BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE MANUAL 11-2C-12

27 JANUARY 2020
Incorporating Change 1, 10 JULY 2023
Certified Current, 12 JANUARY 2024
Flying Operations

C-12 AIRCREW TRAINING, OPERATIONS, AND EVALUATIONS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AFMC/A3V

Certified by: AF/A3T
(James A. Jacobson, Maj Gen)

Supersedes: AFMAN11-2C-12V1, 21 May 2018
AFMAN11-2C-12V2, 29 May 2018
AFI11-2C-12V3, 16 June 2015

Pages: 108

This Air Force Manual (AFMAN) implements Air Force Policy Directive (AFPD) 11-2, Aircrew Operations; AFPD 11-4, Aviation Service; Air Force Instruction (AFI) 11-200, Aircrew Training, Standardization / Evaluation, and General Operations Structure; AFMAN 11-202V1, Aircrew Training; AFMAN 11-202V2, Aircrew Standardization and Evaluation Program; and AFMAN 11-202V3, Flight Operations. This is a specialized publication intended for use by those who have graduated from technical training related to this publication. This publication only applies to civilian employees and uniformed members of the Regular Air Force. This publication does not require the collection and/or maintenance of information protected by the Privacy Act of 1974 authorized by 5 United States Code, Section 552a, as amended; 37 United States Code; Executive Order 9397, Numbering System for Federal Accounts Relating to Individual Persons, as amended; and AFPD 11-2. The Privacy Act System of Records Notice F011 AF XO A, Aviation Resource Management Systems covers required information and is available at **http://dpclo.defense.gov/Privacy/SORNs.aspx**. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, Records Management and Information Governance, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, Recommendation for Change of Publication; route AF Forms 847 from the field through the appropriate major command (MAJCOM) training staff to Air Force Material Command (AFMC/A3V). MAJCOMs may

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SUMMARY OF CHANGES

This interim change revises AFMAN 11-2C-12 by (1) changing Training Review Panel timing; (2) revising upgrade prerequisites, (3) updating flying training levels, (4) allowing semiannual continuation training periods to be on calendar or fiscal basis: (5) referencing AFI16-1301 for SS events, (6) differentiating between in-unit initial and requalification training, (7) authorizing unit commander to allow mission continuation with erroneous engine exceedance indication, (8) revising OCONUS alternate requirements, (9) updating CNS/ATM approvals, (10) aligning stall training with flight manual, (11) clarifying operational mission evaluation requirements, (12) standardizing evaluation nomenclature and (13) updating references. A margin bar (|) indicates newly revised material.

Chapter 1—GENERAL **11**

1.1. Objective. 11
1.2. Key Words Explained. 11
1.3. Waiver Authority. 11
1.4. Roles and Responsibilities. 11
1.5. Failure to Progress or Complete Training. 12
1.6. Use of Flying Hours. 12
1.7. Aircrew Training While DNIF. 12
1.8. Programmed Flying Training (PFT). 12

Chapter 2—FORMAL PROGRAMMED QUALIFICATION TRAINING **13**

2.1. General Requirements. 13
2.2. Qualification Training Prerequisites. 13
Table 2.1. Upgrade Requirements. 13
2.3. Ground Training. 14
Table 2.2. Initial Qualification Ground Training Requirements. 14
2.4. Multiple Qualifications. 14
2.5. Senior Officer Qualification Training Requirements. 14

2.6. Concurrent re-qualification. 14

Chapter 3—MISSION READY TRAINING 15

3.1. Description. 15

3.2. Ground Training (GT) Requirements. 15

Table 3.1. Mission Ready Training Requirements. 15

3.3. Flying Training Requirements. 16

Chapter 4—CONTINUATION TRAINING 18

4.1. Description. 18

4.2. Aircrew Status 18

4.3. Training Levels (TL). 18

4.4. Training Events and Training Requirement Tables. 19

4.5. Continuation Training Requirements. 19

Table 4.1. Ground Continuation Training Requirements 20

Table 4.2. Mobility Training Requirements 20

Table 4.3. Flight Surgeon Ground Continuation Training Requirements. 21

Table 4.4. Semiannual Flying Continuation Training Requirements. 22

4.6. Flight Surgeon Continuation Flying Requirements. 23

4.7. Failure to Complete Continuation Training Requirements. 23

Chapter 5—IN-UNIT TRAINNG 24

5.1. General. 24

Table 5.1. In-Unit Training Time Limitations. 24

Table 5.2. In-Unit Training Requirements. 25

5.2. Flight Pilot (FP) Qualification. 26

5.3. Mission Pilot (MP) Qualification 26

5.4. Instructor Pilot (IP) Qualification. 26

5.5. Examiner Pilot (EP) Certification. 26

5.6. Special Qualifications. 26

5.7. Conversion Training Requirements. 27

Chapter 6—AIRCREW TRAINING SYSTEM (ATS) 28

6.1. Description. 28

6.2. Applicability. 28

6.3. Dedicated Training Time. 28

6.4. ATS Course Prerequisites. 28
6.5. Course Material. 28
6.6. CRM Training. 28
6.7. Unsatisfactory Student Progress. 28
Chapter 7—ARMS IDENTIFIERS **29**
7.1. Description. 29
7.2. Academic “A” Identifiers. 29
7.3. Ground “G” Events. 29
Table 7.1. Emergency Procedures Guide. 30
7.4. Aircrew Flight Equipment — “LL” Events. 31
7.5. Mission Specific “M” Events. 31
7.6. Crew and Individual Proficiency “P” Events. 32
7.7. Qualification and Certification “Q” Events. 33
7.8. Special Ops and Tactics “RS, SS,” Events. 34
7.9. Air Force Specified "XX" Events. 35
Chapter 8—COMMAND AND CONTROL **36**
8.1. General. 36
8.2. Execution Authority. 36
8.3. Pilot in Command Responsibility and Authority. 36
8.4. Mission Clearance Decision. 36
8.5. Operational C2 Reporting. 36
Chapter 9—AIRCREW MANAGEMENT **37**
9.1. Aircrew Qualification. 37
9.2. Missions with Passengers. 37
9.3. Distinguished Visitor (DV) Operating Procedures. 37
9.4. Alerting Procedures. 37
9.5. Flight Duty Period (FDP). 37
9.6. Re-entering Crew Rest. 38
9.7. Post-Mission Crew Rest. 38
9.8. Standby Force Duty. 38
9.9. Inter-fly. 39

Chapter 10—AIRCRAFT OPERATING RESTRICTIONS 40

10.1. Minimum Equipment List (MEL) Policy. 40
10.2. Discrepancies. 40
10.3. MEL Waiver Protocol. 40
10.4. Gear Down Flight Operations. 41

Chapter 11—OPERATIONAL PROCEDURES 42

11.1. Checklists. 42
11.2. Duty Station. 42
11.3. Landing With an Emergency. 42
11.4. DV-2 Missions. 42
11.5. Seatbelts. 42
11.6. Mandatory Calls. 42
Table 11.1. Non-precision Approaches. 42
Table 11.2. Precision Approaches. 43
Table 11.3. Climb Out. 43
Table 11.4. Descent. 43
Table 11.5. Landing. 43
11.7. Deviations. 44
11.8. Communications Policy. 44
11.9. Runway, Taxiway, and Airfield Requirements. 45
Table 11.6. C-12 Takeoff and Landing Crosswind Components. 46
11.10. Aircraft Taxi. 46
11.11. Short Field/Austere Field Operations. 46
11.12. Bird/Wildlife Aircraft Strike Hazard (BASH) Programs. 46
11.13. Functional Check Flights (FCFs) and Acceptance Check Flights (ACFs). 47
11.14. Participation in Aerial Events. 47
11.15. Aircraft Recovery from Unprepared Surfaces. 47
11.16. Flight Management System (FMS). 47
Table 11.7. Manual Flight. 48
Table 11.8. Automated Flight. 49

Chapter 12—AIRCREW PROCEDURES **50**

Section 12A—Pre-Mission 50

12.1. Aircrew Uniform..... 50

12.2. Personal Requirements. 50

12.3. Pre-Mission Actions. 50

12.4. Aircrew Publication Requirements. 50

12.5. Certification/Special Airfield. 50

Section 12B—Predeparture 51

12.6. Flight Crew Information File (FCIF). 51

12.7. Mission/Navigation Flight Bag. 51

12.8. Pilot in Command Briefing. 51

12.9. Peacetime and Wartime SAFE PASSAGE Procedures. 51

12.10. Instrument Flight Rules. 51

12.11. Takeoff RVR..... 51

12.12. Departure Alternates. 51

12.13. Destination Filing Requirements. 52

12.14. Adverse Weather..... 52

12.15. Operational Risk Management (ORM). 54

Section 12C—Preflight 54

12.16. Air Force Technical Order Forms 781 Series. 54

12.17. One-Time Flights. 54

12.18. Oxygen Requirements..... 54

12.19. Overwater Aircrew Flight Equipment Requirements. 54

12.20. Airlifting Hazardous Cargo..... 54

12.21. Handling of Classified Cargo, Registered Mail, Mission Capable (MICAP), Very, Very Important Part (VVIP), Forward Supply System Shipments, and Courier Material..... 54

12.22. Life or Death Urgency Shipments. 55

Section 12D—Departure 55

12.23. On Time Takeoffs. 55

Section 12E—En route 55

12.24. Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports. 55

12.25. In-Flight Meals. 55
12.26. High Frequency Communications. 55
12.27. In-flight Emergency Procedures. 56
12.28. Need for Medical Assistance. 56
12.29. Weather Forecasts. 56
Section 12F—Arrival 56
12.30. Descent. 56
12.31. Instrument Approach Procedures. 56
Table 12.1. C-12 CNS/ATM Operational Approvals. 57
12.32. Classified Equipment and Material. 58
12.33. MODE 4. 59
12.34. Border Clearance. 59
12.35. Inspections of U.S. Aircraft by Foreign Officials. 60
12.36. Insect and Pest Control. 60
Section 12G—Miscellaneous 61
12.37. Cockpit Voice Recorder (CVR). 61
12.38. Passenger Restrictions. 61
12.39. Aircrew Flight Equipment (AFE) and Dash 21 Equipment. 61
12.40. Turbulence / Wake Turbulence Category. 61
Chapter 13—AIRCRAFT SECURITY **62**
13.1. General. 62
13.2. Security. 62
13.3. Distinguished Visitor (DV) Security Program. 62
13.4. En Route Security. 62
13.5. Air Piracy. 62
13.6. Arming of Crew Members. 63
Chapter 14—OPERATIONAL REPORTS AND FORMS **65**
14.1. General. 65
14.2. AF Form 457, USAF Hazard Report. 65
14.3. AF Form 651, Hazardous Air Traffic Report (HATR). 65
14.4. Reportable Mishaps. 65
14.5. Petroleum, Oil, and Lubricants (POL) Aviation Fuels Documentation. 66

Chapter 15—TRAINING GUIDANCE AND PROCEDURES 68

15.1. Passengers on Training Missions. 68
15.2. Simulated Emergency Flight Procedures. 68
15.3. Touch-and-Go Landings. 68
15.4. Simulated Engine-Out Limitations. 69
15.5. Training Maneuver Restrictions. 69
Table 15.1. Maneuver Restrictions. 69
15.6. Prohibited In-Flight Maneuvers: 69
15.7. Instructor Pilot Briefing. 69
15.8. Debriefing. 70
15.9. Approach to Stall Training (T-2). 70
15.10. Slow Flight Training. (T-2) 70

Chapter 16—AIRCREW OPERATIONS IN CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) THREAT ENVIRONMENT 71

16.1. Overview. 71
16.2. CBRN Passive Defense Measures. 71
16.3. Decontamination. 71
16.4. Flight Operations. 72
16.5. Ground Operations. 73

Chapter 17—NAVIGATION PROCEDURES 75

17.1. Mission Planning. 75
17.2. Oceanic/Class II and Extended Range Operations. 75
17.3. Airspace. 75
17.4. Ferry Operations. 75

Chapter 18—AIRCREW MAINTENANCE SUPPORT PROCEDURES 77

18.1. General. 77
18.2. Responsibilities. 77
18.3. Authority to Clear a Red X. 77
18.4. Aircraft Servicing. 77

Chapter 19—CARGO AND PASSENGER PROCEDURES 78

19.1. Responsibilities for Aircraft Loading. 78
19.2. Emergency Exits and Safety Aisles. 78
19.3. Passenger Rules. 78

19.4. Weight and Balance. 79
19.5. Loaded Weapons. 79
19.6. Cargo Validation. 79
19.7. Hazardous Cargo. 79

Chapter 20—FUEL PLANNING **81**

20.1. Fuel Conservation. 81
20.2. Fuel Planning/Management. 81
Table 20.1. Fuel Planning Chart. 81
20.3. Emergency Fuel. 82
20.4. Fuel Computations for Class II Routing. 82

Chapter 21—TACTICS **83**

21.1. General. 83
21.2. Tactics Flight Training. 83
21.3. PIC. 83

Chapter 22—AEROMEDICAL EVACUATION **84**

22.1. Mission. 84
22.2. Definitions. 84
22.3. Pilot in Command Responsibilities. 84
22.4. Aeromedical Crew Responsibilities. 85
22.5. Patient Preparation. 85
22.6. Patient Death in Flight. 85
22.7. En Route Diversions. 85
22.8. Aircraft Pressurization. 85
22.9. Passengers and Cargo. 85
22.10. AE Call Sign and Use of Priority Clearance. 85
22.11. Load Message. 85

Chapter 23—EVALUATIONS **86**

23.1. General. 86
Table 23.1. General Criteria. 87
23.2. Emergency Procedures Evaluation (EPE). 87
23.3. Use of Simulator. 87
23.4. Publications. 87

23.5. Instrument (INSTM) Evaluation. 87
23.6. Qualification (QUAL) Evaluation. 88
23.7. Operational Mission Evaluation (OME). 88
23.8. Instructor (INSTR) Evaluation. 89
23.9. SPOT Evaluation. 89
23.10. Administrative Upgrade. 89

Chapter 24—GRADING CRITERIA **90**

24.1. General Grading Standards. 90
24.2. Area A: Ground Phase. 90
24.3. Area B: General. 90
24.4. Area C: Qualification. 93
24.5. Area D: Instrument. 97
24.6. Area E: Instructor 101

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION **103**

Chapter 1

GENERAL

1.1. Objective. This manual provides training, operational, and evaluation guidance to C-12 aircrew. When guidance in this AFMAN conflicts with a parent or source document, that document takes precedence. If a conflict is identified, notify AFMC/A3V.

1.1.1. For the purposes of this manual, the Defense Intelligence Agency (DIA) is considered a MAJCOM and the Chief, DIA Air and Maritime Operations, is equivalent to an Air Force operations group commander (OG/CC).

1.1.2. Each MAJCOM may supplement this AFMAN. MAJCOM supplements may be more, but not less restrictive than this manual.

1.1.2.1. MAJCOM supplements require coordination with AFMC/A3V and Aircrew Task Force (ACTF).

1.1.2.2. Units below MAJCOM level will forward copies of their proposed supplements to this publication to their MAJCOM for review and approval.

1.1.3. Each MAJCOM may set training requirements lower than specified in this instruction when the statement "or as specified in MAJCOM supplement" is indicated as applicable to that item or event.

1.2. Key Words Explained.

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

1.2.2. "Should" is normally used to indicate a preferred, but not mandatory, method of accomplishment.

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

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

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

1.3. Waiver Authority.

1.3.1. For waivers requiring Lead MAJCOM approval, email AFMC Form 73, *AFMC Waiver and Approval Request,* through user MAJCOM/A3V to AFMC/A3V.

1.3.2. AFMC/A3V is the waiver authority for formal school flying training syllabus and formal school prerequisites.

1.3.3. MAJCOM/A3 is the waiver authority for the senior officer course syllabus.

1.3.4. The OG/CC is the waiver authority for ground and flight currency events for assigned aircrew and determines the allowable time period of the waiver.

1.4. Roles and Responsibilities. When MAJCOMs, operations groups, squadrons or units are referenced in this AFMAN and users do not fall under this organizational structure then the equivalent agency or unit is substituted.

1.4.1. AFMC is designated lead command for the C-12 mission design series (MDS) aircraft as specified in AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems*. AFMC/A3V is the OPR for C-12 training and operations policy contained in this AFMAN.

1.4.2. Using commands may supplement this AFMAN and are responsible for transmitting their formal training requirements to AFMC/A3V.

1.4.3. Wing Commander. Wing commanders ensure unit, local-level agencies, and facilities support assigned C-12 unit/mission. Host and/or co-located units may develop local agreements to support unit needs.

1.4.4. Operations Group Commander. The OG/CC is responsible for conducting a Training Review Panel (TRP) on a fiscal semiannual period (frequency may be increased as required). (T-3). The TRP should review staff and aircrew management actions necessary to complete flight and ground training (GT) programs. TRP topics should include, but are not limited to, current and forecast ground/flight training levels, (GTL/FTL), upgrade and continuation training status, semiannual requirement completion rates, crew position gains/losses, aircraft commander, instructor and evaluator upgrades. The panel should also review all unit defined training "X" events for relevancy.

1.4.5. Unit Commander. The Unit/CC is responsible for ensuring required crewmember training is accomplished and for reviewing training and evaluation records of newly assigned crewmembers to determine what training will be required to complete/certify the individual as basic aircraft qualified, basic mission capable, or mission ready. **(T-3).**

1.4.6. Pilot in Command Authority**.** The Pilot in Command (PIC), regardless of rank, is responsible for, and is the final authority for the operation of the aircraft. **(T-2).**

1.5. Failure to Progress or Complete Training. If a student fails to progress or complete training, the student's commander will: (1) allow student to continue/complete training; (2) refer the student to a Flying Evaluation Board; or (3) refer the student to the Air Force Personnel Center for reassignment. **(T-3)**.

1.6. Use of Flying Hours. Structure unit flying training missions to achieve optimum training. It is essential that all personnel at all levels prevent the misuse of government resources as well as the perception of misuse when planning and executing local or off-station training missions. The OG/CC (or equivalent) may approve upgrade, qualification or special qualification training on operational missions when not restricted by weapon system operating procedures or specific theater rules. Unit commanders must ensure that training does not degrade mission effectiveness. **(T-3).**

1.7. Aircrew Training While DNIF. Crewmembers whose status is "duty not involving flying" (DNIF) may accomplish ground or simulator (SIM) training if the member's physical condition allows it. The flight surgeon initiating DD Form 2992, *Medical Recommendation for Flying or Special Operational Duty* shall include GT limitations if applicable. **(T-1).**

1.8. Programmed Flying Training (PFT). The C-12 PFT process is managed by AFMC/A3V. The PFT program balances available training quotas, schoolhouse capacity and course requirements on a fiscal year basis.

Chapter 2

FORMAL PROGRAMMED QUALIFICATION TRAINING

2.1. General Requirements. This chapter only governs training accomplished by completing a programmed formal training (PFT) course listed in the Education and Training Course Announcement (ETCA). Non-PFT training, also referred to as in-unit or local training, is under the purview of the owning MAJCOM. See **Chapter 5** for in-unit/local training guidance.

2.2. Qualification Training Prerequisites. Complete qualification prerequisites in accordance with AFI 11-202V1 and the ETCA. Student must meet prerequisites in **Table 2.1** prior to commencing qualification training. **(T-2).**

Table 2.1. Upgrade Requirements.

From	To	Prerequisites	Tasks and Events Required	Notes
Unqualified Pilot (UP)	Qualified Pilot (FP)	Previous military qualification in a manned, fixed-wing aircraft	Complete appropriate ETCA course and training events in **Table 2.2.**	1
FP	Mission Qualified Pilot (MP)	See **Chapter 5**	See **Chapter 5**	
MP	Instructor Pilot (IP)	• Current MP certification • 100 hours in the primary aircraft assigned after MP certification, or • 50 hours in the primary aircraft assigned after MP certification if previously rated as a military fixed-wing instructor pilot • Unit CC recommendation	Complete appropriate ETCA course	2, 3
IP	Evaluator Pilot (EP)	See **Chapter 5**	See **Chapter 5**	

Notes:

1. The prerequisite for a previous military fixed-wing qualification does not apply to first-assignment USAF Undergraduate Pilot Training (UPT) graduates. Except for USAF first-assignment UPT graduates, students without a previous military qualification in a manned, fixed-wing aircraft must complete a Lead MAJCOM-approved fixed-wing conversion course prior to beginning C-12 qualification training. **(T-2).** Contact AFMC/A3V to approve the proposed conversion course.

2. Students must attain all flying hour requirements prior to entry into an IP upgrade course. **(T-2).** Only primary or secondary time (aircraft or simulator) is creditable towards PAA time.

3. Pilots without a minimum of 500 hours total fixed-wing time prior to entering IP qualification

training must have at least 200 C-12 total MP time. **(T-2).**

2.3. Ground Training. Events listed in **Table 2.2** are required to be accomplished during initial aircraft qualification training. **(T-1).**

Table 2.2. Initial Qualification Ground Training Requirements.

Code	Event
G130	Instrument Refresher Course (IRC)
G231	Initial Cockpit/crew Resource Management (CRM) Training
G240	CRM Simulator
LL01	Aircrew Flight Equipment Familiarization Training
LL03	Egress Training (non-ejection)
LL06	Aircrew Flight Equipment Training
Note: G005 Flight Physical and G006 Physiological Training are mandatory grounding items and students must be current in these items for the duration of training. **(T-1).**	

2.4. Multiple Qualifications. The C-12C/D/F/J are considered the same MDS and do not require separate/multiple qualifications. The MC-12 and the C-12 are not the same MDS.

2.5. Senior Officer Qualification Training Requirements. Senior officers are typically assigned FTL E for continuation training purposes. If desired, senior officers (assigned or attached) may receive training that leads to a higher level of qualification.

2.6. Concurrent re-qualification. Basic and instructor re-qualification may be conducted simultaneously when approved by the OG/CC.

Chapter 3

MISSION READY TRAINING

3.1. Description. This chapter establishes minimum criteria and training requirements for attaining Mission Ready (MR) status. Except where specifically stated, units may arrange mission sequence or sequence of items as necessary to use flying training hours effectively and accomplish the unit mission.

3.1.1. Crewmembers pursuing MR status will accomplish FTL D continuation training requirements. **(T-2).**

3.1.2. Upon completion of mission certification training, crewmember's training levels are changed as appropriate and prorated from the date mission certification status was gained.

3.2. Ground Training (GT) Requirements. Pilots must complete **Table 3.1** training events prior to mission certification. **(T-2).**

3.2.1. GT accomplished during formal training or mission qualification training establishes due dates for subsequent continuation training.

3.2.2. Any Department of Defense (DoD) component approved equivalent training meets the requirement for G005, G006, G280, SS02, SS03, and SS05. For example, a Marine pilot may take credit for completing Navy Water Survival and the completion date of that event will be used to establish the date next due for SS05.

3.2.3. Use the AF Form 1522, *ARMS Additional Training Accomplishment Report*, to document training.

Table 3.1. Mission Ready Training Requirements.

Code	Event	**Notes**
G005	Flight Physical	1, 8
G006	Physiological Training	1, 8
G010	Chemical, Biological, Radiological, Nuclear (CBRN) Defense Training	5, 9
G060	Tactics	3, 9
G080	Communications Procedures	3, 9
G090	Anti-Hijacking	5
G100	Law of War	
G110	Force Protection	5, 7
G120	Isolated Personnel Report (**ISOPREP**) Review	3, 5, 7, 9
G130	Instrument Refresher Course (IRC)	2
G182	Hazardous Cargo	3, 9
G231	Initial CRM Training	2
G240	CRM Simulator	2

G280	Small Arms Training	3, 9
LL01	Aircrew Flight Equipment Familiarization Training	1, 8
LL03	Emergency Egress Training, Non-Ejection	1, 2, 8
LL04	Aircrew CBRN Training (ACBRNT)	3, 4, 7, 9
LL05	Egress Training, non-ejection, with the aircrew CBRN ensemble (ACBRNE)	3, 4, 7, 9
LL06	Aircrew Flight Equipment Training	2, 8
SS01	Local Area Survival	8
SS02	Combat Survival Training	3, 5, 6, 9
SS03	Conduct After Capture	3, 5, 6, 9
SS05	Water Survival Training	5, 6

Notes:
Previously certified and qualified mission ready crewmembers transferring between units only need to accomplish G120 and any applicable events in which they have lost currency.

1. Mandatory grounding item after expiration date; individual will not fly until required training is accomplished. **(T-2).** Students must complete SS01 and LL01 before the first flight after permanent change of station. **(T-2).**

2. Events may be accomplished at formal school or in-unit.

3. Formal schoolhouse instructors must be current in these items before flying an operational mission. **(T-2).**

4. Not applicable in units not equipped.

5. Flight Surgeons on mobility status accomplish these events.

6. This refresher training is based on the date initial training (SS20 or SS22/SS32) was accomplished and is independent of aircraft and assignment. Accomplish in accordance with AFI 16-1301, *Survival, Evasion, Resistance, and Escape (SERE) Program*.

7. Required prior to first mission outside the 48 contiguous states of the United States (OCONUS).

8. Required prior to first flight in aircraft.

9. Applicable when required to accomplish assigned employment mission. Not applicable to senior or staff officers only maintaining Basic Aircraft Qualification.

