

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

**AIR FORCE MANUAL 11-2MC-12W,
VOLUME 3**



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Flying Operations

MC-12W OPERATIONS PROCEDURES

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This manual implements Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and is consistent with Air Force Manual (AFMAN) 11-202V3_AFSOCSUP, *Flight Operations*. It applies to regular Air Force (AF), Air National Guard (ANG) and Air Force Reserve Command (AFRC) units. This publication does not apply to the United States Space Force (USSF). This Instruction requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Department of Defense Directive (DoDD) 5400.11, DoD Privacy Program. The applicable System of Records Notice (SORN) F011 AF XO A, *Aviation Resource Management Systems (ARMS)* is available at <http://dpclo.defense.gov/Privacy/SORNs.aspx>. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the AF Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional's chain of command. Requests for waivers must be submitted to the OPR listed above for consideration and approval. This publication may be supplemented at any level, but all Supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See DAF Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*, for a description of the authorities associated with the tier numbers. Submit requests for waivers through the chain of command to the appropriate tier waiver

approval authority or alternately to the requestor's commander for non-tiered compliance items. See **paragraph 1.4** for additional waiver request procedures. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This re-write incorporates the following updates: deletes references to research and development shops in the squadron, changes applicable Pilot Operations Handbook (POH) references to the Aircrew Operations Handbook (AOH), changes the minimum runway length requirements, adds a minimum psi for Emergency Respiratory Oxygen System (EROS) bottles for the Combat Systems Officer (CSO) and Tactical Systems Operator (TSO), adds new paragraphs related to flare procedures, adds Mode 5 references and deletes mode 4 references, eliminated "Gov-and-Go" procedures, updated procedures for Touchdown, Go-Around, and Touch and Go decision points, deleted references to Airborne Mission Commander, and adjusted airfield marking pattern (AMP)-3 lighting references.

Chapter 1—GENERAL INFORMATION	8
1.1. General.....	8
1.2. Applicability.	8
1.3. Aircrew Responsibility.	8
1.4. Deviations and Waivers.	9
1.5. Local Supplement Coordination Process.	9
1.6. Requisition and Distribution Procedures.	9
1.7. Definitions.	9
1.8. Development of New Equipment and Procedures.....	9
Chapter 2—ROLES AND RESPONSIBILITIES	10
2.1. General.....	10
2.2. MAJCOM & Operational Control (OPCON) Authority.	10
2.3. Commander Air Force Special Operations Forces (COMAFSOF).....	10
2.4. Operations Center.....	10
Table 2.1. Reporting Agencies.	11
2.5. Mission Commander.	12
2.6. Pilot in Command Responsibility and Authority.	12
2.7. Mission Clearance Decision.....	12
Chapter 3—FLIGHT READINESS	14
3.1. Aircrew Qualification.	14

	3.2.	Mission Crew Composition.	14
Table	3.1.	Crew Complement.....	14
	3.3.	Interfly.	15
	3.4.	Not Used.	15
	3.5.	Flight Duty Period (FDP).	15
	3.6.	Crew Rest.....	15
	3.7.	Standby Duty.	15
	3.8.	Alert Procedures.....	16
	3.9.	Fatigue Management.	16
	3.10.	Tactics Training Program.	16
	3.11.	Aircrew Uniform.	17
	3.12.	Personal and Professional Equipment.	17
	3.13.	Survival and Protective Equipment.	18
	3.14.	Aircrew Publication Requirements.....	18
	3.15.	Aircraft Forms.....	19
Chapter 4—GENERAL FLIGHT RULES			20
	4.1.	Checklists.....	20
	4.2.	Duty Station.	20
	4.3.	Takeoff and Landing Policy.....	20
	4.4.	Seatbelts.....	21
	4.5.	Passenger Policy.....	21
	4.6.	One-Time Flights.	21
	4.7.	Crew Resource Management (CRM).	22
	4.8.	Risk Management (RM).	22
	4.9.	Advisory Callouts.....	22
Table	4.1.	Enroute Climb/Descent.....	23
Table	4.2.	Non-precision Approaches.....	23
Table	4.3.	Precision Approaches.	23
Table	4.4.	Significant Deviations Callouts.....	24
	4.10.	Communications Policy.....	24
	4.11.	Runway, Taxiway, and Airfield Requirements.	25
Table	4.5.	MC-12W Crosswind Takeoff and Landing Limits.....	27

