed moment is then entered as ACTUAL FUEL (+). The results, ON-LOAD START data, is used to compute On-load Tipping Analysis (Item 8).

A2.9. ON-LOAD TIPPING ANALYSIS. Record the computed ARM or % MAC. A running total of weights and moments may also be entered.

A2.10. TIPPING OFF-LOAD. Record and compute the applicable data. TOTAL ZFW is transcribed from the Weight and Balance Data blocks (Item 6). The parking fuel load on the aircraft during the OFF-LOAD is recorded on the right side of the form, PARKING. The total weight and computed moment is then entered as PARKING FUEL (+). The results: OFF-LOAD START data is used to compute Off-load Tipping Analysis (Item 10).

A2.11. OFF-LOAD TIPPING ANALYSIS. Record the computed ARM or % MAC. A running total of weights and moments may also be entered.

A2.12. ZONE LOAD MAX FUEL; AFT; FWD. When the actual zone load (Item 2) is less than allowed, the body tank fuel may be increased.

A2.13. LOADING SEQUENCE. Enter the sequence of loading. On-load Tipping Analysis information may dictate a specific load sequence. The remaining blocks are self explanatory.

Attachment 3

AF FORM 4096, KC-10 RESTRAINT COMPUTATION WORKSHEET INSTRUCTIONS

A3.1. General. The AF Form 4096 is an easy to use form to record and compute restraint computations. The form contains all the necessary formulas. Simplified instructions follow. The pallet diagram may be used to sketch out an item and draw the tie-down arrangement. When used, label each tie-down device numerically.

A3.2. Enter the item weight.

A3.3. Compute vertical restraint requirement and enter its value.

A3.4. Compute FWD, AFT, LEFT, RIGHT, (all others), and enter the value.

A3.5. Take the applicable measurements and record in the appropriate columns. The column labels correspond to the diagram above the columns.

A3.5.1. When recording (D) FWD/AFT Effective Length, enter an A or F showing the direction of restraint provided.

A3.5.2. When recording (E) Lateral Effective Length, enter an L or R showing the direction of restraint provided.

A3.6. Compute the VERTICAL restraint FIRST. If it is 2,500 pounds or GREATER, enter 2,500. If it is LESS THAN 2,500 pounds, enter the computed value.

A3.7. Based on the results of the Vertical computation, select the applicable formula, 7A or 7B, and compute the Longitudinal and Lateral restraint.

A3.8. Record the applicable values in the blocks provided.

A3.9. Add the values of each column and enter the totals, TOTAL APPLIED RESTRAINT. If the applied is LESS THAN the required, additional devices, or a different arrangement of devices, is required.

Attachment 4

FORMATION BRIEFING GUIDE

A4.1. General. This briefing guide is provided as an example to stress mission events and objectives rather than reinforce technical order procedures. A standardized briefing format is especially important when flying with other units. Brief actions required to meet mission and EMCON objectives. An additional formation briefing guide may be found in AFTTP 3-3.KC-10.

A4.1.1. Roll Call and Time Hack. Pilot in Command, call sign, aircraft tail numbers, parking locations.

A4.1.2. Weather. Takeoff, en route, AR, destinations, alternates.

A4.1.3. Mission Overview. Objectives, tactical considerations, takeoff time, rendezvous control time or point and AR control time (ARCT), formation break-up, landing.

A4.1.4. Communications Plan. Ground operations, EMCON plan or allowable emitters, radio check-in times and secure radio checks, authentication, launch, or execution as required, ARTCC clearances.

A4.1.4.1. Takeoff. EMCON plan or allowable emitters, inter-plane frequency, airborne calls.

A4.1.4.2. En route. EMCON plan or allowable emitters, lost wingman, weather update, communications log requirements, SATCOM/HF.

A4.1.4.3. Air refueling. EMCON plan or allowable emitters, radio frequencies, A/A TACAN channel and band, HF.

A4.1.4.4. Formation break-up and recovery. EMCON plan and allowable emitters, radio frequencies, weather update, SATCOM/HF procedures, special frequencies.

A4.1.5. Taxi. Engine start time, taxi time, sequence (including spare), performance data, takeoff clearance.

A4.1.6. Takeoff. Interval and sequence, abort, emergencies.

A4.1.7. Departure (VMC or IMC). Airspeeds, routing, climb rates or power settings, intermediate level-offs, turns and bank angles, visual cut-off.

A4.1.8. Level-Off. Join-up, altitude block, airspeed (indicated, true, or mach), minimum maneuvering airspeed, performance ceilings.

A4.1.9. En route (VMC or IMC). Airspeed changes or mission timing, turns and bank angles, climb and descent rates, position changes.

A4.1.10. Air Refueling (AR) (VMC or IMC). Call signs, off-loads, on-loads, and sequence, base altitude, track, type rendezvous, AR formation, AR airspeeds, bingo fuel, abort bases, EAR requests, break-up.

A4.1.11. Formation Break-Up. Altitudes, separation routing and procedures, cruise differential airspeeds.

A4.1.12. Recovery. Penetration sequence, airspeeds.

A4.1.13. Special Subjects. Wake turbulence avoidance, mission commander designation (as applicable), aircraft separation and monitoring plan, tactics (as required), and human factors (for example: channelized attention, task saturation/prioritization, ORM, and complacency).

A4.1.14. Formation Debrief (as required).