3.3. Flying Training Requirements. Crewmembers must accomplish items in **Table 3.1** annotated with Note 1 prior to participating in flight activity. **(T-1).**

3.3.1. Crewmembers must complete the following flying training requirements prior to being certified mission ready:

3.3.1.1. Local or unit orientation training flight with an instructor. **(T-1).**

3.3.1.2. Mission observation flight with an instructor. **(T-1).**

3.3.1.3. Operational mission with an instructor. **(T-1).**

3.3.2. Complete ACBRN Task Qualification Training prior to flying OCONUS missions when units are appropriately equipped.

Chapter 4

CONTINUATION TRAINING

4.1. Description. This chapter establishes the minimum flying and related GT requirements to maintain currency.

4.2. Aircrew Status. C-12 crewmembers are assigned Mission Ready (MR), Basic Mission Capable (BMC), Basic Aircraft Qualified (BAQ), or Non-Mission Ready (NMR) status.

4.2.1. MR. For Status of Resources and Training System (SORTS), operational tasking, and deployments, a MR crewmember is defined as one who is available, current and qualified or certified in the unit's mission (completed mission qualification/certification training).

4.2.2. BMC. A non-mission ready crewmember assigned to MAJCOM headquarters, numbered Air Force (NAF), formal schoolhouse, or direct reporting unit who has satisfactorily completed mission qualification training and does not maintain MR status, but maintains familiarization in the command or unit operational mission. The crewmember may maintain qualification in some aspects of the unit mission and is able to attain full qualification in the unit mission within 45 calendar days. BMC crew-members may log instructor or evaluator time for the portion of the mission for which they are current and qualified. Otherwise, they log flight pilot (FP) time.

4.2.3. BAQ. A pilot that has satisfactorily completed initial qualification training and is qualified to perform aircrew duties in the unit aircraft.

4.2.4. NMR. A crewmember is NMR when non-current or unqualified in the aircraft, incomplete in required continuation training, or not certified to perform the unit mission. **Note:** If the crewmember is NMR for failure to maintain currency, place the crewmember in supervised status for that event until required training is accomplished. Non-current crewmembers may fly unsupervised on local, routine, and non-contingency missions on which events in the delinquent category are not accomplished.

4.3. Training Levels (TL).

4.3.1. The Unit/CC determines each crewmember's TL prior to the start of each semiannual period. New unit crewmembers are assigned a TL during in-processing. Assigned TL's are based on experience and proficiency.

4.3.2. Flying Training Levels (FTL):

4.3.2.1. FTL A--Highly experienced crewmembers with a minimum of 120 gate months (or equivalent for non-AF pilots) or a minimum 1,500 total flying hours.

4.3.2.2. FTL B--Experienced, mission ready crewmembers with a minimum of 60 gate months (or equivalent for non-AF pilots) or a minimum of 750 total flight hours.

4.3.2.3. FTL C--MR crewmembers.

4.3.2.4. FTL D--BAQ crewmembers. Designated primarily for individuals pursuing MR status after initial qualification training.

4.3.2.5. FTL E--BAQ, non-instructor staff (may include senior officers, MAJCOM, and NAF individuals that are not maintaining MR or instructor status). FTL E requirements are

insufficient for MR status. Crewmembers assigned to FTL E must fly with an instructor of like specialty at all times. **(T-2).**

4.3.3. Ground Training Levels (GTL):

4.3.3.1. GTL 1-- Assign GTL for C-12 crewmembers not assigned GTL 4.

4.3.3.2. GTL 4-- Assign GTL 4 to senior officers, staff officers, and those not required to maintain MR status.

4.4. Training Events and Training Requirement Tables. Standard Aircrew Resource Management System (ARMS) training event identifiers and descriptions are located in **Chapter 7.** Unit defined events are designated "X" events (e.g. X020).

4.5. Continuation Training Requirements. The continuation training program is based on semi-annual periods. MAJCOMs or equivalent may employ either calendar-year- (1 Jan-30 Jun, 1 Jul-31 Dec) or fiscal-year-based (1 Oct-31 Mar, 1 Apr-30 Sep) semi-annual periods. Ground and flight continuation training requirements are outlined in the following paragraphs.

4.5.1. Crewmembers who are unqualified in the aircraft cannot log continuation training events until they are qualified.

4.5.2. Simulator Credit for Training Events.

4.5.2.1. Crewmembers may credit events accomplished in the SIM unless otherwise specified by the respective event description in **Chapter 7** or **Table 4.4**.

4.5.2.2. Pilots may maintain or regain currency events accomplished in the SIM.

4.5.2.3. Pilots shall not log more than half of their semiannual events in the simulator. **(T-3).**

4.5.2.4. Instructor upgrade simulator training may be credited for annual refresher simulator.

4.5.3. Instructors and flight examiners may dual log events flown by the student/examinee. Limit dual logged events to no more than 50% of required. **(T-3). Exception:** Instructors and flight examiners cannot take credit for any takeoffs or landings flown by another pilot.

4.5.4. Ground Continuation Training Requirements. Crewmembers will comply with requirements of **Table 4.1** and **Table 4.2**. **(T-1).**

4.5.4.1. Failure to accomplish the events in **Table 4.1** will result in a non-mission ready status. **(T-3).** See **paragraph 4.9** for regaining mission ready status.

4.5.4.2. Local training missions may be flown before completing all MR items, provided Flight Physical, Physiological Training, Aircrew Flight Equipment Familiarization Training, Emergency Egress Training, and Marshaling Exam are accomplished.

4.5.4.3. Failure to complete mobility training requirements in **Table 4.2** does not result in non-mission ready status but may restrict member from certain missions.

4.5.4.4. Ancillary training events do not affect mission ready status nor restrict crewmembers from any mission.

4.5.4.5. Flight Surgeons requirements are listed in **Table 4.3**.

4.5.4.6. Combined events may have one consolidated ARMS entry.

Table 4.1. Ground Continuation Training Requirements.

Code	Event	GTL 1	GTL 4	Notes
G005	Flight Physical	455d	455d	1, 4
G006	Physiological Training	5Y	5Y	1, 4
G060	Tactics	A		3, 5, 8,
G080	Communications Procedures	A		3, 5, 7
G090	Anti-Hijacking	B		8
G130	Instrument Refresher Course	17 mo	17 mo	6
G182	Hazardous Cargo Training	T		5, 8, 9
G230	CRM Refresher Academics	A	A	8
G240	CRM SIM	A		2, 8
G250	Refresher SIM	A		8
LL03	Emergency Egress Training	A	A	1
LL06	Aircrew Flight Equipment Training AFET	A	A	3, 8, 10
SS02	Combat Survival Training	Note 11	Note 11	8, 11
SS05	Water Survival Training	Note 11	Note 11	8, 11

Notes:
A-Annual, T-Triennial, B-Biennial, S-Semiannual, Y-years, mo-months, d-calendar days
1. Mandatory grounding item on expiration date. May not fly until required event is accomplished.
2. CRM training is accomplished during annual SIM Refresher training.
3. Required for schoolhouse instructors before flying operational missions.
4. See event description in **Chapter 7** for additional information on currency requirements.
5. Applicable when required to accomplish assigned employment mission.
6. In accordance with AFMAN 11-210, Instrument Refresher Program (IRP).
7. OG/CC may approve an extension of up to six months.
8. The OG/CC is the waiver authority for this event.
9. With Unit/CC (or designated representative) approval, an individual NMR for failure to complete Hazardous Cargo Training (G182) may fly unsupervised on local training missions not requiring the overdue event.
10. LL06 should be accomplished in conjunction with SS02, LL03, or SS05. See **Chapter 7**.
11. Training frequency and attendance requirements are in accordance with AFI16-1301.

Table 4.2. Mobility Training Requirements.

Code	Event	GTL 1	GTL 4	Notes
G010	CBRN Defense	B		6
G100	Law of War	A		
G110	Force Protection	A		
G120	ISOPREP review	180d		2, 5
G280	Small Arms Training	24 mo		6, 8, 9
G284	Explosive Ordnance Reconnaissance Training	B		6
LL04	Aircrew Chemical Defense Training	B		3, 4, 6, 7
SS03	Conduct after Capture	Note 10	Note 10	6, 7
SS07	Contingency Survival Evasion Resistance Escape (SERE) Indoctrination	Note 10	Note 10	1, 6, 7, 10

Notes:
A-Annual, AR-As Required, B-Biennial, T-Triennial, Y-years, mo-months, d-calendar days
1. Requirement established by MAJCOM
2. G120 currency expires 180 calendar days from last accomplishment.
3. LL04 may be taught in conjunction with LL05 (ACBRNE) for MR crewmembers.
4. Not applicable when unit is exempted from Mission Oriented Protection Posture.
5. See event description in **Chapter 7** for additional information on currency requirements.
6. Applicable when required to accomplish assigned employment mission.
7. The OG/CC is waiver authority for this event. See **paragraph 4.9.2.**
8. Required for schoolhouse instructors before flying operational missions.
9. G280 currency expires two years from date of accomplishment.
10. Training frequency and attendance requirements are in accordance with AFI 16-1301.

Table 4.3. Flight Surgeon Ground Continuation Training Requirements.

Code	Event	Frequency	Notes
G005	Flight Physical	12mo	1, 4, 5
G006	Physiological Training	5Y	1, 4, 5
G010	CBRN Defense Training	B	2
G090	Anti-Hijacking	T	2, 6
G110	Force Protection	A	2
G120	ISOPREP Review	180d	2, 3, 4
LL03	Emergency Egress Training	A	1, 5
LL06	AFET	T	6, 7,
SS02	Combat Survival	Note 8	2, 6, 8
SS05	Water Survival	Note 8	2, 6, 8

Notes:
A-Annual, B-Biennial, C-Check Cycle, T-Triennial, Y-years, mo-months, d-calendar days
1. Mandatory grounding item.
2. Flight Surgeons without a mobility requirement do not need to accomplish this training.
3. G120 currency expires 180 calendar days from date of accomplishment.
4. See event description in **Chapter 7** for additional information on currency requirements.
5. Flying units with attached (not assigned) flight surgeons are only required to track the following events in ARMS: LL03, G005, G006, SS02, and SS05.
6. The OG/CC is waiver authority for this event. See **paragraph 4.9.2.**
7. LL06 should be accomplished in conjunction with SS02, LL03, or SS05.
8. Training frequency and attendance requirements are in accordance with AFI 16-1301.

4.5.5. **Table 4.4** lists standardized flying continuation training requirements.

4.5.5.1. All C-12 pilots are dual seat qualified, and may accomplish training events in either seat.

4.5.5.2. Credit individual flying requirements for each item satisfactorily completed on a recurring instrument, qualification, or mission evaluation.

Table 4.4. Semiannual Flying Continuation Training Requirements.

		Flying Training Level						
Code	Event	A	B	C	D	E	C U R	**Notes**
M010	Proficiency Sortie	2	2	2	2			
M020	Unit Specific Training Sortie	1	1	1	1			5
M050	Tactical Proficiency Sortie	1	1	1	1			1, 5, 6, 8
M110	Threat Scenario Sortie	1	1	1	1			1, 5, 6, 8
P020	Takeoff	8	12	18	24	6	M	7
P040	Simulated Engine failure after takeoff	2	2	2	2			
P070	Instrument approach	6	9	12	14	6	M	
P090	Instrument approach manual (Autopilot disengaged prior to FAF)	3	3	6	6			
P100	Precision approach	3	3	3	4	2		
P110	Nonprecision approach	3	3	3	4	2		
P116	NDB Approach	1	1	1	1			
P117	GPS Approach	2	2	2	2			
P130	Circling	2	2	2	2			
P140	Visual Approach	2	2	2	2			
P150	Missed approach	2	2	2	2	1		
P170	Approach and GA (sim eng-out)	2	2	2	2			
P180	Approach and landing (sim eng-out)	2	2	2	2			
P190	Landing	6	9	18	24	6	M	7
P192	Landing night	2	2	2	2		Q	4, 7
P270	SECURE RADIO operations	2	2	2	2			2, 3, 8
P271	Authentication procedures	1	1	1	1			2, 3, 8
P280	ACBRN TQT	A	A	A	A			2, 3
RS00	Tactical Arrival	1	1	1	1			1, 5, 6, 8
RS06	High Altitude Tactical Arrival	1	1	1	1			1, 5, 6, 8

RS16	Low Altitude Tactical Arrival	1	1	1	1			1, 5, 6, 8
RS20	Tactical Departure	1	1	1	1			1, 5, 6, 8
RS26	High Altitude Tactical Departure	1	1	1	1			1, 5, 6, 8
RS36	Low Altitude Tactical Departure	1	1	1	1			1, 5, 6, 8

Notes:
A-Annual, M-Monthly, Q-Quarterly
1. Requirement is for Aircraft Commander and above.
2. Units with appropriately equipped aircraft.
3. Perform in conjunction with LL04 when practicable.
4. Alaska assigned units and USDAO Oslo (DIA) may substitute "180d" for "Q"
5. Requirement determined by MAJCOM.
6. Only applicable to crewmembers certified for these maneuvers.
7. SIM credit for this event is only allowed for pilots assigned FTL A or B.
8. Tactical training is unit specific and required only when units have a tactical mission.

4.6. Flight Surgeon Continuation Flying Requirements. Flight surgeon requirements are in accordance with AFI 11-202V1.

4.7. Failure to Complete Continuation Training Requirements. Individuals shall be coded NMR if they fail to complete ground or semiannual flying continuation training requirements. **(T-3).**

4.7.1. For crewmembers coded NMR, the commander may:

4.7.1.1. Direct training to regain MR status.

4.7.1.2. Request an OG/CC waiver to those events non-current in. The OG/CC or equivalent may waive ground continuation training events identified in **Table 4.1**., **Table 4.2**, and **Table 4.3**. OG/CC will determine the allowable time period of the waiver. **(T-3).**

4.7.2. Regaining Currency.

4.7.2.1. For loss of currency up to 6 months a crewmember must demonstrate proficiency in the aircraft with an instructor in all delinquent items. **(T-2).**

4.7.2.2. For loss of currency exceeding 6 months in flying currency events identified in **Table 4.4**, the crewmember is unqualified in the aircraft and must complete requalification training and an aircrew evaluation. **(T-2).**

Chapter 5

IN-UNIT TRAINNG

5.1. General. In-unit initial qualification training should only be used if formal school course quotas are not available. The MAJCOM training office is the approval authority for conducting in-unit initial training that will result in an AF Form 8, *Certificate of Aircrew Qualification*. **Note:** Requalification training is in accordance with AFMAN 11-202V1.

5.1.1. In-unit training time limitations are in accordance with **Table 5.1**. **(T-3).**

Table 5.1. In-Unit Training Time Limitations.

Training	Limit (calendar days)
Initial Qualification	120
Difference	60
Requalification	90
Mission	90
Instructor	60
Local orientation/theater indoctrination	45
Senior Officer Course	30

5.1.1.1. Training time starts with the first significant training event directly contributing to qualification and upgrade (e.g. Computer-based training lesson, ground training, flight) or 45 calendar days after being attached or assigned to the unit after completion of the formal school, whichever occurs first (or as specified in MAJCOM supplement).

5.1.1.2. Training time ends with the successful completion of one of the following events: flight evaluation (if required as part of the training program), instructor validation of successful program completion ("sign-off"), or squadron commander certification (if required as part of the training program).

5.1.1.3. Units will notify the appropriate Group/CC if upgrade training time limits are exceeded. **(T-3).** Include reason for delay, unit corrective action to resolve and prevent recurrence, and estimated completion date.

5.1.1.4. Unit/CC may extend training time up to 60 calendar days. Extension approval must be document in writing. Extensions over 60 calendar days require OG/CC approval. **(T-3).**

5.1.2. Pilots upgrading in-unit must meet the **Table 5.2** requirements. **(T-2).**

Table 5.2. In-Unit Training Requirements.

From	To	Prerequisites	Tasks and Events Required	Notes
UP	FP	Previous military qualification in a manned, fixed-wing aircraft	Complete appropriate MAJCOM approved syllabus and training events in **Table 2.2.**	3
FP	MP	• Unit/CC recommendation • Unit MR status • Flying hours (Total/PAA): 400 / 200 (or) 700 / 100 (or) 1000 / 50	Complete appropriate MAJCOM approved syllabus.	1, 2, 5, 6
MP	IP	• Current MP certification • 100 hours in the primary aircraft assigned after MP certification, or • 50 hours in the primary aircraft assigned after MP certification if previously rated as a military fixed-wing instructor pilot • Unit CC recommendation	Complete appropriate MAJCOM approved syllabus.	1, 4
IP	EP	• Current IP qualification • Unit CC recommendation		

Notes:

1. Only primary or secondary time (aircraft or simulator) is creditable towards PAA time.

2. Students must attain all flying hour requirements prior to entry into the upgrade. **(T-2).**

3. Students without a previous military qualification in a manned, fixed-wing aircraft must complete a MAJCOM-approved fixed-wing conversion course prior to entering C-12 qualification training. **(T-2).**

4. Pilots without a minimum of 500 hours total fixed-wing time prior to entering IP qualification training must have at least 200 C-12 total MP time. **(T-2).**

5. Upgrade ends when commander certifies pilot as Mission Qualified Pilot (MP, Aircraft Commander). Flight evaluation is optional (DIA/DSCA: For pilots with less than 100 hours fixed-wing PIC time, contact DIA/DAS4 for guidance). Document MP qualification on AF Form 8.

6. Only a previously certified Aircraft Commander (any aircraft) is eligible to upgrade using the 1000/50 flying hours requirements. The 1000 total hours requirement must be fixed-wing time.

5.2. Flight Pilot (FP) Qualification.

5.2.1. Unit/CCs may approve first assignment Undergraduate Pilot Training (UPT) graduates with C-12/T-44 syllabus hours to complete in-unit FP qualification rather than attend the formal initial qualification course.

5.2.2. Unit/CC may approve MC-12 pilots qualifying in the C-12 to complete in-unit FP qualification. Accomplish the C-12 Refresher Simulator (G250) in conjunction with the in-unit qualification. The Refresher Simulator must be completed prior to mission certification but may occur after the flight evaluation. **(T-2).**

5.2.3. In-unit C-12 FP upgrade training must include:

5.2.3.1. **Table 2.2** *, Initial Qualification Ground Training Requirements.* **(T-2).**

5.2.3.2. Instructor continuity in academic and flight training. **(T-2).**

5.2.3.3. Adequate training sorties meeting training guide/syllabus. **(T-2).**

5.2.3.4. An aircraft flight evaluation. **(T-2).**

5.3. Mission Pilot (MP) Qualification.

5.3.1. MP certification is based on the pilot having gained the knowledge and judgment required to effectively accomplish the unit's missions.

5.3.2. On completion of MP training, candidates may be administratively upgraded. Pilots will not be designated pilot in command until certified as an aircraft commander by the unit/CC. **(T-3).**

5.4. Instructor Pilot (IP) Qualification. IP candidates must complete a MAJCOM approved course or instruction that includes both flight training and classroom academics. **(T-2).** Instructor candidates should be selected based on experience, judgment, ability to instruct, flying skill, and technical knowledge.

5.4.1. Instructor upgrade candidates that have never been instructor qualified in any other aircraft must complete an instructor preparatory course (IPC). **(T-2).** IPC teaches instructor candidates principles and methods of instruction. AFMC/A3V offers an approved distance learning IPC.

5.4.2. On completion of instructor qualification training, IP candidates will be administered an evaluation. Pilots will not be IP coded until certified by the Unit/CC. **(T-2).**

5.5. Examiner Pilot (EP) Certification. Unit/CC selects instructors for flight examiner certification. Flight examiner candidates must complete a flight examiner certification course unless the candidate was a previously qualified flight examiner (in any aircraft). **(T-2).** The certification course must include, at a minimum, the following:

5.5.1. Observation of qualified examiners conducting a cross-section of evaluations, to include techniques used to evaluate aircraft systems and flight directive knowledge. **(T-2).**

5.5.2. Thorough review of applicable Air Force and MAJCOM evaluation guidance plus ground event and flight maneuver criteria. **(T-2).**

5.6. Special Qualifications. Functional Check Flight (FCF) pilots should be a highly experienced instructor pilots. FCF training must include a review of Technical Order (T.O.) 1C-

12 (appropriate model)-6CF-1, a written examination, and fly as copilot on a minimum of one FCF prior to unit/CC certification. **(T-3).**

5.7. Conversion Training Requirements. When possible, qualified personnel in other units provide the initial cadre. In some instances, it is necessary for units to form an initial cadre of aircrew personnel for whom certain training qualification requirements may be waived. The following conditions apply to the management of initial cadre aircrew qualification:

5.7.1. Select cadre from a nucleus of instructor and flight examiner personnel to begin aircrew conversion. Send initial cadre approval request to MAJCOM/A3V.

5.7.2. After MAJCOM approval, publish a unit letter to identify initial cadre of instructors and flight examiners by crew position.

Chapter 6

AIRCREW TRAINING SYSTEM (ATS)

6.1. Description. ATS contractors provide academic, simulation, and flight training. Air Force evaluator pilots normally administer end-of-course evaluations but qualified contractor evaluators may conduct evaluations if requested by the government representative.

6.2. Applicability. This chapter applies to all crewmembers attending formal schools using ATS courseware. AFMC/A3V manages the content of C-12 contractor provided training. Students do not have the authority to levy requirements on ATS contractors. **(T-1).**

6.3. Dedicated Training Time. It is imperative that students complete their training in a timely manner. Students should be relieved of duties not directly related to training. **Exception**: Supervisory personnel may continue supervisory duties as time permits.

6.4. ATS Course Prerequisites. Consult the ETCA to identify prerequisites for student enrollment/participation.

6.5. Course Material. The ATS contractor provides required training guides.

6.6. CRM Training. CRM training is incorporated into each ATS administered aircraft qualification training course. CRM training teaches crewmembers to cope with potential problems in human behavior affecting aircrew performance. Documented studies of aircraft accidents and additional data suggests most human behavior problems observed among aircrews could be grouped into six categories: communication, situational awareness, team leadership, mission analysis, decision-making process, and stress management.

6.7. Unsatisfactory Student Progress. If a student's training progress is unsatisfactory, the contractor notifies the government representative responsible for program oversight. Following review of the student's record, the government representative determines whether to continue or terminate the student’s training.

Chapter 7

ARMS IDENTIFIERS

7.1. Description. ARMS event identifiers are standardized. Units may use the AF Form 4324, *Aircraft Assignment/Aircrew Qualification Worksheet*, to update aircrew certifications in ARMS. Blocks 1–5 and 11–13 are used to document award of specific ARMS "Q" code identifiers.

7.2. Academic "A" Identifiers.

7.2.1. A001- Initial Qualification Academic Course

7.2.2. A002- Aircraft Commander Upgrade Qualification Academic Course

7.2.3. A003- Senior Staff Orientation Course

7.2.4. A004- Senior Staff Qualification Course

7.2.5. A010- Instructor Academic Training.

7.2.6. A017- Regulation/Directive Knowledge/Use

7.2.7. A034- Requalification Course

7.2.8. A060- Flight Examiners Course

7.3. Ground "G" Events.

7.3.1. G002- Aircraft Marshalling Training and Examination. Review AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, and administer a 20-question test.

7.3.2. G005- Flight Physical. A DD Form 2992 is valid for 12 months plus 90 calendar days (455 calendar days total).

7.3.3. G006- Physiological Training. Currency expires 5 years after the last day of the month in which accomplished. Example: if training was accomplished 19 Oct 1998, training is due not later than 31 Oct 2003.

7.3.4. G010- CBRN Defense Training. Trains crewmembers to successfully survive and fight in a Chemical, Biological, Radiological, Nuclear environment while wearing ground crew individual protective equipment. Units may combine this training with LL04 (Aircrew Chemical Defense Training), provided both aircrew and ground ensembles are fully covered.

7.3.5. G060- Tactics. Unit developed courseware that provides crewmembers with information necessary for effective and successful execution of the unit's assigned employment mission.

7.3.6. G080- Communications Procedures. Ensures crewmembers possess a thorough knowledge of all communication and Communications Security (COMSEC) requirements.

7.3.7. G090- Anti-Hijacking. Provides aircrews with training on US Air Force policy and guidance on preventing and resisting aircraft piracy (hijacking).

7.3.8. G100- LOW Rules of Engagement (ROE). See requirements in AFPD 51-4, *Operations and International Law*.

7.3.9. G110- Force Protection. Provides detailed guidance for reporting and preventing terrorist activity. Include security reporting, safeguarding aircraft and COMSEC equipment, and individual responsibilities and protective measures.

7.3.10. G120- Isolated Personnel Report (ISOPREP) annual review.

7.3.11. G130- Instrument Refresher Course. Ensures pilots possess sufficient knowledge of all applicable directives, procedures, and techniques to assure safe and professional instrument flying.

7.3.12. G182- Hazardous Cargo Training. Familiarizes crewmembers with procedures and restrictions when carrying hazardous materials as cargo. Complete MAJCOM, wing or contractor-provided instruction designed to review aircrew hazardous procedures and AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials*.

7.3.13. G230- CRM Refresher. CRM continuation training conducted according to AFI 11-290, *Cockpit/Crew Resource Management Training Program*.

7.3.14. G231- Initial CRM Training. Aircraft and crew-specific CRM training. **Note:** Dual log with G230 for ARMS tracking purposes.

7.3.15. G240- CRM Simulator. Application of classroom-presented CRM refresher concepts addressing human factors issues flown in a simulator.

7.3.16. G250 Refresher Simulator. Classroom and SIM training should emphasize aircraft systems, aircrew emergency and abnormal procedures, standardization and CRM. Instrument flying proficiency is not the objective of annual simulator refresher training. Objective is to sample multiple events listed in **Table 7.1**. **Note:** Completing G250 dual credits G240

Table 7.1. Emergency Procedures Guide.