	4.12. Aircraft Taxi and Taxi Obstruction Clearance Criteria and Foreign Object Damage (FOD) Avoidance.	27
	4.13. Landing Zone Procedures.	27
	4.14. Aircraft Rescue and Fire Fighting (ARFF) Requirements.	28
	4.15. Aircraft Lighting.	29
	4.16. Engines Running Onload or Offload (ERO).	29
	4.17. Hazardous Weather.	29
	4.18. Simulated Emergency Procedures Training.	31
	4.19. Engine-Out Limitations.	31
	4.20. Training Maneuvers and Restrictions.	32
Table	4.6. Training Maneuver Restrictions.	32
	4.21. Touch-and-Go Landings.	32
	4.22. Prohibited In-Flight Maneuvers.	32
	4.23. Instructor Briefing.	32
	4.24. Debriefing.	33
	4.25. Functional Check Flights (FCFs) and Acceptance Check Flights (ACFs).	33
	4.26. Traffic Alert and Collision Avoidance System (TCAS).	33
	4.27. Radar Altimeter.	33
	4.28. Instrument Flight Rules.	33
	4.29. Aircrew Flight Equipment.	33
	4.30. Aircraft Recovery from Unprepared Surfaces.	34
	4.31. Fire Control, Emissions, Navigation, Communication, Emergency (FENCE) Checks	34
	4.32. Laser Usage.	34
	4.33. Flares.	35
	4.34. Personnel Recovery/On-scene Commander (OSC) Checklist.	35
	4.35. Formation Flying.	35
	4.36. Operational Reports and Forms.	35
	4.37. Report Violations, Unusual Events, or Circumstances.	37
	4.38. Petroleum, Oil, and Lubricants (POL)—Aviation Fuels Documentation.	37
	Chapter 5—PREFLIGHT	38
	5.1. Flight Planning Systems.	38
	5.2. Coordinates.	38

	5.3.	Flight Logs.....	38
	5.4.	Aircrew Flight Equipment (AFE).....	38
	5.5.	Aircraft Equipment Requirements.....	39
	5.6.	Mission Planning Actions.....	41
	5.7.	Airfield Certification.....	41
	5.8.	International Procedures.....	41
	5.9.	Intelligence Briefing.....	41
	5.10.	Authenticators and Classified Material.....	42
	5.11.	IFR Destination Filing Requirements.....	42
	5.12.	Fuel Planning/Management.....	42
Table	5.1.	Fuel Planning Chart.....	43
	5.13.	Objective Area Planning.....	44
	5.14.	Call Signs.....	44
	5.15.	Flight Crew Information File (FCIF).....	44
	5.16.	Mission Kits.....	45
	5.17.	Route Navigation Kits.....	45
	5.18.	Aircraft Commander Briefing/Pre-Mission coordination.....	46
	5.19.	CSO Preflight Duties.....	46
	5.20.	TSO Preflight Duties.....	46
	5.21.	Alert Aircraft Procedures.....	47
Chapter 6—DEPARTURE			48
	6.1.	On Time Takeoffs.....	48
	6.2.	Departure Planning.....	48
	6.3.	NVG Departures.....	49
	6.4.	CSO Duties.....	50
	6.5.	Takeoff Weather.....	50
	6.6.	Tactical Departures.....	50
Chapter 7—ENROUTE			51
	7.1.	CSO In-flight Duties.....	51
	7.2.	Flight Progress.....	51
Table	7.1.	MC-12W CNS/ATM Operational Approvals (Electronic Flight Information System/Proline 21 aircraft) Airspace/ Equipment.....	52