Start/Taxi/Runup	Takeoff	Cruise	Landing
- Engine Fire - Hot Start - No Ignition - Clearing Procedures - Zero Oil Pressure - Propeller Collision - Overspeed Gov. Fail - Primary Gov. Fail - Low Pitch Failure - Comp. Bleed Valve - Gen. Failure to Reset - Current Limiter Failure - Rudder Boost Failure - Autopilot Test Failure - Frozen Brakes	- Tire Failure - Eng. Fail/Fire <V1 - Eng. Fail/Fire >V1 - Eng. Fail>V1 Heavy Weight w/ Obstacle Departure Procedures - Departing Prep. Surface - Auto Feather Not Armed - Auto-Ign. Not Armed - Battery Charge Light - Bleed Air Fail > V1 - Aircraft Fails to Pressurize - Flaps Fail to Retract - Gear Fails to Retract	- Fuel System - Engine Failure/Fire - Hydraulic Low Warning - Anti-Ice - Smoke and Fumes - Electrical Failure/ Fire - Inverter Failure - 26VAC Failure - Autopilot Failure - Battery Charge Light - Prop Over/Under speed - Loss of Pressurization - Avionics Master Failure	- Unsafe Gear - Tire Failure - Manual Gear Extension - Engine Failure on Final - Reverse Failure - Brake Failure

	- Gear Power pack continues to run - Gear Handle Stuck Down	- Bleed Air Failure - Current Limiter Failure - Trim Failure - No Fuel Transfer - Chip Detect	

7.3.17. G280- Small Arms Training/Cabin Combat Arms Training. Trains crewmembers in successful engagement of enemy targets within the range and capabilities of their assigned weapon.

7.3.18. G284- Explosive Ordnance Reconnaissance Training. Increases familiarity with various types of explosives and the emergency actions that should be taken when encountering unexploded ordnance.

7.4. Aircrew Flight Equipment — "LL" Events. Refer to AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program*, for general instructions.

7.4.1. LL01- Aircrew Flight Equipment Familiarization Training.

7.4.2. LL03- Egress Training, Non-Ejection.

7.4.3. LL04- Aircrew Chemical Biological Radiological Nuclear (ACBRN) Defense Training.

7.4.4. LL05- Egress Training with ACBRN.

7.4.5. LL06 Aircrew Flight Equipment Training.

7.5. Mission Specific "M" Events.

7.5.1. M010- Proficiency Sortie.

7.5.1.1. As a minimum, Instructors will include the following in a proficiency sortie:

7.5.1.1.1. Review of boldface emergency procedures. **(T-3).**

7.5.1.1.2. Three instrument approaches. **(T-3).**

7.5.1.1.3. Missed approach. **(T-3).**

7.5.1.1.4. Visual flight rules (VFR) traffic pattern (weather permitting). **(T-3).**

7.5.1.1.5. Review of a specific (squadron-determined) aircraft system. **(T-3).**

7.5.1.2. The following should be accomplished when available and applicable:

7.5.1.2.1. Holding pattern or procedure turn (to include entry).

7.5.1.2.2. Circling approach.

7.5.1.2.3. Simulated engine failure after takeoff.

7.5.1.2.4. Simulated engine-out landing.

7.5.1.2.5. Simulated engine-out go-around or missed approach.

7.5.1.2.6. Partial flap landing (if applicable).

7.5.1.3. If circumstances prevent completion of required events on one sortie, M010 credit may be taken after completing remaining events on a second sortie. Instructors should tailor each M010 to the individual pilot's needs. Particular emphasis should be placed on simulated systems malfunctions, simulated engine-out operations, and instrument procedures.

7.5.2. M020- Unit Specific Training Sortie. Requirement determined by units.

7.5.3. M030- Overseas Sortie. Requirement determined by units.

7.5.4. M050- Tactical Proficiency Sortie. Requirement determined by units.

7.5.5. M110- Threat Scenario Sortie. Requirement determined by units.

7.6. Crew and Individual Proficiency "P" Events.

7.6.1. P020- Takeoff. Initial takeoff or takeoff following a touch-and-go landing.

7.6.2. P025- Takeoff and Departure.

7.6.3. P040- Simulated Engine Failure After Takeoff.

7.6.4. P061- VFR Overhead.

7.6.5. P062- VFR Departure.

7.6.6. P063- VFR Arrival.

7.6.7. P070- Instrument Approach.

7.6.8. P071- Holding.

7.6.9. P090-Instrument Approach (Manual).

7.6.10. P100- Precision Approach.

7.6.11. P101- Instrument Landing System (ILS) Approach.

7.6.12. P110- Non-precision Approach.

7.6.13. P116- NDB Approach. Up to 100% of RMI Only VOR or TACAN Creditable in aircraft as NDB when NDB unavailable.

7.6.14. P117- GPS Approach.

7.6.15. P130- Circling.

7.6.16. P140- Visual Approach. A visual straight-in approach, tactical arrival or overhead VFR pattern meets the requirement for this event.

7.6.17. P150- Missed approach.

7.6.18. P170- Approach and Go-Around (Simulated Engine-Out).

7.6.19. P180- Approach and Landing (Simulated Engine-Out, Partial Flap).

7.6.20. P181- Approach and Landing (Simulated Engine-Out, Full Flap).

7.6.21. P190- Landing.

7.6.22. P192- Night Landing.

7.6.23. P270- Secure Radio Operations.

7.6.24. P271- Authentication Procedures.

7.6.25. P274- IFF/MODE IV Training. Ensures pilots have a working knowledge of IFF/MODE IV operations and are able to use Air Force COMSEC materials. Frequency: annual for FTL A thru D. Training is not required for FTL E. IFF/MODE IV is neither a grounding nor a non-mission ready item. Waiver authority is the unit/CC.

7.6.26. P280- An exercise emphasizing hands-on training dressed out in partial chemical defense (CD) ensemble.

7.6.26.1. The following aircrew CD items are used:

7.6.26.1.1. MBU-19/P hood and mask assembly.

7.6.26.1.2. Filter pack with filters and CQU-7/P blower assembly with filter canisters and batteries.

7.6.26.1.3. MXU-835 intercom assembly.

7.6.26.1.4. Filter pack suspension straps.

7.6.26.1.5. Glove set (cotton, butyl, Nomex®).

7.6.26.2. Both pilots may accomplish ACBRNT in the simulator at the same time. If performed in the aircraft, only one pilot will be dressed out at any time. Pilots will wear the ensemble, review emergency procedures, and accomplish at least one takeoff, approach, and landing, and complete all crew position checklists associated with approach and landing. **(T-3).**

7.7. Qualification and Certification "Q" Events.

7.7.1. Q001- Open-Book Qualification Examination.

7.7.2. Q002- Closed-Book Qualification Examination.

7.7.3. Q007- Senior Staff Basic Qualification Evaluation.

7.7.4. Q008- Instructor Evaluation.

7.7.5. Q015- Special Missions and Operations Qualification.

7.7.6. Q090- Flight Publications Check.

7.7.7. Q100- Operational Mission Evaluation.

7.7.8. Q160- Instrument Refresher Course Examination.

7.7.9. Q170- Flight Evaluation Folder Review.

7.7.10. Q587- Certification Airfield – PADK, Adak NAS, AK.

7.7.11. Q588- Certification Airfield – PALU, Cape Lisburne AFS, AK.

7.7.12. Q589- Certification Airfield – PAEH, Cape Newenham, AK.

7.7.13. Q590- Certification Airfield – PACZ, Cape Romanzof AFS, AK.

7.7.14. Q591- Certification Airfield–SLLP, El Alto International, Bolivia.

7.7.15. Q592- Certification Airfield – PAIM, Indian Mtn LRRS, AK.

7.7.16. Q593- Certification Airfield – BGSF, Sondre Stromfjord, Greenland.

7.7.17. Q594- Certification Airfield – PASV, Sparrevohn LRRS, AK.

7.7.18. Q595- Certification Airfield – PATL, Tatlina LRRS, AK.

7.7.19. Q596- Certification Airfield – PATC, Tin City LRRS, AK.

7.7.20. Q597- Certification Airfield – PADU, Unalaska, AK.

7.8. Special Ops and Tactics "RS, SS," Events. Note: For RS00, RS06, RS16, RS20, RS26, and RS36: Both pilots may log these events and if both pilots are current and qualified, these maneuvers may be flown with passengers on board provided crews pre-brief passengers of intent to conduct "tactical" maneuvers.

7.8.1. RS00- Tactical Arrival Event. A High Altitude or Low Altitude Tactical Arrival as specified in RS06 or RS16. Planning should focus on the tactical ingress during a fluid tactical scenario.

7.8.2. RS06- High Altitude Tactical Arrival. These approaches are used primarily when high or medium altitude ingress is necessary. Crew members should practice high altitude tactical arrivals from 10,000 feet AGL and above. There are two basic types; the Spiral Down (Clean) and the Spiral Down (Configured).

7.8.3. RS16- Low Altitude Tactical Arrival. These approaches are used primarily when low altitude ingress is necessary. These include the downwind, the overhead, the straight-in, teardrop, and abeam.

7.8.4. RS20- Tactical Departure Event. Continuation training for mission ready crews in Tactical Departures. Planning should focus on the tactical egress during a fluid tactical scenario.

7.8.5. RS26- High-Altitude Tactical Departure. This maneuver is used primarily when a departure at medium to high altitude is necessary. The maneuver requires a spiral climbing departure.

7.8.6. RS36- Low-Altitude Tactical Departure. This maneuver is used primarily when a departure at low altitude is necessary.

7.8.7. SS01- Local Area Survival. Determine personnel recovery tactics, techniques, and procedures applicable to local area flying operations. SS01 is a onetime requirement, to be accomplished prior to the first flight at each base of assignment. This course must be taught by a FEO, a qualified instructor pilot, or an AFE training instructor. **(T-3).**

7.8.8. SS02- Combat Survival Training. Academic and field training designed for crewmembers whose duties may include overflight of or deployment to hostile territory.

7.8.9. SS03- Conduct after Capture. Provides training for wartime, governmental, and hostage detention situations.

7.8.10. SS04- Non-Combat Survival Training. An academic and equipment training program designed for aircrews whose duties do not require them to fly over enemy territory (i.e., staff positions, training unit instructors, etc.).

7.8.11. SS05- Water Survival Training (WST). Academic and equipment training designed to provide crew-members the opportunity to demonstrate their ability to use all weapon-system specific flotation devices and components available during an over water emergency, employ water survival techniques, and practice rescue.

7.8.12. SS07- Contingency SERE Indoctrination. A combatant command directed activity that is designed to prepare high risk of capture personnel deploying to a specific theater of operations or contingency.

7.9. Air Force Specified "XX" Events.

7.9.1. AA01- Qualification Evaluation.

7.9.2. AA04- Closed Book Exam.

7.9.3. AA05- Open Book Exam.

7.9.4. AA11- Instrument Evaluation.

7.9.5. AA14- Instrument Refresher Course.

7.9.6. AA21- Combined Qualification and Instrument Evaluation.

Chapter 8

COMMAND AND CONTROL

8.1. General. MAJCOMs have command and control of possessed C-12 aircraft not supporting contingency operations. When C-12 aircrews are supporting contingency operations outside of their MAJCOM, the aircrews will be informed by their component commander which command is vested with exercising operational control (OPCON).

8.1.1. Aircrew shall not deviate from published policy unless the situation demands immediate action to ensure safety. **(T-2).** The pilot in command (PIC) is vested with ultimate mission authority and responsible for each course-of-action taken.

8.1.2. The PIC shall report deviations taken without waiver through command channels to the appropriate waiver authority within 24 hours of event occurrence. **(T-2).**

8.2. Execution Authority. OG/CC is the execution authority for local and off-station training missions. **(T-2).**

8.3. Pilot in Command Responsibility and Authority. Unit commanders shall designate a qualified Mission Pilot (MP), Instructor Pilot (IP), or Evaluator Pilot (EP) as the PIC for all flights. **(T-2).** The PIC:

8.3.1. Is responsible for the safety all persons aboard the aircraft. **(T-2).**

8.3.2. Shall only fly events authorized in the mission tasking unless in the PIC's judgment an emergency condition demands otherwise. **(T-2).**

8.3.3. Is the final mission authority and responsible for requesting and accepting aircrew or mission waivers. **(T-2).**

8.3.4. Responsible for interaction between aircrew members and mission support personnel and will establish a point-of-contact with the appropriate command and control (C2) agency prior to entering crew rest. **(T-2).**

8.3.5. Responsible for ensuring all passengers are properly manifested. **(T-2).**

8.4. Mission Clearance Decision. When conditions do not warrant starting or continuing a mission, the executing agency or the PIC may decide to delay a mission. If the PIC refuses a mission, the mission will not depart until the conditions have been corrected or improved so that the mission can operate safely. **(T-2).** Tasking agency shall not task a different PIC to take the same mission under the same conditions. **(T-2).**

8.5. Operational C2 Reporting. All units will establish C2 reporting procedures and requirements. **(T-2).** Aircrews conducting an off-station mission will comply with unit reporting procedures. **(T-3).**

Chapter 9

AIRCREW MANAGEMENT

9.1. Aircrew Qualification. Crewmembers occupying a primary position during flight must be qualified or in training for qualification. **(T-2).** Crewmembers noncurrent or in training must be under the direct supervision of an instructor. **(T-2).**

9.1.1. Mission Essential Personnel (MEP) status may be granted to individuals performing unique support duties directly associated with and essential to a particular aircraft, aircrew, or mission.

9.1.2. MEP authority must be on the individual's orders or other written authorization. **(T-2).**

9.2. Missions with Passengers. Touch-and-go landings with passengers on board are prohibited. **(T-2). Note:** MEPs are not classified as passengers. Mission qualification training and mission evaluations may be conducted on missions with passengers on board provided the individual in training possesses a current AF Form 8 for basic aircraft qualification.

9.3. Distinguished Visitor (DV) Operating Procedures. Pilot rated senior staff members (DV7s or above) who have completed a familiarization course may occupy either pilot seat under direct IP supervision. These individuals will log OP for flight authorization duty code on the Air Force Technical Order (AFTO) Form 781, *ARMS Aircrew/Mission Flight Data Document*. Passengers are not authorized on senior staff familiarization flights unless the senior staff member is basic aircraft qualified (possesses a current AF Form 8). **(T-2).**

9.4. Alerting Procedures. C-12 Aircrews will normally self-alert.

9.4.1. The latest allowable alert time is 6 hours after the expected alert time. **(T-2).** The PIC may extend that window to 8 hours when flying as primary crew or 12 hours when flying in deadhead status. The controlling C2 agent will not ask the PIC to accept more than the 6 hour window. **(T-2).**

9.4.2. 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. **(T-2).**

9.5. Flight Duty Period (FDP). FDP is the time period between mission reporting and final aircraft engine shutdown.

9.5.1. Maximum FDP for operational missions is 16 hours. **(T-2).**

9.5.1.1. Maximum FDP on operational missions is 12 hours when flying without an operative autopilot pitch axis. **(T-2).**

9.5.1.2. Do not takeoff with an inoperative autopilot if the planned flight duration will exceed a 12 hour FDP. Crews may exceed the 12 hour FDP restriction if the autopilot failed after takeoff. **(T-2).**

9.5.2. Maximum FDP for training missions is 14 hours. Do not conduct practice instrument approaches, touch and go landings, or conduct simulated emergency procedures after 12 hours of FDP. **(T-2).**

9.6. Re-entering Crew Rest. PICs are granted the authority to reenter crew rest if their aircraft or mission (training or operational) is not capable of departure within 4 hours from scheduled takeoff time. The PIC should consider delay circumstances (maintenance, weather forecasts, crew readiness, mission priority, expected duty day, etc.) and inform execution authority of intent to reenter crew rest.

9.7. Post-Mission Crew Rest. Crewmembers returning to their home base following a remain overnight (RON) mission will be given sufficient time to recover from the cumulative effects of the mission and tend to personal needs. Crew rest begins immediately on mission termination. **(T-3).**

9.7.1. One hour of post-mission crew rest time (up to a maximum of 72 hours) will be provided for each 3 hours Temporary Duty (TDY) to crewmembers gone from home station more than 24 hours. **(T-3).** Post-mission crew rest will not run concurrently with predeparture crew rest. **(T-3).**

9.7.2. Crewmembers may volunteer to fly multiple back-to-back RON missions that would normally infringe on post-mission crew rest. In this case, post-mission crew rest may be deferred until after the last RON mission. Calculate post-mission crew rest from the start of first mission flown to the end of the last mission flown.

9.8. Standby Force Duty. MAJCOM C2 Agents shall not task units for standby force duty later than 18 hours prior to legal for alert time. **(T-2).** 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, unit/CC may place the pre-standby crew in 12 hour crew rest. Unit/CC may keep an aircrew in ALFA/BRAVO status up to 48 hours. MAJCOM/A3 may extend this period for contingencies. After 48 hours, 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.

9.8.1. ALFA Standby Aircraft Preflight Generation and Security. When tasked, unit/CC shall posture an aircraft and aircrew as an ALFA standby force able to launch within 1 hour. **(T-3).** The following procedures apply to primary aircraft as well as spare aircraft generated for ALFA alerts:

9.8.1.1. Complete a maintenance Dash-6 and aircrew Dash-1 aircraft preflight before entering the aircraft into ALFA alert status. **(T-2).**

9.8.1.2. The aircraft must remain in a ‘sealed’ posture while on ALFA alert. Document in the aircraft forms the time and date the aircraft was sealed and placed in alert status. **(T-3).**

9.8.1.3. The PIC will ensure the aircraft is sealed/secured before entering crew rest. Secure all hatches and doors to prevent unauthorized entry. **(T-3).**

9.8.1.4. The aircraft preflight remains valid when performed by one crew and launched by another crew.

9.8.1.5. The PIC or a designated aircrew representative must be present if access to the aircraft is required. **(T-3).**

9.8.1.6. The PIC will notify C2 when sealing/unsealing a generated aircraft. **(T-3).**

9.8.1.7. Follow-on pre-flights done during normal waking hours do not interrupt crew rest. FDP starts at the earlier of either C2 alert for launch or from when the aircrew arrived at the aircraft for pre-flight duties.

9.8.2. BRAVO Standby Force. When tasked, unit/CC shall posture an aircraft and/or aircrew in BRAVO Standby Force to permit launch within 2 hours of unit notification. **(T-3).** Follow-on pre-flights, if required, interrupt crew rest. Begin FDP when aircrew shows for duty.

9.8.3. CHARLIE Standby Force. When tasked, unit/CC shall posture aircrew as a CHARLIE Standby Force ready to enter crew rest within 2 hours. **(T-3).** Tasked aircrew are legal for alert 12 hours after entering crew rest. Unit/CC may keep aircrews in CHARLIE status up to 72 hours. After 72 hours, release aircrews from CHARLIE Standby or enter them into 12 hours crew rest for directed mission, training mission, or subsequent Standby Force duty. **(T-3).**

9.8.4. 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 2 hours of unit notification. **(T-3).** After 12 hours, launch, release, or re-enter aircrews into a 12 hour crew rest period.

9.9. Inter-fly. Inter-fly is the exchange and/or substitution of aircrew members and/or aircraft between commands.

9.9.1. The OG/CC with mission execution authority is the approval authority for inter-fly agreements. **Note:** A formal inter-fly agreement is not required for an aircrew member that occasionally acts as guest help.

9.9.2. Inter-fly involving the transfer of aircraft between MAJCOMs must be coordinated and approved through the MAJCOM OPR. **(T-2).**

Chapter 10

AIRCRAFT OPERATING RESTRICTIONS

10.1. Minimum Equipment List (MEL) Policy. The MEL catalogues the minimum equipment/systems considered essential for safe flight. 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 accepted 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.

10.1.1. The MEL is not intended for continued operation over an indefinite period with systems/subsystems inoperative. The PIC should consider possibility of additional failures during continued operation with inoperative systems or components.

10.1.2. The T.O. 1C-12(A/F/J)-1, *Flight Manual*, provides the C-12 MEL. The MEL does not include the Minimum Essential Subsystems List which is maintained by the maintenance contractor.

10.1.3. The PIC shall land as soon as practical if an engine limit exceedance is encountered. **(T-2). Exception:** The unit commander (or designated representative) may verbally approve continuing the mission if the exceedance monitoring system "latches", in obvious error, while airborne (e.g., Propeller N2 digital window reads a latched "E" with no associated indications of primary governor overspeed malfunction). Upon completion of the mission, the aircraft shall not be released for further flight until the error has been cleared. **(T-2).**

10.2. Discrepancies. Aircraft system malfunctions are documented in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*. Use the following identifiers to effectively communicate malfunction status.

10.2.1. Mission Essential (ME). Designate an item, system, or subsystem component essential for safe aircraft operation as ME.

10.2.2. Mission Contributing (MC). 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.

10.2.3. Open Item (OI). 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.

10.3. MEL Waiver Protocol. A PIC desiring to fly with a degraded item required to be functional by the MEL requires a waiver prior to departure. MEL waiver authority is as follows:

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

10.3.2. Operational Missions. MAJCOM/A3 with mission execution authority.

10.3.3. Contingency Missions. Director of Mobility Forces (or equivalent) for the agency with C2, if not specified in the Operational Order or Tasking Order.

10.3.4. If beyond C2 communication capability, and when faced with exigent circumstances, the PIC may deviate from the MEL. Report deviations (without waiver) thru chain of command to the waiver authority. **Note:** When the PIC assumes waiver authority under exigent circumstances, the PIC shall apply risk mitigation principals to decision making process. **(T-2).**

10.3.5. One-time Flight. A Red X discrepancy may be downgraded for a one-time flight by the maintenance authority. This condition does not preclude carrying cargo and passengers, unless restricted by the authority who downgraded the Red X. One-time flights may include en route technical stops only when necessary to recover the airplane.

10.4. Gear Down Flight Operations. Limit gear down flight operations to sorties required to move the aircraft to a suitable repair facility.

Chapter 11

OPERATIONAL PROCEDURES

11.1. Checklists. A checklist is not complete until all items have been accomplished. Momentary hesitations for coordination items, air traffic control (ATC) interruptions and deviations specified in the flight manual, etc., are authorized. Notes amplifying checklist procedures or limitations may be added to the checklists (in pencil only). Currency of notes is a crewmember's responsibility. **Note:** Group Stan/Eval is the OPR for checklist inserts or in-flight guides.

11.2. Duty Station. Both pilots shall be in their seats during flight. **(T-2).** One of the pilots may be out of their seat for brief periods to meet physiological needs and crew duties. With both pilots in their seats, PICs may authorize short rest periods for one pilot occupying a primary duty station during non-critical phases of flight (the other pilot will be awake and alert).

11.3. Landing With an Emergency. A qualified aircraft commander will accomplish the landing during actual emergency conditions unless specific conditions dictate otherwise. **(T-2).**

11.4. DV-2 Missions. A DV-2 or higher mission requires an experienced aircraft commander approved by the unit commander or higher (not delegable) or a certified instructor pilot to be the PIC. **(T-2).** "Experienced aircraft commander" is defined as a pilot with at least 100 hours of primary time logged after aircraft commander certification. The PIC or a certified instructor pilot will make all takeoffs and landings on these missions. **(T-2).**

11.5. Seatbelts. All occupants must have an assigned seat with a seatbelt. **(T-2).**

11.5.1. Passengers 2 years old or younger may be carried in the lap of the parent or guardian. Separate flotation devices and oxygen sources are required.

11.5.2. All crewmembers will have seatbelts and shoulder harnesses fastened during takeoff and landing unless crew duties dictate otherwise. **(T-2).**

11.5.3. Litter patients must remain secured on litters for takeoff and landing. **(T-2).**

11.6. Mandatory Calls. The PF will announce intentions during departures, arrivals, approaches, and when circumstances require deviating from normal procedures and the PNF will monitor PF actions and maintain situational awareness at all times. **(T-2).** **Table 11.1** through **Table 11.5** depict mandatory calls for non-precision approaches, precision approaches, climbout, descent, and landing phases respectively. **(T-2).**

Table 11.1. Non-precision Approaches.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
100 feet above FAF altitude	"100 above"	
100 feet above step down altitude	"100 above"	
100 feet above MDA	"100 above"	
At MDA or MAP	"Minimums" (1) or "Missed Approach Point"	State intentions (2)
-- Runway environment in sight (3)	"Continue" or "Land"	State intentions (2)

-- Runway environment not in sight	"Go Around"	“Going Around”
No later than 100’ Height Above Touchdown (HAT) if ‘continued’ from MDA		
-- Runway in sight	“Runway in sight”	State intentions (2)
-- Runway not in sight	“Go Around”	“Going Around”

Table 11.2. Precision Approaches.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
100 feet above glide slope intercept altitude	"100 above"	
100 feet above Decision Altitude (DA)	"100 above"	
At DA:		
-- Runway environment in sight (3)	"Decision altitude – Continue”	State intentions (2)
-- Runway environment not in sight	"Decision altitude - Go Around"	“Going Around”
No later than 100’ Height Above Touchdown (HAT) if continued from DA		
-- Runway in sight	"Runway in sight - Land"	State intentions (2)
-- Runway not in sight	"Go Around"	“Going Around”

Table 11.3. Climb Out.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
Transition Altitude (5)	State altimeter (5)	State altimeter
1000’ below assigned altitude	“1000 below”	“1000 below”

Table 11.4. Descent.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
Transition Level (5)	State altimeter (5)	State altimeter
1000 above altitude	“1000 above”	“1000 above”

Table 11.5. Landing.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
100 feet above touchdown	“100”(4)	None required
50 feet above touchdown	“50” (4)	None required

NOTES for **TABLES 11.1. – 11.5.**

1) If the aircraft is equipped with a voice module that alerts to a selectable DA the PNF is not required to voice this call.

2) The PF will announce intentions to either “land,” “continue,” or “go-around.” The pilot may continue to 100 feet height above touchdown (HAT) if sufficient visual reference with the runway environment has been established in accordance with AFMAN 11-217, *Flight Operations*. The pilot may not descend below 100 feet above touchdown zone elevation (TDZE) referencing only the approach lights unless the red termination bars or the red side row bars are distinctly visible and identifiable. If the aircraft is not in a position for a normal landing, a go-around will be made.

3) Runway environment is defined in AFMAN 11-217.

4) The PNF will announce "100" and "50" at 100 and 50 feet HAT, as indicated on the radar altimeter. The PNF shall assess aircraft glide path and call "go around" if the sink rate is excessive or the aircraft is on a vector to land short of the runway. If the aircraft avionics automatically provides the 100 feet and 50 feet callouts, the PNF is not required to voice these calls.

5) Anytime an altitude or altimeter setting is changed when operating in a non-standard configuration, both pilots will verify the units of measure. Standard configuration is defined as the units of measure the pilots are accustomed to operating with.

11.7. Deviations. The PNF will announce when heading or airspeed deviations are observed, or when the altitude is more than 100 feet from assigned and the PF is not correcting the deviation. PF will acknowledge the deviation. **(T-2).**

11.8. 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 professional decorum at all times.

11.8.1. Sterile Cockpit. Aircrew should limit conversation to that essential for crew coordination and mission accomplishment during taxi, takeoff, approach, landing, and other critical phases of flight.

11.8.2. At least one pilot will monitor guard emergency frequencies to the maximum extent possible. **(T-2).**

11.8.3. "Time Out" is the common assertive statement to be used by any crewmember as a clear warning sign of a deviation or a loss of situational awareness and is used as an effort to break the error chain before a mishap occurs. When a "Time Out" has been called, the PIC will:

11.8.3.1. Safety permitting, stabilize the aircraft. **(T-2).**

11.8.3.2. Allow the initiating crewmember to voice their concerns. **(T-2).**

11.8.3.3. Voice a resolution to the noted concern. **(T-2).**

11.8.4. When the PF wishes to transfer control of the aircraft, the PF shall state, “Pilot’s (or Copilot’s) controls.” **(T-2).** The PNF upon assuming control acknowledges “Pilot’s or Copilot’s controls.” **(T-2).**

11.8.5. Critical/irreversible actions in flight should always be confirmed by both pilots prior to acting. These include, but are not limited to: pulling a fire handle, placing a condition lever to CUTOFF, moving a propeller lever to FEATHER, discharging a fire extinguisher, and turning off a generator.

11.9. Runway, Taxiway, and Airfield Requirements.

11.9.1. Minimum Runway Length for Takeoff and Landings. Crews may use either the flight manual or MAJCOM approved tab data to determine aircraft takeoff and landing data. Available runway length must exceed the longest of computed Accelerate-Go[J]/Accelerate After Lift-off[C/D/F] computed over 35 foot obstacle, Accelerate-Stop computed without reverse corrected for the runway condition reading (RCR) plus 500 feet, or landing distance computed without reverse over a 50 foot obstacle corrected for RCR plus 500 feet. **(T-3).**

11.9.2. Runway intersection takeoffs require remaining runway from the intersection to meet minimum runway length requirements. **(T-3).**

11.9.3. Minimum runway length for touch-and-go landings is 5,000 feet [1,524 meters] for C/D/F models and 6,000 feet [1,830 meters] for J models. **(T-3).**

11.9.4. OG/CC approval is required when the runway, taxiway, or parking ramp is not constructed of asphalt or concrete. **(T-3).**

11.9.5. Minimum runway width is 75 feet. **(T-3).**

11.9.6. Land beyond the approach end arresting cable(s) unless runway length is critical. **(T-3).**

11.9.7. Do not takeoff or land over a cable that has been reported as slack, loose, or improperly rigged. **(T-3). Note:** The entire length of the runway may be used if environmental conditions require using the full runway length. Caution**:** Operations over arresting gear cables at speeds greater than taxi speed may result in damage to the brake assembly. If an aircraft rolls over an arresting cable at greater than taxi speed the crew will make an AFTO 781A write-up. **(T-3).**

11.9.8. Aircrews should use all available resources to obtain information on airfields intended for use as a destination or alternate. When transiting unfamiliar airfields, aircrews should review AMC's Airfield Suitability Restrictions Report (ASRR). The ASRR is not restrictive to the C-12 unless the airfield has a certification requirement or the MAJCOM TERPs office has issued approach restrictions.

11.9.9. When RCR value is not reported, use RCR 12 for wet runways and RCR 6 for icy runways.

11.9.9.1. RCR values are not normally reported for taxiways and ramps. During periods of reported low RCR, the taxiways and ramps typically have an even lower RCR than the runway.

11.9.9.2. Do not use runways/taxiways with a reported RCR value less than 6. **(T-3).**

Exception: OG/CC may authorize crews to taxi on taxiways with a reported RCR value of 3 or greater.

11.9.10. Airfields shall be considered below minimums for takeoff and landing when reported winds (including gusts) are greater than:

11.9.10.1. Maximum wind (any direction) – 50 knots. **(T-2).**

11.9.10.2. Maximum tailwind component – 10 knots. **(T-2).**

11.9.10.3. Maximum crosswinds – reference **Table 11.6**. **(T-2).**

Table 11.6. C-12 Takeoff and Landing Crosswind Components.

RCR Values	6	7	8	9	10	11	12 and above
Maximum Crosswind Component for Takeoff and landing	10	12	15	17	20	22	25

11.10. Aircraft Taxi.

11.10.1. Taxi distance from obstructions is in accordance with AFMAN 11-218 and MAJCOM supplements.

11.10.2. The aircraft may be backed, using reverse, when no other means of moving the aircraft is available or when required for familiarization during qualification training. This procedure will not be used at any time for the purpose of preventing delays when towing equipment is available or when other aircraft or equipment can be moved to provide adequate taxi clearance. **(T-2).** Pilots should exercise extreme caution during reverse taxi operations. Ensure a safety observer is present for all reverse taxi operations. Caution: Propeller blast during ground operations is capable of causing injury to ground personnel and damage to other aircraft, flight line equipment, and airport facilities.

11.11. Short Field/Austere Field Operations. Airfields that do not meet the minimum normal operating requirements (**paragraph 11.9**) require written OG/CC approval prior to first-time use. Comply with the following when conducting short field/austere field operations:

11.11.1. Use a locally developed tailored training plan to train pilots to operate from OG approved runways that do not meet minimum normal runway requirements. **(T-3).**

11.11.2. Limit flight operations to daytime. **(T-3).**

11.11.3. Minimum runway length for takeoff is the computed takeoff distance (including climb to 50 feet) plus 500 feet. **(T-2).** Warning**:** The unit commander is responsible for ensuring the mission execution authority is aware of the elevated risk associated with short field/austere field operations. Approving crews to utilize short field/austere field procedures authorizes crews to conduct operations with less than critical field length performance. **(T-2).**

11.11.4. Minimum landing distance will be computed ground roll corrected for RCR without reverse plus 500 feet. **(T-2).**

11.11.5. Minimum runway width is 50 feet. **(T-2).**

11.11.6. Only certified pilots may taxi, takeoff, or land at short/austere fields. **(T-2).** Certification may be at the unit/CC, group/CC or MAJCOM level.

11.12. Bird/Wildlife Aircraft Strike Hazard (BASH) Programs. BASH programs are centralized unit efforts in accordance with AFI 91-202, *The US Air Force Mishap Prevention Program,* that provide information cross-feed, hazard identification, and a consolidated course of action.

11.12.1. Bird Watch Condition Low - No operating restrictions.

11.12.2. Bird Watch Condition Moderate - Takeoffs and landings allowed only when departure and arrival routes will avoid bird activity. Local Instrument Flight Rules and Visual Flight Rules traffic pattern activity is prohibited. **(T-3).**

11.12.3. Bird Watch Condition Severe - All takeoffs and landings are prohibited. Waiver authority is OG/CC. Bird Condition Severe is defined as "bird activity on or immediately above the active runway or other specific location representing high potential for strikes." When bird activity meets this definition, crews should consider the bird condition as Severe regardless of what condition the airfield is reporting.

11.12.4. Schedulers should not schedule takeoffs or landings from one hour before to one hour after sunrise and sunset during the BASH Phase II period.

11.12.5. When operating at airfields where no BASH program exists, PICs have the authority to delay takeoffs and arrivals due to observed/reported bird activity.

11.12.6. Consider bird migratory patterns during the en route portion of the mission to help minimize the potential of an in-flight bird strike. The Avian Hazard Advisory system website is a source for bird hazard information. See AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (Bash) Management Program,* for additional information.

11.12.7. Following a bird strike, aircrews should land as soon as conditions permit 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.

11.13. Functional Check Flights (FCFs) and Acceptance Check Flights (ACFs). Perform FCFs and ACFs in accordance with T.O. 1-1-300, *Maintenance Operational Checks and Check Flights* and specific MDS FCF guidance (-6CF). **(T-2).**

11.13.1. Conditions requiring an FCF include (but are not limited to) major retrofit modifications, removal or replacement of moveable flight control surfaces, major repairs that would affect the flying characteristics of the aircraft, adjustment, removal or replacement of major components of the flight control system for which airworthiness cannot be verified by maintenance operational checks, or removal or replacement of both engines.

11.13.2. The approval authority to combine an FCF and ferry flight is the MAJCOM/A3.

11.14. Participation in Aerial Events. AFI 11-209*, Participation in Aerial Events*, identifies events sanctioned for support, specifies the approval authority for each type, and stipulates that units participating in aerial events will ensure activities are coordinated with the Federal Aviation Administration (FAA) through the regional AF representative.

11.15. Aircraft Recovery from Unprepared Surfaces. The PIC should not attempt to recover a "stuck" aircraft from a defective taxiway or an unprepared surface not suitable for taxi. A qualified ground crew shall execute the aircraft recovery. **(T-3). Exception:** The PIC may attempt to recover the aircraft under exigent circumstances and when there is no aircraft damage. Prior to attempting the recovery, the PIC should coordinate with unit leadership and maintenance authorities.

11.16. Flight Management System (FMS). Crewmembers must be proficient at operating the aircraft in all levels of available automation. **(T-3).** The level of automation used at any specific time should be the most appropriate to reduce crew workload, increase situational awareness, and enhance mission effectiveness and safety.

11.16.1. PNF should avoid extensive reprogramming of the FMS during critical phases of flight.

11.16.2. Both pilots should confirm programming changes to the flight director or FMS.

11.16.3. Use the in-flight guide to publish standardized FMS settings/procedures to be used for takeoff and approach. **(T-3).**

11.16.4. "Manual Flight" refers to flight without the autopilot on, with or without the use of the flight director. During manual flight, the PF should normally direct the PNF to make all changes to the flight director as well as altitude alerter, speed bug, speed markers, and heading bug. Refer to **Table 11.7** for standardized verbiage during manual flight.

11.16.5. "Automated Flight" refers to flight with the autopilot engaged and the flight director providing steering commands. The PF normally makes all changes to the flight director, bugs, and markers. Refer to **Table 11.8** for standardized verbiage during automated flight.

11.16.6. Crews will comply with **Table 11.7** and **Table 11.8** for standardized verbiage. **(T-3).** Use the word "ENGAGE" for the autopilot/yaw damper. Use the word "SELECT" for flight director changes such as HDG, APPR, or CLIMB modes. Use the word "SET" for all bug and marker changes such as heading, airspeed, or altitude change. Using "Engage", "Select", or "Set" first is directive (SET Hdg 180), while using "Engaged", "Selected", or "Set" last for confirmation (Hdg 180 SET). State "ARMED" after selecting and confirming a Flight Control Panel (FCP) input such as LOC or GS.

Table 11.7. Manual Flight.

FLIGHT CONTROL PANEL **[HDG], [NAV], [APPR], [B/C], [CLIMB], [ALT], [ALT SEL], [VS], [IAS], [DSC]**	
PF	"Select [MODE]"
PNF	Select desired mode. State '[MODE]' is 'Armed' or 'Selected' (as applicable)
PF	Verify and acknowledge
LATERAL FLIGHT	
Direct To // Intercept Course To // Route Modification	
PF	"Set Direct To (or Intercept Course To) [*Waypoint*]"
PNF	Modify route as directed. State "Direct To (Intercept Course To) [*Waypoint*] set"
PF	Verify and acknowledge
RADAR Vector / Heading Change	
PF	"Set Heading [#]." ***Note:*** If PNF is already adjusting heading bug based on ATC direction, PF should not use the 'Set Heading' request.
PNF	Set desired heading. State "Heading [#] set"
PF	Verify and acknowledge
VERTICAL FLIGHT	
PF	"Set FL [#] / [#] Feet." ***Note:*** If PNF is already adjusting altitude alerter based on ATC direction, PF should not use the 'Set FL [#] / [#] Feet request.
PNF	Set desired altitude. State "FL [#] / [#] Feet set" ["and selected"-if applicable]
PF	Verify and acknowledge

Table 11.8. Automated Flight.

FLIGHT CONTROL PANEL **[HDG], [NAV], [APPR], [B/C], [CLIMB], [ALT], [ALT SEL], [VS], [IAS], [DSC]**	
PF	Select desired mode. State '[MODE]' is 'Armed' or 'Selected'
PM	Verify and acknowledge
LATERAL FLIGHT	
Direct To // Intercept Course To // Route Modification	
PF	Modify route as desired. State "Direct To (Intercept Course To) [*Waypoint*] set"
PM	Verify and acknowledge
RADAR Vector / Heading Change	
PF	Set desired heading. State "Heading [#] set"
PM	Verify and acknowledge
VERTICAL FLIGHT	
PF	Set desired altitude. State "FL[#] / [#] Feet set and selected"
PM	Verify and acknowledge

Chapter 12

AIRCREW PROCEDURES

Section 12A—Pre-Mission

12.1. Aircrew Uniform. Unit/CCs will determine clothing and equipment to be worn or carried aboard all flights commensurate with mission, climate, and terrain involved. **(T-2).**

12.2. Personal Requirements.

12.2.1. Crewmembers and passengers shall comply with passport requirements established in the Foreign Clearance Guide. **(T-2).**

12.2.2. Crewmembers and passengers shall comply host and transiting country immunization requirements. **(T-2).**

12.2.3. Hearing protection should be worn when personnel are working near hazardous noise-producing sources.

12.2.4. Each crewmember must carry an operable flashlight on night flights. **(T-2).**

12.2.5. Each crewmember shall wear a reflective belt on the flight line during hours of darkness or periods of reduced visibility unless directed otherwise. **(T-2).**

12.3. Pre-Mission Actions. Crewmembers departing their local operating area will (as applicable):

12.3.1. Review: FLIP; Notice to Airmen (NOTAM); OPORD; Special Instructions; Operational Risk Assessment; Country Risk Assessment; ASRR Giant Report and Airport Qualification Program (if available); and Foreign Clearance Guide (FCG) for areas of operation (to include classified portion). **(T-2).**

12.3.2. Obtain: necessary diplomatic clearances; visas; required customs forms; necessary FLIP; and required communications security (COMSEC) materials. **(T-2).**

12.3.3. Receive current area intelligence briefing. **(T-2).**

12.3.4. Ensure physiological training, annual physical, immunizations, and flight evaluations will remain current for scheduled mission period. **(T-2).**

12.4. Aircrew Publication Requirements. The PIC shall ensure crewmembers have access to the following publications on all missions:

12.4.1. T.O. 1C-12 (Applicable model)-1. **(T-2).**

12.4.2. T.O. 1C-12(Applicable model)-1CL-1, *Pilots' Abbreviated Flight Crew Checklist*. **(T-2).**

12.4.3. AFI 11-202V3. **(T-2).**

12.4.4. AFMAN 11-2C-12. **(T-2).**

12.5. Certification/Special Airfield. Airfields designated as Certification or Special fields by MAJCOMs, FAA, ASRR, or other appropriate authority require additional risk mitigation. Unit/CC must certify/approve PIC's to operate at these airfields. **(T-2).** Unfamiliar/unqualified

PIC shall receive at a minimum a table top briefing by qualified pilot familiar with that field. **(T-3).** An unqualified or unfamiliar PIC requires OG/CC approval prior to using a Certification or Special airfield.

Section 12B—Predeparture

12.6. Flight Crew Information File (FCIF). Crewmembers will review new FCIFs before all missions or ground aircrew duties. **(T-2). Exception:** An instructor pilot may brief appropriate FCIF items to an O-6 or above guest pilot.

12.7. Mission/Navigation Flight Bag. Unit commander shall determine what content/publications/forms must be carried in-flight. **(T-2). "**Flight Bag" may consist of either paper publications or electronic data files.

12.8. Pilot in Command Briefing. The PIC will brief the following:

12.8.1. Risk Management principles. **(T-3).**

12.8.2. Weather. **(T-3).**

12.8.3. Mission itinerary and profile. **(T-3).**

12.8.4. Aircraft tail number and call sign. **(T-3).**

12.8.5. Aircraft gross weight and fuel load. **(T-3).**

12.8.6. Communications requirements and procedures. **(T-3).**

12.8.7. Fuel reserve/Bingo fuel. **(T-3).**

12.8.8. Airdrome restrictions and hazards. **(T-3).**

12.8.9. Emergency procedures review. **(T-3).**

12.8.10. Brief buffer zone procedures when applicable. **(T-3).**

12.9. Peacetime and Wartime SAFE PASSAGE Procedures. Pilots must be familiar with peacetime and wartime safe passage of friendly military aircraft procedures when flying in airspace with these procedures implemented. **(T-2).**

12.10. Instrument Flight Rules. Conduct flight operations under instrument flight rules to the maximum extent possible without unacceptable mission degradation. **(T-2). Exception:** Operating VFR in and around familiar airfields is permissible.

12.11. Takeoff RVR. Minimum Runway Visual Range (RVR) for takeoff is 1600 feet. **(T-2).** If RVR is not available for the departure runway, visibility must be reported to be 1/2 mile (800 meters). **(T-2).**

12.12. Departure Alternates. A departure alternate is required if weather (ceiling or visibility) is below landing minimums at the departure aerodrome. **(T-2).** When a departure alternate is required, the aircraft must be capable of maintaining the minimum en-route altitude (MEA) or minimum obstruction clearance altitude (MOCA), whichever is higher, to the alternate using one engine inoperative (OEI) performance criteria. **(T-2).** To qualify as a departure alternate, the airfield must meet one of the following conditions:

12.12.1. 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). **(T-2).**

12.12.2. For an alternate between 31 minutes to 1 hour 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 estimated time of arrival (ETA) at the alternate. **(T-2). Exception:** OG/CC may approve the use of an alternate up to 2 hours away on a case-by-case basis.

12.13. Destination Filing Requirements.

12.13.1. File two alternates when:

12.13.1.1. The forecast visibility (intermittent or prevailing) is less than published for the available precision approach. **(T-2).**

12.13.1.2. The forecast ceiling OR visibility (intermittent or prevailing) is less than published for all non-precision approaches. **Note:** For approaches with no published ceiling requirement the minimum required ceiling may be computed by taking the published HAA or HAT and rounding it up to the nearest one hundred feet (e.g. VOR approach with a published HAA of 642 feet would require a forecasted ceiling of 700 feet). **(T-2).**

12.13.1.3. The forecast surface winds (intermittent or prevailing) exceed limits corrected for RCR. **(T-2).**

12.13.2. File an alternate, regardless of forecast weather, when the destination aerodrome is outside the continental United States (CONUS). (T-2). Exceptions: Units in Alaska are excluded from this requirement when destination aerodrome is within the state of Alaska. Units in Japan are excluded from this requirement when the destination aerodrome is within mainland Japan.

12.13.3. When filing to a remote or island destination, follow **Chapter 20** for fuel planning. 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:

12.13.3.1. The prevailing surface winds, corrected for RCR, must be within limits at ETA and forecast to remain so for 2 hours thereafter. **(T-2).**

12.13.3.2. 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. **(T-2).** However, if a precision approach is available, the ceiling or visibility may be intermittently below non- precision approach minimums, excluding airport surveillance radar, but not below precision approach minimums (for ETA plus 2 hours). Caution**:** Most weather forecasts are only valid plus or minus 1 hour from estimated time of arrival.

12.14. Adverse Weather.

12.14.1. Flight into areas of forecast or reported severe turbulence or icing or forecast moderate or greater mountain wave turbulence is prohibited. **(T-2).** Warning**:** Serious injury may occur if occupants do not have their seat belts fastened and the aircraft encounters moderate or severe turbulence.

12.14.1.1. Prolonged operation in areas of moderate icing should be avoided. **Note:** Air Force Weather Agency states that freezing drizzle is equivalent to moderate icing and freezing rain is equivalent to severe icing.

12.14.1.2. When freezing fog is forecast or reported, aircrews should confirm with the local weather agency what type (if any) icing is associated with the freezing fog.

12.14.2. Do not takeoff under conditions of freezing rain. Freezing precipitation, snow, freezing fog, or temperatures below 0°C, may cause ice or frost to accumulate on aircraft surface. Do not takeoff with any accumulation of icing or snow on aircraft surfaces. **(T-2).**

12.14.2.1. When an aircraft requires de-icing/anti-icing prior to takeoff, aircrews should use published Air Force Flight Standards Agency (AFFSA) holdover tables for the type of de-ice or anti-ice fluid used. The holdover time begins when the fluid is first applied. Time, temperature, and dilution of mixture determines how long de-icing fluid is effective. Aircrews shall be familiar with and follow all restrictions in their associated flight manual with respect to anti-ice/de-ice procedures. **(T-2).**

12.14.2.2. PICs shall ensure a visual inspection of the aircraft is completed within 5 minutes of departure to confirm the aircraft is clear of snow and ice. **(T-2).**

12.14.3. The PIC will not intentionally fly into a thunderstorm. (T-1) Do not fly in IMC near thunderstorms without operable weather radar. (T-3)

12.14.3.1. DELETED.

12.14.3.2. DELETED.

12.14.3.3. DELETED.

12.14.4. 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. When relying exclusively on ground-based radar for weather avoidance, and the ground controller is unable to provide avoidance instructions, attempt to maintain VMC.

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

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

12.14.6.1. Attempt to maintain VMC.

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

12.14.6.3. Crews should avoid areas of high lightning potential (e.g. 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 provided 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).

12.14.7. When flying an approach at a location where temperatures are 0°C or below, the PIC shall comply with requirements published in FIH Section D, *Temperature Correction Chart*,

and/or AFI 11-202V3 Temperature Correction paragraph, to ensure adequate obstacle clearance. **(T-2).**

12.14.8. Aircraft operations in areas of forecast or known volcanic activity require MAJCOM/A3 approval.

12.15. 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. PICs must complete ORM worksheets as part of preflight activities. **(T-2).**

Section 12C—Preflight

12.16. Air Force Technical Order Forms 781 Series. The PIC should review AFTO Forms 781 series before applying power to the aircraft or operating aircraft systems. An exceptional release must be signed before flight. **(T-2).** 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 for his/her flight only.

12.17. One-Time Flights. An aircraft may be released by the maintenance or engineering authority for a one-time flight with a condition that might be hazardous for continued use. After the exceptional release is obtained, coordinate mission requirements with the controlling agency.

12.18. Oxygen Requirements.

12.18.1. Aircraft oxygen quantity must be sufficient to accomplish the planned flight from the equal time point (ETP) to the recovery airfield. **(T-2).**

12.18.2. Carry Emergency Passenger Oxygen System (EPOS) on flights with passengers. **(T-2). Note:** The EPOS is not a substitute for the required aircraft's emergency passenger supplemental oxygen system used in the event of cabin depressurization but rather as a temporary measure to provide oxygen to passengers in a toxic environment.

12.19. Overwater Aircrew Flight Equipment Requirements.

12.19.1. Carry a life raft when flying over water and the distance to land at the planned cruising altitude exceeds the glide ratio of 2 miles per 1000 feet (12:1 glide ratio). **(T-2).** For example, if planned cruising altitude is FL240, a life raft would be required if flying more than 48 miles from land.

12.19.2. A life preserver unit or personal floatation device must be within reach of each passenger and aircrew member on overwater flights (outside gliding distance to land). **(T-2).**

12.20. Airlifting Hazardous Cargo. If tasked to carry hazardous materials, see AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments,* for detailed procedures.

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

12.21.1. Use the air cargo manifest to document receipt of MICAP, VVIP, sensitive cargo, courier materials, and registered mail.

12.21.2. Defense Courier Service (DCS) couriers with concurrence of the PIC may designate officer or enlisted (E-5 and above) crewmembers on military aircraft as couriers to escort and

safeguard courier material. Qualified passengers, if carried, should be designated before designating crewmembers.

12.21.3. At locations with DCS stations, a DCS courier will assume possession of sensitive material and storage responsibility for that material. **(T-2).**

12.21.4. At unscheduled en route stops, crewmembers may place courier material in temporary custody of the following agencies in descending order of priority:

12.21.4.1. DCS courier.

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

12.21.4.3. US Department of State Diplomatic Courier.

12.21.4.4. US Department of State activity.

12.21.4.5. US military guards.

12.21.4.6. US DOD civilian guards.

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

12.22. Life or Death Urgency Shipments. Life or death urgency shipments contain biological or other medical supplies of such urgency that human life is dependent upon immediate receipt. Annotated the manifest with the words LIFE OR DEATH URGENCY. All shipments will be processed on a hand-to-hand receipt basis and the PIC will designated as the custodian for the flight. **(T-2).**

Section 12D—Departure

12.23. On Time Takeoffs. Mission departures are considered "on-time" if the aircraft is airborne within -20/+14 minutes of scheduled takeoff time.