7.3.	Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports.....	53
7.4.	Jamming and Interference.....	53
7.5.	In-Flight Meals.....	53
7.6.	High Frequency (HF) Communications.....	53
7.7.	In-flight Emergency Procedures.....	54
7.8.	TSO In-flight Duties.....	54
Chapter 8—ARRIVAL		55
8.1.	Descent.....	55
8.2.	Instrument Approach Procedures.....	55
8.3.	Landing Zone Operations.....	55
8.4.	Tactical Approach.....	56
8.5.	NVG Landing.....	56
8.6.	Wake Turbulence Avoidance.....	56
8.7.	Aircraft Recovery Away from Main Operating Base (MOB).....	57
8.8.	Caustic Fluids.....	57
8.9.	Classified Equipment and Material.....	57
8.10.	Cockpit Voice Recorder (CVR).....	58
8.11.	Emergency Destruction.....	58
8.12.	Maintenance.....	58
8.13.	Impoundment of Aircraft.....	59
8.14.	Customs, Immigration, and Agriculture Inspections.....	59
8.15.	Utilization of Civilian Law Enforcement or Medical Personnel.....	60
8.16.	Hazardous Material Procedures. See.....	60
8.17.	Narcotics.....	60
8.18.	Dropped Objects.....	60
Chapter 9—POST MISSION		62
9.1.	Aircraft Beddown.....	62
9.2.	Aircrew Debrief.....	62
9.3.	Aircraft Servicing.....	62
Chapter 10—AIRCRAFT SECURITY		63
10.1.	Aircraft Security.....	63
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		64

AFMAN11-2MC-12WV3 1 JULY 2022

7

Attachment 2—MC-12W CRITICAL ACTION PROCEDURES (CAPS)

76

Attachment 3—MC-12W TIMING CHART

78

Chapter 1

GENERAL INFORMATION

1.1. General. This manual provides policy for operating Air Force Special Operations Command (AFSOC) BE-300 and MC-12W aircraft. This is a specialized publication intended for use by Airmen who have graduated from technical training related to this publication. It establishes the minimum Air Force (AF) standards while performing duties for the operation of the BE-300 and MC-12W. When guidance in this AFMAN conflicts with another basic/source document, such as aircraft AOH or approved flight manual supplements, that document takes precedence. For matters where this AFMAN is the source document, waiver authority is in accordance with **paragraph 1.4** of this manual.

1.1.1. This AFMAN is written for normal and contingency operations to reduce procedural changes at the onset of contingencies. All BE-300, and MC-12W operations shall be conducted in accordance with US domestic law and international law, to include the law of armed conflict. **(T-0)**.

1.1.2. Headquarters AFSOC Standardization and Evaluation (AFSOC/A3V) has the overall responsibility for the administration of this volume.

1.1.3. When flying with Tactical Systems Operator (TSO), refer to AFSOCMAN 11-2TSOV3, *Tactical Systems Operator Operations Procedures*, for more information.

1.1.4. Unit commanders and agency directors involved with or supporting MC-12W operations shall make current copies of this AFMAN available to appropriate personnel. **(T-2)**.

1.2. Applicability. This AFMAN applies to all aircrew members, support personnel, and contractors involved with employing the BE-300/MC-12W. References to units, personnel, and aircraft in this manual include all gained forces unless specifically exempted by this manual.

1.3. Aircrew Responsibility. This volume, in conjunction with other governing directives, prescribes operating procedures for the MC-12W under most circumstances. It is not to be used as a substitute for sound judgment or common sense. Operations or procedures not specifically addressed may be accomplished if they safely enhance mission accomplishment.

1.3.1. Key Words Explained.

1.3.1.1. "Must," "Will," and "Shall" indicate a mandatory requirement.

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

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

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

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

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

1.4. Deviations and Waivers. Do not deviate from the direction and guidance in this AFMAN, except when the situation demands immediate action to ensure safety. Report deviations without waiver, through channels to AFSOC/A3 within 24 hours, followed by a written report.

1.4.1. When it is necessary to protect the crew, aircraft, or supported units from a situation not covered by this manual and immediate action is required, the pilot in command (PIC)/aircraft commander (AC) has ultimate authority and responsibility for the course of action to be taken.

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

1.5. Local Supplement Coordination Process. Supplements will not duplicate or be less restrictive than the provisions of this manual or any other publication without prior authorization from the appropriate MAJCOM. File supplements according to DAFMAN 90-161, *Publications and Forms Management*. NOTE: AFRC units, will send unit supplements to AFRC Standardization and Evaluation who will then forward to AFSOC Standardization and Evaluation (AFSOC/A3V).