Section 12E—En route

12.24. Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports. The PIC shall report all vital intelligence sightings in accordance with FLIP planning or FLIP En route Supplement. **(T-2).** Aircraft subjected to harassment or hostile action by foreign aircraft will immediately report the encounter to a USAF command and control facility. **(T-2).** Include in the report: aircraft nationality; type; markings, insignia, or any other identifying features; position; heading; time; speed; and the type of harassment.

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

12.26. High Frequency Communications. Crews should conduct a high frequency radio ground check if use of the radio will be required for ATC or C2 communications. If unable to establish radio contact with the controlling station, and an alternate means of relaying ATC information is not available, the aircraft should follow theater guidance (refer to FLIP AP 1/2/3) or return to the nearest suitable support base for repairs.

12.27. In-flight Emergency Procedures. The PIC shall report to unit leadership deviations from directives that occur as a result of an emergency. **(T-2).**

12.27.1. Time and conditions permitting, the crew should inform passengers of the situation and intentions.

12.27.2. Any crewmember may use the term "knock it off" to highlight a potential unsafe situation. When used, the pilot will terminate the maneuver and stabilize the aircraft. **(T-2).**

12.27.3. The PIC is the final authority for resolving in-flight emergencies.

12.28. Need for Medical Assistance. When a person aboard the aircraft requires medical care, inform the station of intended landing in sufficient time so the aircraft may be met by medical personnel. Include the sex, approximate age, and the major complaint in the request.

12.29. Weather Forecasts. The PIC is responsible for obtaining destination weather prior to arrival in the terminal area.

Section 12F—Arrival

12.30. Descent. Before descent into unfamiliar areas, pilots should review appropriate terrain charts to increase aircrew situational awareness of obstructions. Primary crewmembers shall focus attention on aircraft operations, flight path monitoring, and completing checklist items, from the initial descent point to landing. **(T-2).**

12.31. Instrument Approach Procedures. The C-12 is certified by the FAA as a Category B aircraft having a speed range of 91 knots or more but less than 121 knots throughout the final approach segment and missed approach. Use the category minimums associated with the configuration speed for the approach flown.

12.31.1. Night and Marginal Weather Operations. If available, fly a precision or RNAV approach at night or in marginal weather. **(T-2).**

12.31.2. A visual approach may be flown during night VMC conditions if an approved straight-in instrument approach to the landing runway is not available. At familiar airfields, a non-precision, tactical approach or VFR pattern may be flown when required for currency or training.

12.31.3. The pilot must confirm the existing weather is reported to be at or above required approach minimums before starting an instrument approach. **(T-2).**

12.31.3.1. For circling approaches without published minima, the required ceiling can 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. The minimum allowable computed ceiling is 600 feet. **(T-2).**

12.31.3.2. For inoperative Approach Lighting System (ALS), apply corrections as published in DoD FLIP Inoperative Components Table. (T-0)

12.31.3.3. If the ceiling is below the value depicted for published precision approach, but visibility is at or above authorized minimums, the PIC may fly the approach if there is

sufficient fuel available to complete the approach, missed approach, and proceed to a suitable alternate with normal fuel reserve.

12.31.4. Pilots may use the Decision Altitude (DA) for precision approaches as published provided that minimum is no lower than 200 feet HAT/HATh. Approaches to less than 2400 RVR at locations without TDZ/CL (or when such system is inoperative) are authorized provided the approach is flown using guidance from the flight director or coupled to the autopilot flown to the DA.

12.31.5. **Table 12.1** lists C-12 Communication, Navigation System (CNS)/Air Traffic Management (ATM) approved operations.

Table 12.1. C-12 CNS/ATM Operational Approvals.

Airspace/Equipment Type	Certified	Operational Approval	Training Required	Additional Information
Category II/III ILS	No	No	N/A	
Frequency Modulation (FM) Immunity	Yes	Yes	No	
8.33 Radios	Yes	Yes	No	
Mode S	Yes	Yes	Yes	Training incorporated into initial qualification
TCAS Version 7	Yes	Yes	Yes	Training incorporated into initial qualification
RVSM	Yes*	Yes*	No	* RVSM certified C-12s only. In the United States, operations at RVSM altitudes are authorized on a case-by-case IAW AIM 4-6-10.
Minimum Navigation Performance Standards (MNPS)	No	No	N/A	
RNAV/GPS Enroute/Terminal	Yes	Yes	Yes	Training incorporated into initial qualification.
Remote Oceanic	Yes	Yes	No	Operations on Special Routes (ex. Blue Spruce) are approved.
[1]Area Navigation (RNAV) 10	Yes	Yes	No	Oceanic and Remote Continental application. Also referred to as RNP 10
[2]Required Navigation Performance (RNP) 4	No	No	N/A	Oceanic and Remote Continental application. Requires ADS-C.
[1]RNAV 5	Yes	Yes	No	Europe, Japan and Middle East Regions, RNP 5.
[2]RNP 2	Yes	Yes	No	US National Airspace System (NAS) enroute
[2]RNP 1	Yes	Yes	No	US NAS terminal

RNAV (GPS) Approaches or ICAO [2]RNP Approach (APCH)	Yes	Yes	Yes	Training incorporated into initial qualification. Assumes: 1) Initial, Intermediate and Missed Approach segments; 2) Final segment RNP ≥ 0.3require RNP ≥1.0; 3) Final segment has no Radius-to-Fix (RF) legs; 4) Authorization Required (AR) not noted.
Localizer Performance with Vertical Guidance (LPV) Minimums	Yes*	Yes*	Yes	Training incorporated into differences qualification.
Localizer Performance (LP) Minimums	No	No	N/A	
Lateral Navigation/ Vertical Navigation (LNAV/VNAV) Minimums	Yes	Yes	Yes	Training incorporated into RNAV/ GPS Approach training. Uses barometric vertical navigation (baro-VNAV).
LNAV Minimums	Yes	Yes	Yes	Training incorporated into RNAV/ GPS Approach training.
[2]RNP Authorization Required (AR) Approach or Special Aircraft and Aircrew Authorization Required (SAAAR) Approach	No	No	N/A	Requires special aircrew qualification and onboard database. Includes any of the following: 1) Initial, Intermediate and Missed Approach segments require RNP < 1.0; 2) Final segment RNP < 0.3; 3) Final segment may contain Radius-to-Fix (RF) legs; 4) Authorization Required (AR) noted
NOTES: 1. Area Navigation (RNAV) refers to installed and certified navigation equipment specification. 2. Required Navigation Performance (RNP) refers to installed and certified navigation equipment specification with a requirement for on-board performance monitoring/failure alerting capability.				

12.31.6. An aircraft may hold at a destination that is below landing minimums, but forecast to improve to, or above, minimums until fuel remaining equals that required to fly to the alternate and hold for the appropriate holding time. The weather at the alternate must be forecast to remain at or above alternate filing minimums for the entire length of delay, transit, and alternate holding time. **(T-2).**

12.32. Classified Equipment and Material. When classified equipment is onboard, ensure the C2 center or base operations office is aware of the requirement for aircraft security. At bases not under jurisdiction of the AF, ensure the aircraft and equipment are protected. For classified aircraft components which cannot be removed and stored, lock the aircraft. If available, use Ravens to guard the aircraft or use guards employed by the host country for flightline/airport area control. The PIC shall ensure classified material/equipment is properly guarded or secured. **(T-2).**

12.32.1. Obtain receipts for turned-in COMSEC/classified materials. The on-site C2 center may provide temporary storage for COMSEC and other classified materials during en route, turnaround, and crew rest stops. Refer to AFMAN 17-1302-O, *Communications Security (COMSEC) Operations,* for additional guidance.

12.32.2. If remaining overnight at a location that cannot provide secure storage, use the following procedures:

12.32.2.1. Secure an electronic keyed device by removing the key from the device. A pilot shall maintain possession of the key. **(T-2).** Place the device somewhere on the aircraft not in plain view (e.g. under a seat, in a closet, or in the baggage compartment).

12.32.2.2. If using a KOI-18 or KYK-13, the entire device may be placed in its sealable/tamper resistant pouch and placed in a securable storage box. The pouch will be locked and the key to the pouch will be kept by a pilot. **(T-2).**

12.32.2.3. Lock classified documents in a securable storage box. The key to the box shall be kept by a pilot. **(T-2).** The aircraft will then be locked, including the emergency exit. **(T-2).** Upon return to the aircraft, the crew must inspect the aircraft and documents for tampering. **(T-2).** The PIC shall immediately report any suspected compromise. **(T-2).**

12.33. MODE 4.

12.33.1. The PIC shall ensure the MODE 4 is operable when required for mission accomplishment. **(T-2).** Conduct an operational ground test of the Mode 4 (ground test assets permitting) before deployment overseas, or as specified in the Operational Order (OPORD) or contingency/exercise tasking.

12.33.2. An inoperable MODE 4 should be fixed before takeoff. Do not delay takeoff nor cancel a mission for an inoperable Mode 4 unless the aircraft will transit an area where safe passage procedures are implemented.

12.33.3. Ground and in-flight checks of the MODE 4, when conducted, are maintenance debrief items. Annotate successful and unsuccessful interrogation of the Mode 4 in aircraft forms.

12.34. Border Clearance. When transiting borders, the PIC shall ensure:

12.34.1. Crewmembers/passengers possess current passports and valid visas, if required. **(T-0).**

12.34.2. Crewmembers/passengers possess current certificates of immunization (shot record), when required. **(T-0).**

12.34.3. Cargo entry documents are in proper order. **(T-0).**

12.34.4. Aircraft meets pest and insect control requirements. **(T-0).**

12.34.5. Arrival/departure is via a port of entry where border clearance can be obtained. **(T-0).**

12.34.5.1. Obtain a permit to proceed when military necessities require an aircraft, which has landed in the US 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.

12.34.5.2. When an aircraft lands for a US border clearance, a US Customs representative normally will meet the aircraft to review the required documents. Do not deplane passengers, troops, or crewmembers unless necessary for safety or the preservation of life and property. 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. **(T-0).**

12.35. Inspections of U.S. Aircraft by Foreign Officials.

12.35.1. Follow USAF policy on status of military aircraft as stated in the FCG. 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. **(T-2).**

12.35.2. If confronted with a search request by foreign authorities, aircrews should use the following procedures:

12.35.2.1. 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.

12.35.2.2. If foreign authorities insist on conducting a search, the PIC should make every effort to delay the search until he or she can obtain guidance from MAJCOM/A3 or the appropriate embassy officials.

12.35.2.3. If foreign officials refuse to desist in their search request, 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.

12.35.2.4. If permission is refused and the foreign authorities insist on forcing their way on board the aircraft, the PIC should notify the foreign authorities that both USAF headquarters and the appropriate American embassy will be notified of the action. The PIC should not attempt physical resistance and should escort foreign authorities on board the aircraft if the inspection cannot be avoided.

12.36. Insect and Pest Control. PICs will ensure required spraying is accomplished and documented if required by the Foreign Clearance Guide or local procedures. **(T-0).**

12.36.1. Aircraft should never be sprayed with passengers on board except when mandated by the FCG.

12.36.2. On arrival at Aerial Port of Disembarkation do not open cargo doors or hatches except to enplane officials required to inspect the aircraft and do not onload or offload cargo or passengers until the inspection is satisfactorily completed. **(T-0).** This procedure may be altered to satisfy mission or local requirements if pre-coordinated with US Customs and Immigration by the base air terminal manager or the local C2 organization.

Section 12G—Miscellaneous

12.37. Cockpit Voice Recorder (CVR). If involved in a mishap or incident, after landing and terminating the emergency, the PIC shall pull the CVR power circuit breaker. **(T-2).**

12.38. Passenger Restrictions. No-show passenger baggage or baggage of passengers removed from flight will be downloaded prior to departure. **(T-2).**

12.39. Aircrew Flight Equipment (AFE) and Dash 21 Equipment. Prior to departure, the PIC shall ensure appropriate AFE, survival, and Dash 21 equipment are aboard the aircraft. **(T-2).**

12.40. Turbulence / Wake Turbulence Category. The C-12 is Aircraft Turbulence Category III and Wake Turbulence Category SMALL. Acceptance of traffic information, instructions to follow an aircraft, or a visual approach clearance is acknowledgment that the PIC accepts responsibility of providing wake turbulence separation.

Chapter 13

AIRCRAFT SECURITY

13.1. General. This chapter provides guidance on aircraft security and preventing and resisting aircraft piracy (hijacking). Aircrews will not release information concerning hijacking attempts or identify armed aircrew members to the public. **(T-2)**.

13.2. Security. Aircraft security at non-United States military installations is the responsibility of the controlling agency and/or PIC. The PIC determines the adequacy of local security capabilities to provide adequate aircraft security.

13.2.1. PIC may request area security patrols from local security forces. If local authorities request payment for this service, use SF 44, *Purchase Order - Invoice Voucher Storage Safeguard Form*.

13.2.2. During short ground times, the PIC may direct armed crew members to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity.

13.2.3. If, in the opinion of the PIC, airfield security is inadequate and the PIC determines the safety of the crew/aircraft is in jeopardy, the PIC may waive the FDP limits and crew rest requirements and depart as soon as possible for a location considered safer. 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. **(T-2).** Request security assistance from the nearest DoD installation, US Embassy, local military or law enforcement agencies as appropriate.

13.2.4. Security awareness is crucial to effective mission accomplishment. Aircrews should always remain vigilant to their surroundings, especially at high threat, low security locations. In addition to normal preflight activities, aircrews should inspect areas of the aircraft not covered by normal preflight duties, to include inside inboard main landing gear doors, nose wheel compartment, and the aft avionics bay for unfamiliar devices. Report any suspicious items to host security forces.

13.3. Distinguished Visitor (DV) Security Program. When the DV is a Code 4 (3-star general or civilian equivalent) or above, follow these procedures:

13.3.1. Park DV aircraft in a prominent area so maintenance personnel and security forces patrols can closely monitor aircraft.

13.3.2. Establish procedures to inform security forces of the arrival, parking arrangements, and departure of all DV aircraft.

13.4. En Route Security. Before transiting threat areas, the PIC shall request a threat assessment briefing and en route security capability evaluation briefing for areas of intended operation prior to home station departure. **(T-3).**

13.5. Air Piracy.

13.5.1. The Administrator, Federal Aviation Administration (FAA), has exclusive responsibility to direct law enforcement activity in responding to an actual or suspected air piracy (hijacking) situation involving all aircraft (civil and military) in-flight in the United States.

13.5.2. An aircraft is most vulnerable to hijacking when the aircrew is aboard and the aircraft is operationally ready for flight.

13.5.3. Preventive Hijacking Measures include thorough passenger 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. **(T-2).**

13.5.4. 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. **(T-2).**

13.5.5. Passengers will not carry weapons or ammunition on their person or in hand-carried baggage aboard an aircraft. **(T-2). Exception:** Special agents, guards of the Secret Service or State Department, Raven Team Members, and other individuals specifically authorized to carry weapons.

13.5.6. Troops will not retain custody of ammunition on an aircraft. **(T-2).** Troops may carry unloaded weapons aboard the aircraft during combat operations. If the tactical situation dictates, weapons may be loaded with approval of the PIC.

13.5.7. If weapons must be cleared, instruct the individual(s) to move to a safe, clear area at least 50 feet from any aircraft, equipment, or personnel before un-holstering or un-slinging weapons.

13.5.8. When an act of air piracy involves an AF installation or aircraft within the US, response will be according to FAA procedures.

13.5.9. Success in thwarting an airborne hijacking depends on the resourcefulness of the aircrew. Key factors to consider before deciding a course of action to be taken includes the nature of the threat, danger to life, or damage to the aircraft in flight, destination indicated by the hijacker, and the presence of sensitive material on board.

13.5.10. Communications with Ground Agencies. Crews facing a hijacking threat will notify ground agencies in accordance with FIH. **(T-2).**

13.5.11. Forced Penetration of Unfriendly Airspace. Refer to FIH for international signals for air intercept.

13.6. Arming of Crew Members. The following procedures apply when arming is directed:

13.6.1. Before departing home station, obtain weapons, ammunition, secure box, lock and key.

13.6.2. Wear weapon in a holster. Conceal weapon when directed to prevent identifying armed crew members. Aircrew shall not wear weapons off the flight line except to and from the C2, armories, and other facilities associated with aircrew activities. **(T-2).** In general, at overseas locations, weapons are not to be brought off the aircraft. In countries where FCG/Status of Forces Agreement (SOFA) authorizes such action, every effort should be made to keep all firearms onboard the aircraft unless appropriately responding to a hostile event or being moved to/from storage at an armory. Raven weapons are to remain on the aircraft unless responding to hostile action or being transported to or from an armory.

13.6.3. Armed crewmembers should discreetly identify themselves to military passenger service security checkpoints. Present valid crew orders, military identification card, and AF

Form 523, *USAF Authorization to Bear Firearms*, authorizing the carrying of concealed weapons.

Chapter 14

OPERATIONAL REPORTS AND FORMS

14.1. General. This chapter provides guidelines for worksheets, reports, and forms associated with operational activities.

14.2. 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.

14.3. AF Form 651, *Hazardous Air Traffic Report (HATR)*. The AF Form 651 is a tool to report near midair collisions and alleged hazardous air traffic conditions.

14.3.1. AFI 91-204, *Safety Investigations and Reports*, and AFMAN 91-223, *Aviation Safety Investigations and Reports*, list HATR reportable incidents.

14.3.2. The PIC shall report the hazardous condition to the nearest ATC agency (e.g. center, flight service station, control tower, or aeronautical radio station) as soon as safety allows. **(T-2).**

14.3.3. 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.

14.4. Reportable Mishaps. Notify the appropriate authorities of any mishap involving aircraft or crew. The AF Form 711B, *USAF Mishap Report*, may be used. Report the following occurrences:

14.4.1. A physiological reaction due to medical or physiological reasons. **Note:** In the event of a physiological episode, all crew members and passengers involved will report to a flight surgeon as soon as practical. **(T-2).**

14.4.2. Engine flameout, engine failure, engine shutdown for other than training or FCF, uncommanded engine power loss, or loss of thrust sufficient to preclude maintaining level flight above MEA.

14.4.3. Uncommanded propeller reversal.

14.4.4. Flight control malfunction resulting in an unexpected or hazardous change of flight attitude, altitude, or heading.

14.4.5. A landing gear malfunction.

14.4.6. In-flight loss of all pitot-static instrument indications or all gyro stabilized attitude or directional indications.

14.4.7. Spillage or leakage of radioactive, toxic, corrosive, or flammable material from aircraft stores or cargo.

14.4.8. All cases of departure from intended takeoff or landing surface onto adjacent surfaces.

14.4.9. A human factor 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.

14.4.10. All bird/wildlife strikes regardless of damage.

14.4.11. All in-flight fires regardless of damage.

14.4.12. Any incident which does not meet the established criteria for a reportable mishap but, in the judgment of the PIC, needs to be emphasized in the interest of flight safety.

14.5. Petroleum, Oil, and Lubricants (POL) Aviation Fuels Documentation. Use the Aviation Into-Plane Reimbursement Card (AIR CARD) for the purchase of aviation fuel and ancillary ground services at commercial airports (and some military installations) worldwide. In most cases, there will be no changes when refueling at non-Defense Energy Support Center (DESC) contract locations. The AIR 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 SF 44 at locations that accept the AIR CARD. Caution**:** Improper use of the AIR CARD could create financial liability for the purchaser.

14.5.1. 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:

14.5.1.1. Defense Energy Support Center (DESC) or Canadian into-plane contracts.

14.5.1.2. Foreign government Air Forces. **Note:** DoD FLIP en route supplements identify locations with into-plane contracts.

14.5.2. AVPOL Forms Documentation and Procedures.

14.5.2.1. 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. **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".

14.5.2.2. The SF 44 may be used to purchase fuel, ground services and/or other authorized products when no AIR CARD contract is in place. The aircrew may present the SF 44 as the purchase invoice when a fixed base operator (FBO) refuses to accept the AIR 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. **(T-2).**

14.5.2.3. Cash fuel purchases are only authorized when approved by the Foreign Clearance Guide or when FBO locations outside the US and US Territories refuse AIR CARD and/or SF 44 invoicing processes. **(T-2).** Use the following procedures for cash purchases of aviation fuel (**Note:** These procedures do not apply to non-fuel products or services):

14.5.2.3.1. Obtain cash from a local DoD Finance source that is charged to an approved Treasury suspense account prior to home station departure.

14.5.2.3.2. Complete the SF 44 and obtain the FBO fuel vendor annotation in block 11 of the SF 44 to confirm total cash amount and sign and date the SF 44 blocks 20 and 21. Present the completed SF 44 to the appropriate home station administrative personnel for processing (e.g., Wing Refueling Document Control Officer, Finance Office, etc.).

14.5.2.4. Purchases of ground services and other approved products (not fuel).

14.5.2.4.1. 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. **(T-2).** Block 9 of the SF 44 is the organization name and address of the finance office responsible for payment to the FBO. The purchasing organization authorizes payment to the FBO upon receipt of the invoice from the FBO.

14.5.2.4.2. 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.

14.5.2.4.3. Turn in two copies of the SF 44 to the operations officer at home station.

14.5.2.5. DD Form 1896, *DoD Fuel Identaplate*, is the aircraft fuel and oil charge card normally used at military locations for refueling transactions. **Note:** The DoD and Canadian Department of National Defense have signed a memorandum of understanding allowing DoD aircraft to use the DD Form 1896 when refueling at Canadian airfields with a Canadian National Defense Contract. Use the AIR CARD for fuel purchases at Canadian airports without this contract and for ground handling services at all Canadian airports.

Chapter 15

TRAINING GUIDANCE AND PROCEDURES

15.1. Passengers on Training Missions.

15.1.1. Mission qualification training, evaluations, and off station trainers may carry passengers only if the aircrew in training is basic aircraft qualified (completed aircraft check ride with a valid AF Form 8).

15.1.2. Multiple practice approaches will not be accomplished with passengers on board. **(T-2).**

15.2. Simulated Emergency Flight Procedures. Do not practice compound simulated emergencies. **(T-2).**

15.2.1. Use radar flight following to the maximum possible, consistent with training objectives.

15.2.2. Conduct simulated emergencies during training and evaluation or currency flights when an instructor or flight examiner pilot is occupying one of the pilot seats. Instructor or flight examiner pilot candidates who occupy a pilot seat and are under supervision of a flight examiner pilot not in a pilot seat may conduct simulated emergencies during initial and requalification upgrade evaluations.

15.2.3. Passengers are prohibited on flights when simulated emergencies are practiced. **(T-2). Exception:** MEP and contract maintenance employees may be on board during simulated emergencies if the simulation is used to troubleshoot a maintenance issue.

15.2.4. Terminate all training during actual aircraft emergencies. The PIC may continue training if it is safe to do so.

15.2.5. To simulate loss of an engine, announce “Simulated” on interphone prior to pulling the POWER lever to IDLE. The corresponding PROPELLER lever may be pulled to the minimum primary governor setting to simulate a feathered propeller and zero thrust may be simulated by slightly advancing the ‘failed’ engine’s POWER lever to minimize the idled engine’s propeller drag. **Note:** Do not feather the propeller.

15.3. Touch-and-Go Landings. Touch-and-go landings may only be accomplished under the direct supervision of a current and qualified IP**. (T-2). Exception:** OG/CC may approve unit commanders to authorize select aircraft commanders to perform normal two-engine touch-and-go landings without IP supervision.

15.3.1. The following apply to touch-and-go landings:

15.3.1.1. Reported ceiling must be at or above 300 feet and visibility must be at or above 3/4 mile (RVR 40). **(T-2).**

15.3.1.2. Runway RCR must be 12 or higher. **(T-2).** If runway RCR is not available, breaking action must be reported as Fair or better. **(T-2).**

15.3.1.3. Do not conduct touch-and-go landings on slush-covered runways. **(T-2).**

15.3.1.4. MEP and civilian employees under direct contract to the DoD or engaged in official direct mission support activities are considered mission essential and may be on board when touch-and-go or stop-and-go landings are performed.

15.3.2. Touch-and-go landings are prohibited with passengers or cargo onboard. **(T-2).**

15.4. Simulated Engine-Out Limitations. Aircrew will not perform simulated engine-out approaches and landings at night or in IMC. **(T-2).** Simulated engine failure is not authorized at less than engine-out minimum control speed or when an actual emergency condition exists. Simulated engine failure will not be initiated below 500 feet AGL. **(T-2).**

15.5. Training Maneuver Restrictions. Table 15.1 lists the training maneuver restrictions that apply on all training flights and FCFs. **(T-2).**

Table 15.1. Maneuver Restrictions.

Maneuver	Restriction	Notes
Actual engine shutdown	5,000 feet AGL minimum	Perform only for FCF or familiarization during initial/upgrade/recurrency syllabus training (actual or training)
Engine out abort		FCF flights only
Simulated single engine go-around	Not lower than 300 AGL	
Approach to stalls/slow flight	5,000 feet AGL minimum and in VMC	Perform in accordance with 15.9. and 15.10.

15.6. Prohibited In-Flight Maneuvers:

15.6.1. Simulated engine-out takeoffs. **(T-2).**

15.6.2. Full stalls. **(T-2).**

15.6.3. Approach to stalls and slow flight unless under the direct supervision of an IP. **(T-2).**

15.6.4. Dutch rolls. **(T-2).**

15.6.5. Jammed stabilizer approaches and landings. **(T-2).**

15.6.6. Aborted takeoffs. **(T-2).**

15.6.7. Unusual attitudes. **(T-2).**

15.6.8. Emergency descents. **(T-2).**

15.6.9. Runaway pitch or roll trim and yaw demonstrations. **(T-2).**

15.6.10. Simulated dual-engine failures. **(T-2).**

15.6.11. Actual engine shutdowns (exceptions noted in Table 15.1). **(T-2).**

15.6.12. Maneuvers normally prohibited but required for FCFs or FCF upgrade training are authorized when specified in the FCF checklist or upgrade syllabus.

15.7. Instructor Pilot Briefing. Before all training missions, the IP will brief:

15.7.1. Requirements and objectives for each student. **(T-2).**

15.7.2. Planned training area and seat changes. **(T-2).**

15.7.3. Flight manual procedures. **(T-2).**

15.7.4. The importance of smoothly advancing power to avoid asymmetric thrust. **(T-2).**

15.7.5. Engine failure, including recognition and corrective action. **(T-2).**

15.7.6. Proper use of flaps, trim, and rudder. **(T-2).**

15.7.7. Acceptable flight parameters including airspeed, descent point, descent gradient, threshold crossing height, and touchdown zone. **(T-2).**

15.8. Debriefing. Review, debrief, and evaluate all training performed. The PIC shall ensure all training is documented. **(T-2).**

15.9. Approach to Stall Training (T-2). Accomplish this training only under direct supervision of an IP, in visual meteorological conditions, at least 5,000 feet above ground level, and only when established in airspace approved for maneuvers. Perform clearing turns, announce stall speed for weight and configuration, and set 10% available torque. Maintain desired altitude and heading. Trim in accordance with flight manual. Recover at first sign of stall (either warning horn or buffet).

15.10. Slow Flight Training. (T-2). Accomplish this training only under direct supervision of an IP, in visual meteorological conditions, at least 5,000' above ground level, and only when established in airspace approved for maneuvers. Perform clearing turns. Announce stall speed for weight and configuration. Configure the aircraft and run the BEFORE LANDING checklist. Establish and maintain an airspeed 15 knots above calculated stall speed. Perform turns using no more than 15 degrees of bank. Maintain desired altitude. Recover by executing go-around procedure.

Chapter 16

AIRCREW OPERATIONS IN CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) THREAT ENVIRONMENT

16.1. Overview. This chapter describes the passive defense measures and guidance for ground and flight operations in a contaminated environment. **Note:** Aircrew flying C-12 aircraft not modified/equipped to support the wear of the Aircrew CBRN Ensemble (ACBRNE) will treat the instructions in this chapter as non-directive.

16.2. CBRN Passive Defense Measures. Passive defense measures are those activities conducted to negate, contain, and manage the effects of a 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.

16.2.1. Contamination avoidance is the most important passive defense measure. Techniques for contamination avoidance include inflight diversion, survival launch, and minimizing exposure to contaminated cargo, aerospace ground equipment, and material handling equipment.

16.2.2. Inflight Diversion. When advised that a destination airfield is under CBRN attack or has been contaminated, the aircrew will divert to an uncontaminated airfield, if possible. **(T-2).**

16.2.3. Survival Launch. If caught on the ground during attack warning, every reasonable effort should 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.

16.2.4. All formerly contaminated equipment and cargo must be marked to facilitate contamination avoidance. The air shipment of formerly contaminated cargo requires special handling precautions and authorization by the senior transportation commander.

16.2.5. Individual Protective Equipment. In-flight protective gear for aircrew members is the Aircrew Chemical Defense Ensemble. 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. **Note:** Aeromedical Evacuation Crew Members (AECM) will utilize the M-50 series mask. **(T-2).**

16.2.5.1. Aircrews will ensure their ACBRN and GCE are available at all times while in a CBRN threat area. **(T-2).**

16.2.5.2. Aircrew members will confirm mobility bag contents and correct protective gear sizes. **(T-2).**

16.3. Decontamination. Air washing is a useful inflight 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 and flaps extended) as long as possible to maximize the airflow in and around as many places as possible.

16.3.1. Exterior contamination may seep into the aircraft interior creating a vapor hazard for aircrews. Use of ACDE is recommended.

16.3.2. Complete decontamination of aircraft and equipment may be difficult, if not impossible, to achieve.

16.3.3. Contaminated and/or decontaminated assets will be restricted to DOD-controlled airfields and shall not be released from US government control. **(T-2).**

16.4. Flight Operations.

16.4.1. Mission Planning. Aircraft commanders should emphasize ACBRNE wear, crew coordination, CBRN hazards and countermeasures, inflight 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 Mission Oriented Protective Posture (MOPP) conditions change.

16.4.2. Establishing the Threat Level. Aircrews shall monitor command and control channels to ensure they receive the latest information concerning the destination's alert condition. **(T-2).** Diversion of aircraft to alternate "clean" locations may be required, unless operational necessity otherwise dictates.

16.4.3. Extra fuel is authorized as needed to compensate for altitude restrictions as the result of CB agent exposure. During purge periods, fly the aircraft unpressurized. When unpressurized, fly below 10,000’ MSL when carrying passengers who do not have access to aircraft oxygen.

16.4.4. Aircrew wear of ACBRNE 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 quantity must be on board to meet higher consumption rates. **(T-2).**

16.4.5. When wearing the ACBRNE, Atropine and 2 PAM Chloride auto injectors shall be kept in the upper left ACBRNE pocket. **(T-2). Exception:** 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 enables personnel to locate the medication should an individual be overcome by CWA poisoning. M-9 tape 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 in accordance with arrival destination's MOPP level and brief aircrew operations in the CBRN threat area. **(T-2).** As a minimum, brief: flight deck isolation, oxygen requirements, air conditioning system requirements, IPE requirements, ground operations, and MOPP levels. Aircrew members may determine the wear of the integrated survival vest/body armor and LPUs restricts dexterity and mobility to the point that it becomes a safety issue. If the aircrew deems the equipment creates 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.

16.4.6. Inform command and control aircraft and cargo contamination status when inbound. This information will be used to determine if a diversion flight is required or decontamination teams are needed. Include the physical condition of any crew/passengers who are showing agent symptoms and whether they are wearing chemical defense ensembles.

16.5. Ground Operations.

16.5.1. 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 can perform necessary crew preparations and pre-flight briefings. Aircrews should avoid pre-flighting the aircraft prior to departure to prevent contamination spread to them and/or the aircraft. Aircrew will require assistance from ground support personnel in removing aircrew protective overcape and overboots prior to entering the aircraft**. (T-2).**

16.5.2. The aircrew should exercise extreme care to prevent contamination spread to the aircraft interior during ground operations. Place contaminated engine covers, safety pins and chocks in clean plastic bags prior to storing on the aircraft. Aircrew members entering the aircraft must 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. **(T-2).**

16.5.3. Conducting on/offloading operations, while wearing the complete ACBRNE, complicates communications capability. Use the mini-amplifier/speaker or the aircraft public address system and augment with flashlight and hand signals, as required.

16.5.4. Only CRITICAL retrograde cargo is authorized to be moved from a contaminated to an uncontaminated airbase. **(T-2).** Cargo must be protected prior to and while being transported to the aircraft. **(T-2).** If contaminated, protective cover(s) will be removed/replaced just prior to placing the cargo on the aircraft. **(T-2).** It is the user's responsibility to decontaminate cargo for air shipment.

16.5.5. Aircraft commanders should be aware of elevated stresses associated with physical exertion while wearing ACBRNE, extended ground times, and heat exposure. Individuals involved should be closely monitored for adverse physiological effects.

16.5.6. Once airborne with actual/suspected vapor contamination, purge the aircraft for 2 hours using Smoke and Fume Elimination procedures. Use M-8 and M-9 detection paper to determine if liquid contamination exists on interior surface areas, aircrew/passenger clothing, or cargo. Detection paper only detects certain liquid agents and will not detect vapor hazards. Above the shoulder ACBRNE 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. **(T-2).** The best course is to identify actual/suspected contamination, avoid those areas for the remainder of the flight, and keep the cargo compartment cool. If an aircrew member or passenger has been in contact with liquid contaminants, all personnel aboard the aircraft will stay in full ACBRNE/GCE until processed through a contamination control area (CCA). **(T-2).**

16.5.7. 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. **(T-2).**

Chapter 17

NAVIGATION PROCEDURES

17.1. Mission Planning. The PIC shall confirm the desired flight plan route matches the filed route of flight and ensure required diplomatic clearances for that route have been attained/approved. **(T-2).**

17.2. Oceanic/Class II and Extended Range Operations.

17.2.1. Oceanic/Class II routing is airspace beyond the limits of ground-based NAVAIDS.

17.2.2. Extended range operations (ETOPS) is defined as flight operations along a route containing a point further than 60 minutes flying time (with one-engine inoperative at maximum cruise power) from a suitable recovery airfield.

17.2.2.1. The PIC shall ensure enough fuel and oxygen is on board to complete the flight from the Equal Time Point (ETP) to a recovery field. **(T-2).**

17.2.2.2. Recovery fields used for ETP computation must meet all alternate qualifications in accordance with AFI 11-202V3 and this manual to include wind limitations. **(T-2).**

17.2.2.3. Computer flight planning software may be used to assist in plotting an ETP and determining fuel requirements.

17.3. Airspace.

17.3.1. Reduced Vertical Separation Minimum (RVSM) airspace is special qualification airspace (FL290-FL410). Both the operator and the aircraft must be approved for operations in this airspace. **(T-2).** Refer to FLIP AP 1/2/3 for theater unique information.

17.3.2. Required Navigation Performance (RNP) airspace is special qualification airspace. RNP airspace is being incorporated around the world to increase air traffic capacity by decreasing separation requirements between routes. Document in the aircraft forms malfunctions or failures of RNP required equipment.

17.3.3. RNP-10. Navigation accuracy is within 10 nm of track 95% of the time. Pilots will immediately notify ATC if any of the required equipment fails after entry into RNP-10 airspace. **(T-0).** Remote/Oceanic operation in RNP-10 airspace is authorized provided that all required equipment is operational and adequate GPS coverage is available.

17.3.4. Basic Area Navigation (BRNAV) airspace is special qualification airspace. BRNAV meets a track keeping accuracy equal or better than +/- 5 NM for 95% of the flight time. Minimum equipment to operate in BRNAV airspace is an approved GPS with Receiver Autonomous Integrity Monitoring provided that the system is monitored by the flight crew and that in the event of a system failure, the aircraft retains the capability to navigate relative to ground based NAVAIDs (i.e. VOR, DME, and NDB). Pilots will immediately notify ATC if any of the required equipment fails after entry into BRNAV airspace. **(T-0).**

17.3.5. FM Immunity. The C-12 is fully compliant with no restrictions.

17.4. Ferry Operations.

17.4.1. Waiver authority for ferry T.O. limits is MAJCOM/A3.

17.4.2. Weight waived takeoffs will only be flown for critical legs where suitable airfields are unavailable to shorten leg length. **(T-2).**

17.4.3. Every effort should be made to include a ferry-experienced crew member plus a maintenance member on ferry mission. If a ferry-experienced crewmember is unavailable, the PIC must receive table top briefing from a highly experienced IP. **(T-3).**

Chapter 18

AIRCREW MAINTENANCE SUPPORT PROCEDURES

18.1. General. This chapter contains aircrew procedures not contained in the flight manual, other portions of this manual, or other publications.

18.2. Responsibilities. Aircrew may assist the normal maintenance function provided this action does not impact crew duty day or scheduled crew rest limits.

18.3. Authority to Clear a Red X. Pilots are not normally authorized to clear a Red X. When the aircraft is on a Red X and qualified maintenance personnel are not available to clear it, the PIC may obtain authorization to clear the Red X from the owning maintenance group. **Exception:** When a crew is required to run T.O. 1C-12A/F/J Strange Field Checklist, the PIC may clear his/her own Red X caused by securing the aircraft.

18.4. Aircraft Servicing. Aircrew are authorized to perform some maintenance support tasks in the absence of qualified maintenance personnel:

18.4.1. Aircraft Refueling. Aircrew members may perform refueling duties when maintenance support is not readily available.

18.4.2. The dash one preflight inspection is valid for 72 hours from the time of inspection or until another maintenance dash six preflight inspection is performed.

18.4.3. Fire Protection and Crash Rescue. A fire bottle, if available, should be positioned near the front of the aircraft prior to starting engines.

Chapter 19

CARGO AND PASSENGER PROCEDURES

19.1. Responsibilities for Aircraft Loading.

19.1.1. Aerial port personnel at AMC bases manage cargo and mail for airlift to include required documentation.

19.1.2. At non-AMC bases, the shipper/user is responsible for cargo handling and documentation.

19.1.3. In all cases, the PIC is responsible for: **(T-2).**

19.1.3.1. Cargo load planning.

19.1.3.2. Cargo on/off loading, tiedown, and proper/complete cargo manifests.

19.2. Emergency Exits and Safety Aisles. Do not block egress routes with cargo. **Note:** All passenger hand carried items should fit under the seat. If they do not, secure the items in the baggage compartment.

19.3. Passenger Rules.

19.3.1. Crews may 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. File a copy of the passenger manifest with the most responsible on-scene agency if there is no base operations or other agency responsible for filing the manifest.

19.3.2. All passengers, regardless of age, are required to be assigned their own seat. **(T-2).**

19.3.3. Passengers are limited to 30 pounds of baggage unless specific allowance for excess baggage is pre-coordinated with the PIC. Passengers with excess baggage may be transported after the PIC determines the aircraft weight limitations and mission requirements are satisfied.

19.3.4. Passenger may hand carry a Department of Transportation approved Infant Car Seat (ICS) aboard the aircraft to use in assigned seats. Adults may hold infants under the age of two in their lap for any critical phase of flight. In the event of turbulence or an emergency landing, infants should be secured in an ICS.

19.3.5. Every effort shall be made to transport passengers with disabilities who are eligible to travel. Passenger service personnel and crewmembers will assist in loading, seating, and unloading disabled passengers. Travel may be disapproved by the chief of travel at the passenger travel section or the PIC if there is an unacceptable risk to the safety of the disabled passenger, other passengers, crew, or if operational necessity/equipment or manpower limitations preclude accepting disabled passengers**.**

19.3.6. The crew shall download the baggage of no-show passengers and those removed from a flight**. (T-2).**

19.3.7. Passenger Operation of Emergency Exits. Prior to each flight, formulate and brief a passenger emergency egress plan. Seat only English-speaking, physically able adults (age 15 and older) next to the emergency exit. Passengers seated next to the emergency exit must be willing to assist the crew during emergency egress. **(T-2).**

19.4. Weight and Balance. Accomplish weight and balance in accordance with T.O. 1-1B-50, *Weight and Balance*, and T.O. 1C-12-1 procedures. Maintenance maintains the primary weight and balance handbook containing the current aircraft status.

19.5. 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.

19.5.1. Personnel who will engage in immediate combat upon landing may carry basic combat loads on their person. Weapons will remain clear of magazines or clips until immediately before exiting the aircraft**. (T-2).**

19.5.2. Personnel who will not immediately engage in combat will store basic ammunition loads in a centralized location approved by the PIC. **(T-2).**

19.6. Cargo Validation. Proper cargo or mail documentation must accompany each load. **(T-2).**

19.7. Hazardous Cargo.

19.7.1. The term "hazardous cargo" as used in conjunction with airlift operations, applies to the following classes and types of materials:

19.7.1.1. Class 1 (Explosives).

19.7.1.2. Class 2 (Compressed gas).

19.7.1.3. Class 3 (Flammable liquid).

19.7.1.4. Class 4 (Flammable solid).

19.7.1.5. Class 5 (Oxidizer and organic peroxide).

19.7.1.6. Class 6 (Poison and infectious substances).

19.7.1.7. Class 7 (Radioactive material).

19.7.1.8. Class 8 (Corrosive material).

19.7.1.9. Class 9 (Miscellaneous dangerous goods)

19.7.2. AFMAN 24-204 contains detailed instructions on packaging, marking, labeling, and certification requirements associated with the airlift of hazardous materials. The crew shall not accept hazardous materials/cargo that is not properly packaged and documented in accordance with AFMAN 24-204. **(T-2).**

19.7.3. The PIC shall adhere to the following safety precautions when transporting hazardous cargo (as appropriate):

19.7.3.1. Ventilate the aircraft. **(T-2).**

19.7.3.2. Placard the aircraft. **(T-2).**

19.7.3.3. No smoking near or on the aircraft. **(T-2).**

19.7.3.4. Fire extinguishers must be available. **(T-2).**

19.7.3.5. Thoroughly inspect the cargo. **(T-2).**

19.7.3.6. Stow cargo away from heater outlets. **(T-2).**

19.7.3.7. Notify medical personnel in case of damage to radioactive materials. **(T-2).**

19.7.3.8. Use protective clothing and equipment. **(T-2).**

19.7.4. Prior to engine start, ensure fire-fighting agency has the following hazardous materials information: **(T-2).**

19.7.4.1. Class of hazardous material aboard and the DoD class or division for explosive materials aboard.

19.7.4.2. Net explosive weight (NEW) for DoD class or division 1.1, 1.2, and 1.3 explosives.

19.7.4.3. Estimated engine start, taxi, and departure time.

19.7.5. Before landing (unless specifically prohibited by the theater commander, FLIP, or FCG) inform the appropriate agency that hazardous materials are onboard. The crew shall transmit the following information: **(T-2).**

19.7.5.1. Mission number.

19.7.5.2. Arrival time.

19.7.5.3. Class of hazardous material.

19.7.5.4. DoD class or division for explosives.

19.7.5.5. Net explosive weight.

19.7.5.6. Aircraft gross weight.

19.7.5.7. Special handling requirements (e.g. isolated parking, security, technical escort teams, etc.).

19.7.6. Aircraft carrying DoD class or division 1.1, 1.2, and 1.3 explosives, hazardous class or division 2.3 or 6.1 zone A materials, or munitions must be parked in areas isolated from non-associated personnel and facilities. When such cargo is aboard, the PIC is responsible for ensuring the cargo is correctly identified to the tower or ground control. If the aircraft is not directed to an isolated area, identify the cargo again to tower or ground control. When identification is acknowledged, the host is solely responsible for selecting the parking area

19.7.7. The military host is responsible for placarding aircraft. When missions operate on non-military bases, the briefing to the PIC will include placarding requirements and, if required, placards will be furnished at the on-load base. **(T-2).** The shipper and receiver must make prior arrangements with the airport manager for shipments of hazardous materials requiring placarding. **(T-2).** The shipper and receiver are responsible for cargo identification, fire-fighting procedures, and isolated parking requirements.

19.7.8. Emergency Landing. If forced to proceed to a divert airfield due to an in-flight emergency, inform ATC of hazardous materials aboard. After landing, inform the appropriate C2 center of pertinent information, if required.

Chapter 20

FUEL PLANNING

20.1. Fuel Conservation. Do not carry extra fuel for convenience. **(T-2).**

20.2. Fuel Planning/Management.

20.2.1. Required ramp fuel consists of all fuel required for engine start, taxi, takeoff, climb, cruise, alternate/missed approach (if required), descent, approach, transition, landing, and fuel reserve (holding fuel). Plan the fuel load using computer flight plan or AF Form 70, *Pilot's Flight Plan and Flight Log*, **Table 20.1**, and the flight manual. **Note:** A fuel plan is not required on local missions remaining within 200 NMs of departure airfield).

20.2.2. Alternate fuel is the fuel for flight from intended destination to alternate aerodrome at optimum altitude and normal cruise speed. Compute fuel, time, and altitude from T.O. 1C-12(A/F/J)-1. Additional fuel is authorized when anticipating enroute adverse weather or ATC delays. When holding in lieu of an alternate is used at a remote or island destination, compute holding for a minimum of 1 + 15 hours using planned destination gross weight at T.O. recommended holding altitude. The forecast weather at the remote or island destination must meet the criteria listed in **Chapter 12. (T-2).**

Table 20.1. Fuel Planning Chart.

Fuel Load Component	Fuel Requirement
Start, taxi, takeoff	C-12C/D/F: 90 pounds (150 with engine runup).
	C-12J: 110 pounds (200 with engine runup).
En route (note 1)	Fuel for planned climb and cruise to overhead destination at cruise altitude or initial approach fix altitude.
En route reserve	Fuel for 10 percent of flight time over Class II route or route segments not to exceed 1 hour at normal cruise.
Alternate (note 2)	Fuel from overhead destination to the alternate at normal speed and altitude, or
Alternate with VIS only criteria	Fuel for descent, approach, and missed approach; use 200 (300 for C-12J) pounds + fuel from destination to alternate using climb and normal cruise charts.
Holding (note 3)	0+45 fuel using holding charts at 10,000 feet.
Approach and landing	150 pounds (C-12C/D/F) or 200 pounds (C-12J).
Identified extra	Fuel for planned holding when delays are anticipated.

Notes:
1. Include all planned off-course maneuvering for departure or en route deviations.
2. When two alternates are required, fuel plan to the most distant alternate.
3. Minimum fuel required over destination or alternate is fuel for holding plus approach and landing or 600 pounds (C-12 C/D/F) or 750 pounds (C-12J), whichever is greater.

20.3. Emergency Fuel. Emergency fuel is 550 pounds (C-12C/D/F) or 700 pounds (C-12J) remaining. Crews shall declare "emergency fuel" to ATC whenever it is determined that they will land with less than emergency fuel. **(T-2).**

20.4. Fuel Computations for Class II Routing. When flying along a Class II route, crews shall ensure they have enough fuel to complete the flight from the equal time point. **(T-2).** Consider worst case recovery with one-engine inoperative or two-engine unpressurized.

Chapter 21

TACTICS

21.1. General. Units may develop a tailored tactics training program that addresses threats crews may be exposed to on operational missions or threats that may be encountered if executing a war-time tasking.

21.2. Tactics Flight Training.

21.2.1. Scope. The tactics flight training program is designed to provide C-12 crewmembers with the necessary skills to safely operate within a threat environment.

21.2.2. Objectives. Flight training is the final phase of the tactics program. Adhere to aircraft limitations in T.O. 1C-12(A/F/J)-1 and this publication.

21.2.3. Tactical Maneuvers should only be employed when mission requirements dictate or when training/currency requires. Do not practice tactical maneuvers with passengers on board. **(T-2).**

21.2.3.1. Random Steep Approach: Limit bank to 45 degrees and indicated air speed (KIAS) to 230; Arrive over airfield at 5,000 feet AGL or as directed and at 220 KIAS. When overhead field, reduce power and configure for landing as airspeed allows; fly the desired final approach corridor employing a spiraling descent; adjust descent gradient to arrive at base turn 1000’ AGL and no less than 140 KIAS; do not exceed 15 degrees nose low.

21.2.3.2. Curvilinear Approach. A curvilinear approach is a curving visual approach flown from any position other than a normal straight-in or downwind. Altitude, configuration and sequence of events may vary. However, in all cases, plan descent and flight path to arrive at a 1/2-mile final on a normal glide path with the aircraft configured for landing.

21.2.3.3. Spiral-Up (Random Steep) Departure: set maximum takeoff power prior to brake release; Climb out at 2 engines Best Rate speed not to exceed 15 degrees pitch; passing 400 feet AGL initiate spiral climb till above threat altitude; do not exceed 30 degrees bank; when above the threat altitude, resume normal climb procedures.

21.3. PIC. PIC shall coordinate planned tactical maneuvers with ATC. Do not fly tactical maneuvers at uncontrolled fields unless operational or training needs dictate. **(T-3).**

Chapter 22

AEROMEDICAL EVACUATION

22.1. Mission. The primary function of operational support airlift (OSA) for aeromedical evacuation (AE) is transport of ill or injured DoD members and dependents requiring little or no medical support. These AE missions may be directed at any time. OSA aircraft may only be used for AE missions with the concurrence of the theater medical validating authority. **(T-2).**

22.2. Definitions.

22.2.1. Aeromedical Evacuation (AE). The movement of patients under medical supervision between medical treatment facilities (MTF) by air transportation.

22.2.2. Aeromedical Evacuation Control Center (AECC). A medical element established to operate in conjunction with command and control centers. The AECC coordinates overall medical requirements with airlift capabilities and monitors patient movement.

22.2.3. Aeromedical Evacuation Crew Member (AECM). Qualified flight nurse or aeromedical evacuation technician performing AE duties.

22.2.4. Charge Medical Technician. Responsible for ensuring completion of enlisted medical crew duties.

22.2.5. Global Patient Movement Requirements Center. Responsible for coordinating all patient movement once the mission arrives at the CONUS reception aerial port, ensuring the patients are continued to final destinations as appropriate, and notifying receiving MTFs of aircraft arrival time as well as types and numbers of patients to be offloaded.

22.2.6. Medical Crew Director (MCD). A flight nurse responsible for the supervision of patient care and medical crew assigned to AE missions. On missions where a flight nurse is not on board, the senior aeromedical evacuation technician will function as the MCD.

22.2.7. Theater Patient Movement Requirements Center. Responsible for the coordination and requirements for patient movement from communication zone to CONUS.