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

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

1.6. Requisition and Distribution Procedures. Unit commanders shall use DAFMAN 90-161 procedures to provide aircrew members and associated support personnel current copies and changes of this AFMAN. **(T-2)**.

1.7. Definitions. Find explanations or definitions of terms and abbreviations commonly used in the aviation community in Code of Federal Regulations (CFR) Title 14, Code of Federal Regulations, **Part 1**, *Definitions and Abbreviations, The Department of Defense (DoD) Dictionary of Military and Associated Terms*. See **Attachment 1** for common terms used herein.

1.8. Development of New Equipment and Procedures. Units are encouraged to suggest new equipment, methods, tactics, requirements, and procedures through squadron weapons and tactics, group weapons and tactics, and the MAJCOM. New equipment or aircraft modifications will only be approved through the AF Form 1067, *Modification Proposal*, and AFSOC requirements/testing process. A primary and alternate MC-12W pathfinding activity or weapons and tactics representative will coordinate requirements, modification, and testing with AFSOC strategic plans and programs and the Air Force Materiel Command (AFMC) MC-12W program office. See AFRPD 99-1, *Test and Evaluation*, DoDI 5000.89_AFI 99-103, *Capabilities-based Test and Evaluation*, United States Special Operations Command (USSOCOM) Directive 71-5, *Operational Test and Evaluation*, and AFSOC Manual (AFSOCMAN) 11-207, *AFSOC Weapons and Tactics Program*, for further information.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. General. The AFSOC Command and Control (C2) system is based on the principles of centralized monitoring and decentralized control and execution. The result is a C2 mechanism which keeps the AFSOC Commander (CC) informed of the current status of AFSOC forces while enabling the Wing or Group Commander to exercise control over day-to-day operations. Waiver request will be the responsibility of the C2 agency with the operational control of the mission. Operational waivers will be coordinated through the Stan/Eval channels. **(T-2).**

2.2. MAJCOM & Operational Control (OPCON) Authority. Absent an approved command relationship to the contrary, AFSOC is designated as the active and reserve controlling agency for United States Special Operations Command (USSOCOM)-assigned Air Force SOF aircraft, while Theater Special Operations Commands (TSOCs) have OPCON of theater-based assets. In practice, responsibility for planning and executing AFSOC missions is routinely delegated to the Wing or Group Commander. The Wing or Group Commander, in turn, exercises control of non-close-hold missions through the command post supporting the wing or group. In the event that assigned forces undergo a Change in OPCON, responsibility for mission monitoring passes from the wing or group C2 facility to the gaining command. Changeover will be accomplished IAW the pertinent Operational Plan, Operational Order, or deployment or execution order. **(T-2).**

2.3. Commander Air Force Special Operations Forces (COMAFSOF). The Commander, USSOCOM or TSOC may designate a COMAFSOF. This should be done in writing, and the designation letter will include the individual by name and the geographic area of authority. In the absence of a designated COMAFSOF, the AFSOC/A3 may grant COMAFSOF waiver authority in writing to the senior Air Force SOF rated officer within the specific area of responsibility. The designation letter should be updated to reflect any personnel changes as a result of prolonged deployments. **(T-2).** This waiver authority is valid for any items in AFMAN 11-2MC-130J, Volume 3, requiring COMAFSOF waiver. **(T-2).** When waiver authority is delegated, AFSOC/A3V will receive a copy of all approved waivers. **(T-2).**

2.4. Operations Center. The AFSOC Operations Center monitors all off-station AFSOC aircraft via Theater Battle Management Core Systems – Execution Status and Monitoring, the Global Decision Support System (GDSS2), Theater Situation Reports, and aircrew Deployed Status Reports (DSR). Operations Centers will track all assigned aircraft equipped with Blue Force Tracker (BFT) over approved SIPR Common Operating Picture (COP) tools. BFT capability will be used throughout execution of mission, to ensure aircraft are tracked near-real time to provide Situational Awareness to C2, via the COP. Inputs to these various tracking tools are provided by the C2 agency with OPCON.

2.4.1. PIC or mission commander flight reporting duties to the Operations Center:

2.4.1.1. Stations with Mobility Air Force (MAF) C2 Agency. Aircrews will provide a “Thirty Minute” Out Call. **(T-3).** Transmit an arrival advisory to the destination C2 agency approximately 30 minutes prior to arrival. Provide Estimated Time in Blocks. Local MAF C2 agents will enter mission data (arrival, departure and advisory messages) in GDSS2 when applicable. Additionally, aircrews must keep their controlling C2 agency apprised of

all actual takeoff and landing times, projected takeoff times, and other related information within 30 minutes after landing. **(T-3)**.

2.4.1.2. Stations without MAF C2 Agency. Transmit mission data (arrival, departure and advisory messages) to the controlling C2 agency, within 30 minutes after landing, by any means available. **(T-3)**. Preference in the following order: Defense Switched Network (DSN)/ commercial telephone, high frequency (HF) phone patch, Iridium Phone. For critical C2 communications (i.e., aircraft waiver request, maintenance delay, etc.), voice communications are the primary method.

2.4.2. Provide controlling C2 agency with a DSR. **(T-3)**.

2.4.3. For reporting agency contacts, see **Table 2.1** Reporting Agencies.

Table 2.1. Reporting Agencies.

AFSOC Operations Center		
Telephone	DSN	312-579-3290/8900
	Commercial	850-884-3290/8900
	Toll-Free	800-451-7705
	RDSN	579-0212
E-mail	hq.afsoc.sdo@us.af.mil	
Secure E-mail	sdo@afsoc.af.smil.mil	
1 SOW		
Telephone	DSN	312-579-8100
	Commercial	850-884-8100
	Toll-Free	800-346-6679
	RDSN	579-3601
E-mail	1sow.cmd.pst1@us.af.mil	
27 SOW		
Telephone	DSN	312-681-2253
	Commercial	575-784-2253
	Toll-Free	800-346-6679
	RDSN	681-4313
E-mail	27sowcp@us.af.mil	
137 SOW		
Telephone	DSN	312-720-5999
	Commercial	405-686-5999
E-mail	_137.sow.137.command.post.org@us.af.mil	
193 SOW		
Telephone	DSN	312-423-2249/2250
	Commercial	717-948-2249/2250

2.5. Mission Commander. A Mission Commander will be designated when more than one aircraft or crew is deployed away from home station for training, exercise, or other operations. **(T-3)**. The Mission Commander will be a rated officer. **(T-3)**. The Mission Commander may be a primary crew member for exercises when the unit commander so designates. Mission Commander duties include, but are not limited to:

- 2.5.1. Briefing crews on local operating procedures.
- 2.5.2. Coordinating with Air Traffic Control (ATC), Combat Control Teams, Special Tactics Teams, range control, users, and other agencies that may have an impact on the mission.
- 2.5.3. Ensuring Forward Area Refueling (FARP) sites, or Landing Zones (LZ) have current surveys (when necessary).
- 2.5.4. Ensuring personnel have ample and adequate billeting, eating, and transportation arrangements.
- 2.5.5. Ensuring maintenance personnel know of aircraft and fuel requirements.
- 2.5.6. Submitting timely reports on aircraft movements.

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

- 2.6.1. In command of all persons aboard the aircraft.
- 2.6.2. Responsible for the welfare of their crew, Mission Essential Personnel (MEP), passengers, and the safe accomplishment of the mission.
- 2.6.3. Vested with the authority necessary to manage the crew and accomplish the mission.
- 2.6.4. The final mission authority and makes decisions not specifically assigned to a higher authority.
- 2.6.5. The final authority for accepting a waiver affecting the crew or mission.
- 2.6.6. Charged with keeping the applicable commander informed of mission progress and difficulties.
- 2.6.7. Responsible for the timely reporting of aircraft movements in the absence of a MC.