22.3. Pilot in Command Responsibilities. The PIC is responsible for ensuring the safety of the flight and aeromedical crew, patients, and passengers. In matters concerning flight safety, decisions of the PIC are final. The PIC will:

22.3.1. Brief the aeromedical crew on the mission, flight plan, flight profile, and current threat. **(T-2).**

22.3.2. Maintain cabin altitude at the level requested by the aeromedical crew. **(T-2).**

22.3.3. Coordinate with the MCD or senior AECM to determine if any flight restrictions (passenger, cargo, routing) are necessary due to patient conditions. **(T-2).**

22.3.4. Coordinate with the MCD or senior AECM to ensure mission-required equipment is available and installed as necessary. **(T-2).**

22.3.5. Advise the AECMs of intentions to start engines, taxi, itinerary changes, or in-flight difficulties. **(T-2).**

22.3.6. Transmit medical movement coordination messages. **(T-2).**

22.3.7. Coordinate crash and rescue unit requirements when transiting airfields that are unfamiliar with AE requirements. **(T-2).**

22.4. Aeromedical Crew Responsibilities. The MCD or senior AECM is responsible for providing medical care to the patients. In matters of patient care, decisions of the aeromedical crew are final. **(T-2).**

22.5. Patient Preparation. A flight surgeon will normally determine the patient's suitability for aeromedical evacuation on the C-12 aircraft. **(T-2).** If the MCD or senior AECM determines the patient's medical condition is beyond the capability of the aeromedical crew or aircraft, contact the theater AECC for further guidance. The MCD or senior AECM, in coordination with the appropriate theater medical validating authority, may refuse to accept any patient whose medical condition is beyond their capability. The MCD or senior AECM must advise the PIC when a patient's condition or use of medical equipment may affect aircraft operation. **(T-2).**

22.6. Patient Death in Flight. If a patient death occurs in flight, coordinate with command and control for suitable landing location. Recover at a military airfield, if available.

22.7. En Route Diversions. The MCD or senior AECM is the medical authority on board all AE missions and has the responsibility to determine what is beneficial or detrimental to the patients. Should a diversion become necessary due to a change in patient's condition, the PIC will make every effort to comply with the requests of the MCD or senior AECM. Should an en route diversion become necessary for reasons other than change in patient's condition, the PIC will coordinate with the MCD or senior AECM before deciding the course of action. **(T-2).** Welfare of the patient is the prime consideration in all such decisions; however, crew and passenger safety is the final determinant. The PIC shall notify the responsible C2 of the diversion and requests appropriate medical agencies be notified. **(T-2).**

22.8. Aircraft Pressurization. Normally, altitude restrictions are passed from the AECC to C2 channels for flight planning purposes. The MCD or senior AECM should coordinate with the pilot the desired cabin altitude or rate of cabin altitude change during the preflight briefing.

22.9. Passengers and Cargo. With the concurrence of the MCD or senior AECM, the PIC should release available seats to ensure maximum aircraft usage.

22.10. AE Call Sign and Use of Priority Clearance. Only use the AE priority when carrying a sick or seriously injured patient who requires urgent medical attention. **(T-2).** The patient need not be classified urgent. Only use AE priority for that portion of the flight requiring expedited handling. Pilots may request priority handling if AE missions are experiencing long delays during takeoff or landing phases that will affect a patient's condition.

22.11. Load Message. At military bases, the flight crew will pass inbound load messages to proper C2 personnel. At civilian airfields, notify ground control**. (T-2).**

Chapter 23

EVALUATIONS

23.1. General. Flight examiners are authorized to act as instructors for any phase of training. If an examiner is used as a primary instructor to train an individual, the same examiner should not administer the associated evaluation.

23.1.1. Standardization and Evaluation Flight Examiners (SEFE) will use the evaluation criteria contained in this manual for all ground and flight evaluations and administer evaluations in accordance with AFI 11-202V2. **(T-2).**

23.1.2. The SEFE may fly in any seat which will best enable the SEFE to conduct a thorough evaluation.

23.1.3. The SEFE will brief the examinee on the purpose of the evaluation and how it will be conducted prior to flight. **(T-2).**

23.1.4. The SEFE will thoroughly debrief the examinee on all aspects of the flight. **(T-2).** This debrief will include the examinee's overall rating, specific deviations, area grades assigned (if other than qualified) and any required additional training. **(T-2).** If the overall grade is Q-2 or Q-3, a unit supervisor should be debriefed.

23.1.4.1. Examinees receiving an overall unqualified grade (Q-3) must be placed in supervised status until a re-evaluation is successfully accomplished. **(T-2).**

23.1.4.2. Examinees receiving a Q-3 because of an unsatisfactory Bold Face evaluation must complete a successful Bold Face re-evaluation before being permitted to fly. **(T-2).**

23.1.4.3. If examinee receives a Q-2 for an EPE, the SEFE will indicate what ground training must be accomplished before being permitted to fly. **(T-2).**

23.1.5. The standards presented in this manual in conjunction with SEFE judgment are the determining factor in awarding area and overall evaluation grades.

23.1.5.1. Momentary deviations from tolerances are acceptable provided the examinee applies prompt corrective action and such deviations do not jeopardize flying safety.

23.1.5.2. The SEFE may consider cumulative deviations when determining the overall grade.

23.1.5.3. The SEFE should derive the overall flight evaluation grade from a composite of the area grades.

23.1.6. If the examinee receives an unqualified grade in any critical area, an overall unqualified grade (Q-3) shall be assigned. **(T-2).**

23.1.7. The general criteria in **Table 23.1** apply during all phases of flight except as noted for specific events and on instrument final approaches.

Table 23.1. General Criteria.

Grade	Parameter	Tolerance
Q	Altitude	+/- 100 Feet
	Airspeed	+10/-5 knots
	Course	+/- 5 degrees/3 NM (Whichever is greater)
	Arc	+/- 2 NM
Q-	Altitude	+/- 200 Feet
	Airspeed	+15/-5 knots
	Course	+/- 10 degrees/5 NM (Whichever is greater)
	Arc	+/- 4 NM
U	Any of the above	Exceeded Q- Tolerances

23.2. Emergency Procedures Evaluation (EPE). The following items, as applicable, will be included on all emergency procedures evaluations:

23.2.1. Aircraft General Knowledge. **(T-2).**

23.2.2. Evaluation of emergency procedures in each phase of flight (i.e., pre-takeoff, takeoff, cruise and landing). See **Table 7.1** for the Emergency Procedures Guide. **(T-2).**

23.2.3. Cockpit/crew Resource Management (CRM). **(T-2).**

23.2.4. The following items for Instrument and/or Qualification evaluation:

23.2.4.1. Use of standby/emergency instruments. **(T-2).**

23.2.4.2. Loss of visual reference procedures when in close proximity to the runway. **(T-2).**

23.2.4.3. Evaluation of transition to instruments in an unusual attitude recovery. **(T-2).**

23.3. Use of Simulator. The flight phase of the evaluation may be accomplished in an equivalent FAA Level D Aircrew Training Device. To conserve flying resources, units should make every attempt to combine evaluations.

23.4. Publications. Evaluate issued flight publications for currency on all flight evaluations.

23.4.1. Units may specify additional publications to be carried/evaluated.

23.4.2. If digital T.O.s are used, the examinee will demonstrate the ability to navigate through and locate information in the electronic media. **(T-3).**

23.5. Instrument (INSTM) Evaluation. A mission flown using instrument flight rules fulfills the objective of the instrument evaluation. This evaluation should include approaches at airfields other than the base of assignment or deployed locations if possible.

23.5.1. The minimum ground phase requisite is the Instrument examination.

23.5.2. In-flight events include: (**Note:** If mission constraints prevent accomplishing required maneuvers, the SEFE may evaluate missing events via a table-top verbal evaluation)

23.5.2.1. A minimum of three instrument approaches: **(T-2).**

23.5.2.1.1. At least one approach with vertical guidance (ILS, PAR, or RNAV APV).

23.5.2.1.2. At least one approach that uses GPS for final course guidance.

23.5.2.1.3. At least one approach without vertical guidance (LOC, VOR, TAC, NDB, or RNAV LNAV-only).

23.5.2.2. Holding or a Procedure Turn approach. **(T-2).**

23.5.2.3. Circle to land. **Note:** This event is desirable, not required.

23.5.3. Pilots will be evaluated on compliance with National Airspace System rules and procedures. **(T-2). Note:** Individuals whose primary duty station is overseas may be evaluated on knowledge and application of appropriate International Civil Aviation Organization (ICAO) rules and procedures.

23.6. Qualification (QUAL) Evaluation. A qualification evaluation fulfills the requirements for a Mission (MSN) evaluation IAW AFMAN 11-202V2. Requirements for a QUAL evaluation include:

23.6.1. Ground phase: closed and open book examinations; EPE; and Bold Face Written Exam. **(T-2).**

23.6.2. Flight phase: full or partial flap landing; no flap landing; simulated engine failure immediately after takeoff; engine out go around/missed approach; engine out approach and landing; and a VFR traffic pattern, weather permitting. **(T-2).**

23.7. Operational Mission Evaluation (OME). An OME may be administered at the discretion of the unit commander and is normally flown on a unit tasked mission. This evaluation may be used to upgrade a Qualified Pilot (FP) to Mission Qualified Pilot (MP, Aircraft Commander).

23.7.1. The evaluation profile is not fixed. Unit Commander approves the minimum acceptable events to be evaluated. Typical evaluated events are:

23.7.1.1. Two mission legs.

23.7.1.2. Two takeoffs, two instrument approaches, and two landings.

23.7.1.3. Ability to coordinate crew's off-station support for at least one overnight stay.

23.7.1.4. Demonstration of competence executing pilot flying (PF) and pilot monitoring (PM) duties.

23.7.1.5. Demonstration of competence operating in assigned Area of Responsibility (AOR) airspace.

23.7.1.6. VFR and Austere Field procedures should be evaluated on the OME for those pilots certified to perform, and whose mission profiles routinely include, such maneuvers. If evaluating these procedures is not possible or practical, a verbal evaluation of these procedures may be used to determine preflight planning competency and knowledge of governing rules.

23.7.2. If an OME is used to upgrade a qualified flight pilot to mission pilot, document the OME on the AF Form 8 as a "SPOT" evaluation. Include the following comment in the remarks section, "This Operational Mission Evaluation was conducted in conjunction with Aircraft Commander Certification." The member's Unit Commander (or next higher echelon when the upgrade candidate is the Unit Commander) will sign the AF Form 8 as the final approving officer. **(T-2).**

23.7.3. If an OME was conducted as part of recurring QUAL/INSTM evaluation, include the following comment in the remarks section, "An Operational Mission Evaluation was administered in conjunction with this recurring qualification and instrument evaluation."

23.8. Instructor (INSTR) Evaluation. Instructor evaluations will include a thorough evaluation of the examinee's instructor knowledge and ability. **(T-2).** Instruction should include both demonstrations and error analysis. Additionally, when possible, the examinee should demonstrate the ability to accurately apply grading standards. The examinee's ability to analyze deficiencies and impart constructive criticism is an integral part of this evaluation. Specific profiles and/or events may be determined by the SEFE.

23.9. SPOT Evaluation. A SPOT evaluation is not intended to satisfy the requirements of a periodic (i.e., INSTM, QUAL) evaluation. A SPOT has no particular requisites or requirements but may be converted into a periodic evaluation if all of the requirements for that evaluation are met. Document a SEFE objectivity evaluation as a "SPOT" evaluation.

23.10. Administrative Upgrade. Commanders may administratively upgrade a Qualified Pilot (FP) to a Mission Qualified Pilot (MP, Aircraft Commander). A flight evaluation is not mandated.

23.10.1. Use the AF Form 8 to document an administrative upgrade from FP to MP once upgrade requirements are met. Complete AF Form 8 using the following guidance:

23.10.1.1. Date Completed. Enter the effective date of the upgrade. The date may be prior to or the same as the date of the Final Approval officer signature date, but will not be after the Final Approval date.

23.10.1.2. Crew Position. Enter "MP" for crew position.

23.10.1.3. Eligibility Period. Enter "N/A" for the block.

23.10.1.4. Flight Phase. Enter "SPOT" with the date of the final requirement accomplished.

23.10.1.5. Qualification Level. Place a "1" in the Qualified block.

23.10.1.6. Expiration Date of Qualification. Enter "N/A".

23.10.1.7. Flight Examiner and Reviewing Officer. Enter "N/A".

23.10.1.8. Final Approving Officer. The unit commander (or equivalent) must sign, date, and select the checkmark in the remarks block. **(T-3).**

23.10.1.9. Section IV. Under 'Mission Description' provide a narrative detailing upgrade.

Chapter 24

GRADING CRITERIA

24.1. General Grading Standards. The grading criteria in this chapter are divided into five sections: Ground Phase, General, Qualification, Instrument, and Instructor. Grading standards are: "Q"-- qualified; "Q-"-- qualified but not to Q standards; "U"-- Unqualified and requires directed training. Some areas are considered 'critical' and may only be assessed as "Q" or "U".

24.2. Area A: Ground Phase.

24.2.1. Area A-1: Publications.

24.2.1.1. **(Q)** -- Assigned flight publications were current, complete, and usable.

24.2.1.2. **(Q-)** -- Assigned flight publications contained deviations, omissions, and/or errors; however, contained everything necessary to effectively accomplish the mission and did not compromise safety of flight.

24.2.1.3. **(U)** -- Contained major deviations, omissions, and/or errors which compromise safety of flight.

24.2.2. Area A-2: Emergency Procedures Evaluation.

24.2.2.1. **(Q)** -- Displayed correct, immediate response to Bold Face and non-Bold Face emergency situations. Effectively used checklist.

24.2.2.2. **(Q-)** -- Response to Bold Face emergencies 100% correct. Response to certain areas of non-Bold Face emergencies or follow-on steps to Bold Face procedures was slow/confused. Used the checklist when appropriate, but slow to locate required data.

24.2.2.3. **(U)** -- Incorrect response for Bold Face emergency. Unable to analyze problems or take corrective action. Did not use checklist, or lacks acceptable familiarity with its arrangement or contents.

24.3. Area B: General.

24.3.1. Area B-1: Safety (Critical).

24.3.1.1. **(Q)** -- Aware of and complied with all safety factors required for safe aircraft operation and mission accomplishment.

24.3.1.2. **(U)** -- Unaware of or did not comply with all safety factors required for safe operation or mission accomplishment. Did not adequately clear. Operated the aircraft in a dangerous manner.

24.3.2. Area B-2: Judgment (Critical).

24.3.2.1. **(Q)** -- Executed the assigned mission in a timely, efficient manner. Conducted the flight with a sense of understanding and comprehension.

24.3.2.2. **(U)** -- Decisions or lack thereof resulted in failure to accomplish the assigned mission. Demonstrated poor judgment to the extent that safety could have been compromised.

24.3.3. Area B-3: Flight Discipline (Critical).

24.3.3.1. **(Q)** -- Demonstrated strict professional flight and crew discipline throughout all phases of the mission.

24.3.3.2. **(U)** -- Failed to exhibit strict flight or crew discipline. Violated or ignored rules or instructions.

24.3.4. Area B-4: Briefings.

24.3.4.1. **(Q)** -- Presented briefing in a professional manner. Briefing was well organized and in a logical sequence. Established objectives for the mission. Effective use of training aids. Concluded briefing in time to allow preflight of personal equipment and aircraft. Crewmembers clearly understood mission requirements. Considered the abilities of all crewmembers. Briefed corrective action from previous mission and probable problem areas when appropriate.

24.3.4.2. **(Q-)** -- Events out of sequence, hard to follow, some redundancy. Did not make effective use of available training aids. Dwelled on non-essential mission items. Limited discussion of techniques. Did not consider all crewmembers' abilities. Did not identify probable problem areas.

24.3.4.3. **(U)** -- Confusing presentation. Did not allow time for preflight of personal equipment and aircraft. Redundant throughout briefing. Presentation created doubts or confusion. Did not establish objectives for the mission. Omitted major training events. Ignored crewmembers' abilities and past problem areas.

24.3.5. Area B-5: Personal Equipment (example: Electronic Flight Bag (EFB)).

24.3.5.1. **(Q)** -- Thoroughly familiar with personal equipment requirements, usage, and preflight.

24.3.5.2. **(Q-)** -- Possessed required personal equipment items and was familiar with most of the preflight and usage procedures.

24.3.5.3. **(U)** -- Unfamiliar with required personal equipment preflight and usage.

24.3.6. Area B-6: Forms, Reports, Logs.

24.3.6.1. **(Q)** -- Completed or supervised completion of all required forms without significant error.

24.3.6.2. **(Q-)** -- Completed or supervised completion of all required forms with some errors or omissions that had to be corrected.

24.3.6.3. **(U)** -- Forms were incomplete, improperly filled out. Data on forms inaccurate, detracting from recording the mission data.

24.3.7. Area B-7: Flight Planning.

24.3.7.1. **(Q)** -- Developed comprehensive plan to accomplish the mission. Planned mission in accordance with governing FAA/ICAO and USAF flight operations directives. Aware of alternatives available, if flight cannot be completed as planned. Read and initialed all items in the Flight Crew Information File (FCIF)/ Read Files. Prepared at briefing time. Required flight publications are current.

24.3.7.2. **(Q-)** -- Same as above, except minor error(s) or omission(s) that did not detract from mission effectiveness. Demonstrated limited knowledge of performance capabilities or approved operating procedures/rules in some areas.

24.3.7.3. **(U)** -- Made major error(s) or omission(s) that would have prevented a safe or effective mission. Displayed faulty knowledge of operating data or procedures. Did not review or initial Go/ No-Go items. Not prepared at briefing time.

24.3.8. Area B-8: Use of Checklists.

24.3.8.1. **(Q)** -- Used current checklist and accomplished all items in proper sequence with no deviations or omissions.

24.3.8.2. **(Q-)** -- Only minor deviations from checklist procedures were noted.

24.3.8.3. **(U)** -- Failed to use current checklist or deviated from checklist procedures resulting in the mission being compromised.

24.3.9. Area B-9: Crew Resource Management.

24.3.9.1. **(Q)** -- Coordinated effectively with other crewmembers. Effectively used all crewmembers. Gave clear, concise crew instructions.

24.3.9.2. **(Q-)** -- Coordinated satisfactorily with other crewmembers. Some instructions were not clear and concise.

24.3.9.3. **(U)** -- Failed to coordinate with crewmembers. Did not give clear and concise instructions. Failed to utilize resources causing degradation of the mission or safety of flight.

24.3.10. Area B-10: Communication Procedures.

24.3.10.1. **(Q)** -- Radio and inter-cockpit communications were concise, accurate and effectively used to direct maneuvers or describe the situation.

24.3.10.2. **(Q-)** -- Minor terminology errors or omissions occurred, but did not significantly detract from situational awareness or mission accomplishment. Extraneous comments presented minor distractions.

24.3.10.3. **(U)** -- Radio communications were inadequate or excessive. Inaccurate or confusing terminology significantly detracted from situational awareness or mission accomplishment.

24.3.11. Area B-11: Knowledge of Directives.

24.3.11.1. **(Q)** -- Demonstrated thorough knowledge of aircraft systems, limitations and performance characteristics.

24.3.11.2. **(Q-)** -- Knowledge of aircraft systems, limitations, and performance characteristics sufficient to perform the mission safely. Demonstrated deficiencies either in depth of knowledge or comprehension.

24.3.11.3. **(U)** -- Demonstrated unsatisfactory knowledge of aircraft systems, limitations or performance characteristics.

24.3.12. Area B-12: Fuel Conservation.

24.3.12.1. **(Q)** -- Possessed a high level of knowledge of all applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied fuel conservation procedures during mission planning and through-out the mission execution.

24.3.12.2. **(Q-)** -- Possessed some knowledge of applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied some fuel conservation procedures, but failed to apply fuel conservation procedures during mission planning or during some phases of the mission.

24.3.12.3. **(U)** -- Unaware of fuel conservation procedures. Failed to apply any fuel conservation procedures in any area of the mission.

24.4. Area C: Qualification.

24.4.1. Area C-1: Performance Data.

24.4.1.1. **(Q)** -- Accurately computed/reviewed all required takeoff and landing data. Ensured all crewmembers were prepared. Aware of abort considerations, runway condition, weather, impact of weather on mission accomplishment.

24.4.1.2. **(Q-)** -- Computed/reviewed required takeoff data with minor omissions or errors which did not detract from mission accomplishment or safety.

24.4.1.3. **(U)** -- Major errors or omissions which compromise safety. Faulty or improper knowledge of performance data.

24.4.2. Area C-2: Preflight Inspection.

24.4.2.1. **(Q)** -- Established and adhered to station, engine start, taxi and take-off times to assure thorough preflight, check of personal equipment, crew briefing, etc. Accurately determined readiness of aircraft for flight.

24.4.2.2. **(Q-)** -- Minor procedural deviations which did not detract from the overall mission.

24.4.2.3. **(U)** -- Major deviations in procedure which would preclude safe mission accomplishment. Failed to accurately determine readiness of aircraft for flight. Crew errors directly contributed to a late takeoff which degraded the mission or made it non-effective.

24.4.3. Area C-3: Engine Start.

24.4.3.1. **(Q)** -- Accomplished engine start in accordance with flight manual procedures and checklists. Used correct hand signals, if applicable.

24.4.3.2. **(Q-)** -- Accomplished engine start with significant omissions or deviations from flight manual checklist procedures that did not affect safety.

24.4.3.3. **(U)** -- Omitted required procedures. Deviations to flight manual which could potentially damage aircraft or mission equipment.

24.4.4. Area C-4: Taxi.

24.4.4.1. **(Q)** -- Ensured adequate maneuvering space for aircraft. Satisfactorily used power, steering, rudder, or brakes. Taxi speed was adequate for existing conditions. Displayed satisfactory knowledge of marshaling signals.

24.4.4.2. **(Q-)** -- Taxi speed was erratic. Taxi was safe but over-controlled and rough when turning or using brakes. Deviations or omissions from flight manual procedures that did not affect safety or mission accomplishment.

24.4.4.3. **(U)** -- Taxi speed dangerous to aircraft control or systems. Overused brakes causing hot brakes or tire damage. Intervention required to prevent further damage to aircraft.

24.4.5. Area C-5: Takeoff.

24.4.5.1. **(Q)** -- Maintained smooth aircraft control throughout takeoff. Performed takeoff in accordance with flight manual procedures and techniques. Maintained runaway centerline alignment +/- 10 feet during takeoff ground roll.

24.4.5.2. **(Q-)** -- Minor flight manual procedural or technique deviations. Control was rough or erratic. Maintained runaway centerline alignment +/- 25 feet during takeoff ground roll.

24.4.5.3. **(U)** -- Exceeded aircraft systems limitations. Raised gear too early/late. Failed to establish proper climb attitude. Over-controlled aircraft resulting in excessive deviations from intended flight path. Exceeded Q- parameters.

24.4.6. Area C-6: Climb Procedures.

24.4.6.1. **(Q)** -- Climbed in accordance with the applicable flight manual. Airspeed +/- 10 knots.

24.4.6.2. **(Q-)** -- Some under or over-control. Flight manual deviations significant but did not affect safety of flight or mission accomplishment. Airspeed +/- 20 knots.

24.4.6.3. **(U)** -- Failed to comply with flight manual procedures. Major deviation affecting safety and mission accomplishment.

24.4.7. Area C-7: Traffic Pattern.

24.4.7.1. **(Q)** -- Performed patterns/approaches in accordance with procedures and techniques outlined in the flight manual, operational procedures and local directives. Pattern altitude: +/- 100 feet, airspeed: 140 knots, minimum, prior to base turn. Aircraft control was smooth and positive. Accurately aligned with runway. Maintained correct glidepath until threshold. Maintained proper/briefed airspeed.

24.4.7.2. **(Q-)** -- Performed patterns/approaches with minor deviations to procedures and techniques outlined in the flight manual, operational procedures and local directives. Pattern altitude - +/- 200 feet. Aircraft control was not consistently smooth, but safe. Alignment with runway varied. Minor glidepath deviations were corrected before crossing threshold. Slow to correct to proper/briefed airspeed. Final approach speed: Approach Speed (Vapp) +20/-10 knots.

24.4.7.3. **(U)** -- Approaches not performed in accordance with procedures and techniques outlined in the flight manual, operational procedures and local directives. Erratic aircraft control. Large deviations in runway alignment. Exceeded Q- parameters.

24.4.8. Area C-8: Full Flap/Partial Flap Landing. Where runway configuration, arresting cable placement or flight manual limitations require an adjustment to the desired touchdown point, a simulated runway threshold will be identified and the grading criteria applied accordingly.

24.4.8.1. **(Q)** -- Performed landings in accordance with procedures and techniques outlined in the flight manual, operational procedures and local directives. Maintained runway centerline +/- 10 feet. Touchdown point was +1000/-300 feet of intended landing point. For VFR approaches, the intending landing point will be between 500 – 1000 feet from the threshold. For Instrument approaches, the intended landing point will be the Runway Point of Intercept (RPI) for ILS or Visual Approach Slope Indicator (VASI) / Precision Approach Path Indicator (PAPI), if available. If no glidepath guidance is available, use 1000 feet from the threshold as the intended landing point. Airspeed crossing the threshold was Vapp + ½ the gust factor (not to exceed 10 knots) +5/-0 knots.

24.4.8.2. **(Q-)** -- Performed landings with minor deviations to procedures and techniques outlined in the flight manual, operational procedures and local directives. Maintained runway centerline +/-25 feet. Touchdown point was +2000/-1000 feet of intended landing point (but not prior to runway threshold). Airspeed crossing the threshold was Vapp + ½ the gust factor (not to exceed 10 knots) +15/-5 knots.

24.4.8.3. **(U)** -- Landing not performed in accordance with procedures and techniques outlined in the flight manual, operational procedures and local directives. Exceeded Q-parameters.

24.4.9. Area C-9: No Flap Landing.

24.4.9.1. **(Q)** -- Configured at the appropriate position/altitude. Flew final based on tech order procedures, airspeed and desired vertical path. Smooth, positive control of aircraft.

24.4.9.2. **(Q-)** -- Safety not compromised. Configured at a position and altitude which allowed for a safe approach. Minor deviations from tech order procedures, airspeed and altitudes. Unnecessary maneuvering due to minor errors in planning or judgment. Performance parameters were in accordance with criteria detailed in Full/Partial Flap Landing for Q-.

24.4.9.3. **(U)** -- Major deviations from tech order procedures, airspeed and altitudes. Required excessive maneuvering due to inadequate planning or judgment. Exceeded Q-parameters.

24.4.10. Area C-10: Engine Out Pattern/Landing: Includes simulated engine out varied flap settings, as appropriate.

24.4.10.1. **(Q)** -- Complied with all flight manual and operational procedures. Maintained safe maneuvering airspeed. Flew approach compatible with the situation. Adjusted approach for type emergency simulated. Airspeed crossing the threshold was Vapp + ½ the gust factor (not to exceed 10 knots) +10/-0 knots.

24.4.10.2. **(Q-)** -- Minor procedural errors. Erratic airspeed control. Errors did not detract from safe handling of the situation. Airspeed crossing the threshold was Vapp + ½ the gust factor (not to exceed 10 knots) +15/-0 knots.

24.4.10.3. **(U)** -- Did not comply with applicable procedures. Erratic airspeed control compounded problems associated with the emergency. Flew an approach which was

incompatible with the simulated emergency. Did not adjust approach for simulated emergency. Exceeded Q- parameters.

24.4.11. Area C-11: Engine Out Go-Around.

24.4.11.1. **(Q)** -- Initiated and performed go-around promptly in accordance with flight manual and operational procedures and directives.

24.4.11.2. **(Q-)** -- Slow to initiate go-around or procedural steps.

24.4.11.3. **(U)** -- Did not self-initiate go-around when appropriate. Techniques inappropriate or applied incorrect procedures.

24.4.12. Area C-12: Full Stop Landing.

24.4.12.1. **(Q)** -- Landing accomplished in accordance with flight manual procedures. Aircraft control throughout the landing was smooth and positive using proper braking, steering, and flight control inputs.

24.4.12.2. **(Q-)** -- Landing accomplished with significant deviations to established procedures but safety was not affected. Aircraft control to include braking, steering, and flight control inputs was erratic, but safe.

24.4.12.3. **(U)** -- Airspeed, alignment, or sink rate limitations exceeded. Landing unsafe, inappropriate control inputs jeopardized safety.

24.4.13. Area C-13: After Landing.

24.4.13.1. **(Q)** -- Appropriate after landing checks and aircraft taxi procedures were accomplished.

24.4.13.2. **(Q-)** -- Significant deviations or omissions from established procedures but safety and mission effectiveness were not affected.

24.4.13.3. **(U)** -- Checks were not accomplished in timely manner. Errors of omission committed without correction.

24.4.14. Area C-14: Systems Knowledge.

24.4.14.1. **(Q)** -- Thorough knowledge of aircraft systems, limitations, and performance characteristics.

24.4.14.2. **(Q-)** -- Knowledge of aircraft systems, limitations, and performance characteristics sufficient to perform the mission safely. Deficiencies either in depth of knowledge or comprehension.

24.4.14.3. **(U)** -- Unfamiliar with systems operation. Unable to recall details, limits, or operational processes.

24.4.15. Area C-15: National Airspace System (NAS) Rules and Procedures. **Note:** Individuals whose primary duty station is overseas may be evaluated on knowledge and application of appropriate ICAO rules and procedures to meet the intent of this area.

24.4.15.1. **(Q)** -- Complied with NAS rules/requirements and airspeed restrictions or potential traffic conflicts within NAS. When descending VFR took appropriate precautions to avoid traffic conflicts.

24.4.15.2. **(Q-)** -- Same as above but minor deviations detracted from safe accomplishment of the mission.

24.4.15.3. **(U)** -- Unfamiliar with NAS rules and procedures. Unaware of potential traffic conflicts. Did not use appropriate risk mitigating tools such as flight following during VFR operations in high traffic areas.

24.4.16. Area C-16: Simulated Engine Failure After Takeoff.

24.4.16.1. **(Q)** -- Applied flight manual procedures in a timely manner.

24.4.16.2. **(Q-)** -- Slow to identify situation and/or improperly applied flight controls, but was able to control aircraft within safe flying parameters without assistance.

24.4.16.3. **(U)** -- Applied flight manual procedures in an untimely manner. Attempted to place aircraft in unsafe condition by misapplication of flight controls.

24.4.17. Area C-17: Maximum Reverse Thrust Landing.

24.4.17.1. **(Q)** -- Executed procedures in accordance with flight manual.

24.4.17.2. **(Q-)** -- Executed flight manual procedures with minor deviations.

24.4.17.3. **(U)** -- Misapplied procedures and/or exceeded Q- limits.

24.4.18. Area C-18: Flight Management System (FMS) operations.

24.4.18.1. **(Q)** -- Thorough knowledge of FMS system. Able to fully integrate/manipulate FMS. Capable of programing/re-programming flight plan/approach as desired.

24.4.18.2. **(Q-)** -- Adequate knowledge of FMS enabling partial use of FMS capabilities. Lack of FMS knowledge did not adversely affect safety of flight or situational awareness.

24.4.18.3. **(U)** -- Unable to use FMS system. Incapable of manipulating FMS flight plan/approach as required. Inability to use FMS affected safety of flight and/or greatly contributed to loss of situational awareness.

24.5. Area D: Instrument.

24.5.1. Area D-1: Instrument Takeoff.

24.5.1.1. **(Q)** -- Maintained smooth aircraft control throughout takeoff. Performed takeoff in accordance with flight manual procedures and AFMAN 11-217, *Flight Operations.*

24.5.1.2. **(Q-)** -- Minor procedural deviations. Control was rough or erratic.

24.5.1.3. **(U)** -- Examinee executed a potentially dangerous takeoff. Exceeded aircraft systems limitations. Raised gear too early/late. Failed to establish proper climb attitude. Over controlled aircraft resulting in excessive deviations from intended flight path.

24.5.2. Area D-2: Instrument Departure.

24.5.2.1. **(Q)** -- Performed departure as published/directed and complied with all restrictions.

24.5.2.2. **(Q-)** -- Minor deviations in airspeed and navigation occurred during completion of departure.

24.5.2.3. **(U)** -- Failed to comply with published/directed departure instructions.

24.5.3. Area D-3: Climb/Level off.

24.5.3.1. **(Q)** -- Climb in accordance with flight manual. Airspeed tolerance in climb +/- 10 knots. Accomplished required checks. Leveled off smoothly. Promptly established proper cruise power/airspeed.

24.5.3.2. **(Q-)** -- Climb airspeed deviations. Airspeed tolerance in climb +/- 20 knots. Level-off was erratic. Slow in establishing proper cruise power/airspeed.

24.5.3.3. **(U)** -- Level-off was grossly erratic. Exceeded Q- limits. Excessive delay or failed to establish proper cruise power/airspeed. Failed to reset altimeter, as required.

24.5.4. Area D-4: Unusual Attitudes (N/A for C-12 flight evaluations).

24.5.5. Area D-5: Holding or Procedure Turn.

24.5.5.1. **(Q)** -- Performed entry and holding/procedure turn in accordance with published procedures and directives. Leg timing +/- 15 seconds, Tactical Air Navigation (TACAN) / Distance Measuring Equipment (DME) +/- 1 NM.

24.5.5.2. **(Q-)** -- Performed entry and holding/procedure procedures with minor deviations. Leg timing +/- 30 seconds, TACAN/DME +/- 2 NM.

24.5.5.3. **(U)** -- Holding/procedure turn was not in accordance with flight manual, directives, or published procedures. Exceeded Q- tolerances.

24.5.6. Area D-6: Descent/Arrival.

24.5.6.1. **(Q)** -- Performed descent as directed, complied with all restrictions. Planned ahead for altitude restrictions.

24.5.6.2. **(Q-)** -- Performed descent as directed with minor deviations. Difficulty achieving altitude restrictions. Slow to respond to controller instructions.

24.5.6.3. **(U)** -- Examinee performed descent with major deviations. Ignored controller instructions. Violated altitude restrictions.

24.5.7. Area D-7: Instrument Traffic Pattern.

24.5.7.1. **(Q)** -- Performed procedures as published or directed and in accordance with flight manual. Examinee executed smooth and timely response to controller instruction.

24.5.7.2. **(Q-)** -- Examinee performed procedures with minor deviations. Slow to respond to controller instruction.

24.5.7.3. **(U)** -- Examinee performed procedures with major deviations/erratic corrections. Failed to comply with controller instruction.

24.5.8. Area D-8: Precision Approach (ILS).

24.5.8.1. **(Q)** -- Examinee performed procedures as published and in accordance with applicable flight manual. Smooth and timely corrections to azimuth and glide slope. Complied with Decision Altitude and position would have permitted a safe landing. Approach was within the following parameters:

24.5.8.1.1. Airspeed tolerance prior to Final Approach Fix (FAF): +15/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +10/-0 knots.

24.5.8.1.2. Glide Slope/Azimuth within one dot.

24.5.8.1.3. Initiated missed approach (if applicable) at Decision Altitude, +50/-0 ft.

24.5.8.2. **(Q-)** -- Examinee performed procedures with minor deviations. Slow to make corrections or initiate procedures. Position would have permitted a safe landing. Approach exceeded Q parameters but was within the following parameters:

24.5.8.2.1. Airspeed tolerance prior to FAF: +30/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +20/-5 knots.

24.5.8.2.2. Glide Slope/Azimuth within two dots.

24.5.8.2.3. Initiated missed approach (if applicable) at Decision Altitude, +100/-0 ft.

24.5.8.3. **(U)** -- Examinee performed procedures with major deviations. Examinee made erratic corrections. Exceeded Q- limits. Position at Decision Altitude would not have permitted a safe landing.

24.5.9. Area D-9: Precision Approach (PAR, if available).

24.5.9.1. **(Q)** -- Examinee performed procedures as directed and in accordance with applicable flight manual. Examinee performed smooth and timely responses to controller instruction. Complied with Decision Altitude. Position would have permitted a safe landing. Maintained glide path with only minor deviations. Approach was flown within the following parameters:

24.5.9.1.1. Airspeed tolerance prior to FAF: +15/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +10/-0 knots.

24.5.9.1.2. Heading within 5 degrees of controller instruction.

24.5.9.1.3. Initiated missed approach (if applicable) at decision height, +50/-0 ft.

24.5.9.2. **(Q-)** -- Examinee performed procedures with minor deviations. Slow to respond to controller's instructions. Position would have permitted a safe landing. Improper glide path control. Approach was flown outside of Q standards but within the following parameters:

24.5.9.2.1. Airspeed tolerance prior to FAF: +30/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +20/-5 knots.

24.5.9.2.2. Heading within 10 degrees of controller instruction.

24.5.9.2.3. Initiated missed approach (if applicable) at Decision Altitude, +100/-0 ft.

24.5.9.3. **(U)** -- Examinee performed procedures with major deviations. Examinee made erratic corrections. Did not respond to controller instruction. Exceeded Q- limits. Position at Decision Altitude would not have permitted a safe landing. Erratic glide path control.

24.5.10. Area D-10: Non-Precision Approach.

24.5.10.1. **(Q)** -- Examinee adhered to all published/directed procedures and restrictions. Used appropriate descent rate to arrive at Minimum Descent Altitude (MDA) at or before Visual Descent Point (VDP)/ Missed Approach Point (MAP). Position would have permitted a safe landing. Approach was flown within the following parameters:

24.5.10.1.1. Airspeed tolerance prior to FAF: +15/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +10/-0 knots.

24.5.10.1.2. Heading +/-5 degrees of Airport Surveillance Radar (ASR) vectors.

24.5.10.1.3. Maintained course +/-5 degrees.

24.5.10.1.4. Localizer course guidance less than one dot deflection.

24.5.10.1.5. Minimum Descent Altitude +100/-0 feet.

24.5.10.1.6. Identified the MAP before passing 0.5 NM past (with DME) or 10 sec past (without DME).

24.5.10.2. **(Q-)** -- Examinee performed approach with minor deviations. Arrived at MDA at or before the MAP, but past the VDP. Position would have permitted a safe landing. Approach was flown outside of Q parameters, but within the following parameters:

24.5.10.2.1. Airspeed tolerance prior to FAF: +30/-5 knots, when attempting to maintain a constant airspeed. Airspeed tolerance inside FAF: +20/-5 knots.

24.5.10.2.2. Heading +/-10 degrees (ASR).

24.5.10.2.3. Maintained course +/-10 degrees.

24.5.10.2.4. Localizer course guidance within two dots deflection.

24.5.10.2.5. Minimum Descent Altitude +125/-50 feet.

24.5.10.2.6. Identified the MAP before passing 1.0 NM past (with DME) or 20 sec past (without DME).

24.5.10.3. **(U)** -- Examinee did not comply with published/directed procedures or restrictions. Exceeded Q- limits. Maintained steady-state flight below the MDA, even though the -50 foot limit was not exceeded. Could not land safely from the approach. **Note:** The -50 foot tolerance applies only to momentary excursions.

24.5.11. Area D-11: Circling.

24.5.11.1. **(Q)** -- Examinee executed circling approach as published/directed. Completed all procedures in accordance with applicable flight manual.

24.5.11.2. **(Q-)** -- Examine executed circling approach with minor deviations. Slow to comply with published procedures, controller's instructions or flight manual procedures.

24.5.11.3. **(U)** -- Examinee executed circling approach with major deviations or did not comply with applicable directives.

24.5.12. Area D-12: Missed Approach/Climb Out.

24.5.12.1. **(Q)** -- Examinee executed missed-approach/climb-out as published/directed. Completed all procedures in accordance with applicable flight manual.

24.5.12.2. **(Q-)** -- Examinee executed missed approach/climb-out with minor deviations. Slow to comply with published procedures, controller's instructions or flight manual procedures.

24.5.12.3. **(U)** -- Examinee executed missed-approach/climb-out with major deviations, or did not comply with applicable directives.

24.5.13. Area D-13: Transition to Landing.

24.5.13.1. **(Q)** -- Examinee transitioned to visual cues so that a normal glidepath was flown to landing.

24.5.13.2. **(Q-)** -- Examinee transitioned to visual cues with minor deviations, resulting in a steep final or "duck under" final approach, but did not exceed safe flight parameters.

24.5.13.3. **(U)** -- Examinee failed to pick up visual cues early enough to execute a safe landing.

24.6. Area E: Instructor.

24.6.1. Area E-1: Instructional Ability.

24.6.1.1. **(Q)** -- Examinee demonstrated satisfactory instructor/evaluator ability. Clearly defined all mission requirements and any required additional training/corrective action. Instruction/evaluation was accurate, effective and timely. Was completely aware of aircraft/mission situation at all times.

24.6.1.2. **(Q-)** -- Examinee had problems with communication or analysis which degraded effectiveness of instruction/evaluation.

24.6.1.3. **(U)** -- Examinee demonstrated inadequate ability to instruct/evaluate. Unable to perform, teach or assess techniques, procedures or systems use. Did not remain aware of aircraft/ mission situation at all times.

24.6.2. Area E-2: Briefing/Debriefing.

24.6.2.1. **(Q)** -- Examinee conducted a well-organized briefing and debriefing which analyzed mission requirements, identified significant discrepancies and presented the correct procedure. Adequately briefed and instructed the student on specific mission requirements. Did not overwhelm the upgrading aircrew with a long and detailed discussion of minor discrepancies.

24.6.2.2. **(Q-)** -- Examinee conducted an acceptable debriefing. Omitted some items that were important to completing the student's mission. Analyzed most significant discrepancies and presented the correct procedures with minor deviations or omissions.

24.6.2.3. **(U)** -- Examinee failed to instruct required mission items. Examinee was unable to analyze deviations and present corrections. Did not notice or debrief major deviations. Mission non-effective for planning and instruction reasons.

24.6.3. Area E-3: Demonstration and Performance.

24.6.3.1. **(Q)** -- Examinee performed required maneuvers within prescribed parameters. Provided concise, meaningful in-flight commentary. Demonstrated appropriate instructor proficiency.

24.6.3.2. **(Q-)** -- Examinee performed required maneuvers with minor deviations from prescribed parameters. In-flight commentary was sometimes unclear.

24.6.3.3. **(U)** -- Examinee was unable to properly perform required maneuvers. Made major procedural errors. Did not provide in-flight commentary. Demonstrated below-average instructor proficiency.

24.6.4. Area E-4: Conduct of the Mission.

24.6.4.1. **(Q)** -- Examinee executed the assigned mission in a timely, efficient manner. Conducted the flight with a sense of understanding and comprehension.

24.6.4.2. **(Q-)** -- Examinee made untimely or inappropriate decisions degraded or prevented accomplishment of a portion of the mission. Resources were not effectively used to the extent specific mission objectives were not achieved.

24.6.4.3. **(U)** -- Examinee's unacceptable or unsafe decisions compromised safety. Undisciplined actions violated training rules repeatedly.

24.6.5. Area E-5: Touch and Go Landings.

24.6.5.1. **(Q)** -- Examinee demonstrated thorough knowledge of safety emergency contingencies during touch and go landings. Performed maneuver in accordance with established procedures accomplishing all checklist items in a timely manner.

24.6.5.2. **(Q-)** -- Examinee made minor deviations or omissions from established procedures but safety and mission accomplishment not affected. Limited knowledge of safety/emergency contingencies during touch and go landings.

24.6.5.3. **(U)** -- Examinee improperly configured the aircraft for landing or procedures compromised safety. Examinee was unprepared for contingencies.

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

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 2 May 2022

AFI 11-202V2, *Aircrew Standardization and Evaluation Program,* 6 December 2018

AFI 11-202V3, *General Flight Rules,* 10 August 2016

AFI 11-290, *Cockpit/Crew Resource Management Program*, 15 October 2012

AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program*; 10 October 2017

AFI 16-1301, *Survival, Evasion, Resistance, and Escape (SERE) Program,* 2 August 2017

AFI 33-322, Records Management and Information Governance, 27 July 2021

AFI 91-202, *The US Air Force Mishap Prevention Program*, 11 March 2020

AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*, 30 May 2018

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

AFMAN 11-202V1, *Aircrew Training*, 26 September 2019

AFMAN 11-210, *Instrument Refresher Program (IRP),* 20 December 2021

AFMAN 11-217, *Flight Operations,* 10 June 2019

AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, 4 April 2019

AFMAN 17-1302-O, *Communications Security (COMSEC) Operations,* 03 February 2017

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

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

AFMAN 91-223, *Aviation Safety Investigations and Reports*, 14 September 2018

AFMAN 11-202V2, Aircrew Standardization and Evaluation Program, 29 August 2021

AFMAN 11-202V3, Flight Operations, 9 January 2022

AFMAN 11-290, Cockpit/Crew Resource Management Program, 24 October 2021

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems*, 8 March 2007

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

AFPD 11-4, *Aviation Service,* 12 April 2019

AFPD 51-4, *Operations and International Law*, 24 July 2018

DAFI 11-209, Participation in Aerial Events, 19 May 2021

DAFI 91-204, Safety Investigations and Reports, 09 March 2021

DAFMAN 90-161, Publishing Processes and Procedures, 14 April 2022

AFTO 781A, *Maintenance Discrepancy and Work Document*, 28 June 2017

T.O. 1-1-300, *Maintenance Operational Checks and Check Flights*, 15 March 2012

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

AF Form 70, *Pilot's Flight Plan and Flight Log*

AF Form 523, *USAF Authorization to Bear Firearms*

AF Form 651, *Hazardous Air Traffic Report (HATR)*

AF Form 711B, *USAF Aircraft Mishap Report*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1522, *ARMS Additional Training Accomplishment Report*

AF Form 4324, *Aircraft Assignment/Aircrew Qualification Worksheet*

AFMC Form 73, *AFMC Waiver and Approval Request*

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

DD Form1896, *DoD Fuel Identaplate*

DD Form1898, *Energy Sale Slip*

DD Form 2992, *Medical Recommendation for Flying or Special Operational Duty*

SF 44, *Purchase Order - Invoice Voucher Storage Safeguard Form*

Abbreviations and Acronyms

A—annual—ACBRN- aircrew chemical biological radiological nuclear

ACBRNE—aircrew chemical biological radiological nuclear ensemble

ACBRNT—aircrew chemical biological radiological nuclear training

ACTF—Aircrew Task Force

AE—aeromedical evacuation

AECC—Aeromedical Evacuation Control Center

AECM—aeromedical evacuation crew members

AF—Air Force

AFE—Aircrew Flight Equipment

AFI—Air Force instruction

AFMAN—Air Force manual

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

AFTO—Air Force technical order

APV—Approach with Vertical Guidance

ARMS—aviation resource management systems

ASR—approach surveillance radar

ASRR—Airfield Suitability Restrictions Report

AP—Area Planning

ATC—air traffic control

ATS—aircrew training system

BASH—bird/wildlife aircraft strike hazard

BAQ—basic aircraft qualification

BMC—basic mission capable

BRNAV—basic area navigation

CBRN—chemical, biological, radiological, or nuclear

C2—command and control

CC—commander

COMSEC—communications security

CONUS—continental United States

CRM—crew/cockpit resource management

DIA—Defense Intelligence Agency

DNIF—duty not involving flying

DoD—Department of Defense

DV—distinguished visitor

EP—examiner pilot

ETCA—education and training course announcements

FAA—Federal Aviation Administration

FCF—functional check flight

FCG—Foreign Clearance Guide

FDP—flight duty period

FIH—Flight Information Handbook

FMS—flight management system

FP—flight pilot

FTL—flying training level

GPS—global positioning system

GT—ground training

GTL—ground training level

HATR—hazardous air traffic report

ILS—instrument landing system

IP—instructor pilot

IPC—instructor preparatory course

IRC—instrument refresher course

IRP—instrument refresher course program

ISOPREP—isolated personnel report

LNAV—lateral navigation

LOW—Law of War

MAJCOM—major command

MCD—medical crew director

MDS—mission design series

MEL—minimum equipment list

MEP—mission essential personnel

MOPP—mission oriented protective posture

MP—mission pilot

MR—mission ready

NOTAM—Notice to Airmen

NMR—non-mission ready

OCONUS—outside the 48 contiguous states of the United States

OG/CC—operations group commander

OME—operational mission evaluation

ORM—operational risk management

OPORD—operational order

OPR—office of primary responsibility

PIC—pilot in command

PFT—programmed flying training

RCR—runway condition reading

RNAV—area navigation

RNP—required navigation performance

RON—remain overnight

RVR—runway visual range

S—semiannual—SEFE—standardization and evaluation flight examiner

SERE—survival, evasion, resistance, escape

SIM—simulator

SOC—senior officer course

SORTS—status of resources and training system

TAD—tactical arrival and departure

TDY—temporary duty

TL—training level

T.O.—Technical Order

UP—unqualified pilot

UPT—Undergraduate Pilot Training

USAF—United States Air Force

VFR—visual flight rules

Terms

Aircrew training device—Includes cockpit procedures trainer, boom operator part task trainer, weapons systems trainer, operational flight trainer, celestial training device, table top navigation and rendezvous trainer, cargo loading trainer, and other flight SIM.

Aircrew training system (ATS)—Integrated qualification, upgrade, and continuation training program for crewmembers.

Annual—Training required once every calendar year.

Basic aircraft qualified—Crewmember who has successfully completed an in-flight evaluation but is not mission qualified in his or her assigned aircraft.

Biennial—Training required once every two calendar years.

Cockpit/crew Resource Management (CRM) training—Training to improve the teamwork, dynamics, and effectiveness of aircrews.

Communications Security (COMSEC)—COMSEC material, other than equipment or devices, that assists in securing communications and which is required in the production, operation, or maintenance of COMSEC systems and their components. Examples are keys, codes, and authentication information in physical or electronic form, call signs, frequencies, and supporting documents.

Computer-based training—Training that uses computer-generated graphics or text in conjunction with interactive programs as the primary medium of instruction.

Critical phases of flight—Takeoff, approach to landing, landing, or any flight maneuver specifically requiring direct (access to controls) instructor supervision for qualified or unqualified crewmembers.

Currency event—Flying continuation training events with prescribed maximum interval-between-accomplishments showed in the CUR column.

Flying training level (FTL)—A standard assigned to crewmembers, by the unit commander directing flying continuation training requirements.

Frequency—Rate of occurrence for a particular event.

Ground training level (GTL)—A standard assigned to crewmembers, based upon experience and unit/CC recommendation, directing ground continuation training requirements

Instructor candidate—Crewmember undergoing upgrade training to instructor.

Instructor supervision—A qualified instructor of like specialty supervising a maneuver or training event. For critical phases of flight, the instructor must occupy one of the seats or stations, with immediate access to the controls.

Legal for Alert—The time a controlling agency may direct an alert crew to initiate a mission.

Mission ready (MR)—Crewmember who is current, qualified, and certified in the unit's designated missions.

Monthly—Training required once every month.

Night—The period between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac.

Nonmission ready (NMR)—Individual who is non-current or unqualified in the aircraft, incomplete in required continuation training, or not certified to perform the unit’s missions.

Quarterly—3-month periods defined as 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, or 1 October to 31 December.

Refresher simulator—SIM training emphasizing aircraft systems, aircrew emergency and abnormal procedures, standardization and CRM. Refresher simulators may be integrated into a block of training termed "phase training" for some weapon systems.

Requalification training—Training required to qualify crewmembers in an aircraft in which they have been previously qualified.

Training level (TL)—A standard assigned to crewmembers, by the unit/CC, directing continuation training requirements.

Triennial—Training required once every three calendar years.

Unit—Unless otherwise specified in this volume**—**unit refers to squadron or geographically separated unit -level activity.

Upgrade training—Training to qualify a crewmember in a higher crew position.