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

- 2.7.1. Diverting or rerouting a mission must be authorized by the commander with OPCON except in an emergency or when required by enroute or terminal weather conditions or facilities. In the event of an emergency or weather-related divert or reroute, the MC or PIC must notify the controlling authority as soon as possible. **(T-3)**.
- 2.7.2. The controlling agency directing the diversion or rerouting is responsible for ensuring destination requirements or facilities are adequate for the aircraft and aircrew.

2.7.3. The PIC will notify the controlling agency of any aircraft or aircrew limitations that may preclude diverting or rerouting the mission. **(T-3)**.

2.7.4. When directing an aircraft to an alternate airfield, the controlling agency will ensure the PIC is provided existing and forecast weather for the alternate. If the planned alternate is unsuitable upon arrival at destination, the controlling agency will advise the PIC of other suitable alternates.

Chapter 3

FLIGHT READINESS

3.1. Aircrew Qualification. Primary crewmembers or those occupying a primary position during flight must be qualified or in training for qualification. If noncurrent, or in training for a particular event, the crewmember must be under the supervision of an instructor or appropriate Flight Training Level (FTL) aircrew as permitted IAW AFMAN 11-2MC-12WV1, *MC-12W Aircrew Training*, while accomplishing that event. **(T-2).**

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

3.1.2. Mission capable crew members may perform primary crew duties on any unilateral training mission. For other missions, the unit commander must determine the readiness of each mission capable crew member to perform primary duties. **(T-3).**

3.1.3. Noncurrent (NC) or Unqualified (UNQ) pilots may perform crew duties only on designated training or evaluation missions under the supervision of a qualified instructor or evaluator pilot.

3.2. Mission Crew Composition. The crew complement for operations is specified in **Table 3.1**. The OG/CC or COMAFSOF is the waiver authority for aircrew complements less than specified in **Table 3.1.** **(T-3).**

Table 3.1. Crew Complement.

Mission	Pilot(s)	CSO	TSO	Notes
Engine Ground Run/Taxi/Towing	1	Not required	Not required	3
Qualification and Instrument	2	As Required	Not required	1, 2
Mission	2	1	As required	1, 2, 4
Functional Check Flight (FCF)/Operational Check Flight/Acceptance Check Flight (ACF)	2	As Required	As required	
Notes:				
1. Includes all basic non-tactical operations to and from improved areas day and night. Qualified crews are authorized to use Night Vision Goggles (NVGs).				
2. Instructor Pilots (IP) may perform single pilot Qualification or Instrument operations in special cases with OG/CC or COMAFSOF approval. Landings are limited to full stop only.				
3. Engine Ground Run and Towing operations may be conducted by maintenance personnel without a pilot.				
4. TSOs – Orders authenticating officials may authorize training missions without a TSO.				

3.3. Interfly. Interfly is a temporary arrangement between operations group commanders (OG/CCs) or equivalent to permit the exchange or substitution of aircrew members/aircraft between units to accomplish flying missions. Interfly will be limited to specific operations, exercises, or special circumstances. However, it may be used for events of longer duration such as unit conversion to another mission design series (MDS). Participating aircrews will use guidelines established by the host command or as specified in the OPLAN or CONOPS. **(T-1).**

3.3.1. AFSOC/A4RX maintains current Memorandum of Agreements (MOA) between AFSOC, AFRC, AFMC, Air Education and Training Command, Air Combat Command for interfly using AFSOC-assigned aircraft. Unless specified in the MOA:

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

3.3.1.2. The operational or training squadron will prepare and sign AFSOC/AFRC flight orders for flights on which the A code is from their squadron. **(T-2).**

3.3.1.3. As a minimum, aircrews will be qualified in the BE-300 or MC-12W, as well as systems or configurations required to fly the aircraft and/or mission. If noncurrent, comply with paragraph 4.1 and 4.2. **(T-2).**

3.3.1.4. AFSOC will retain all flight and ground mishap reporting responsibility. **(T-2).**

3.3.1.5. Approvals.

3.3.1.5.1. AFRC. During interfly with AFRC units, AFRC/A3 has delegated interfly approval authority to regular AF, ANG and AFRC unit's OG/CCs. Units utilizing this authority will inform AFRC/A3V. **(T-2).**

3.3.1.5.2. ANG. NGB/A3 has delegated approval authority to wing commanders (WG/CCs) for active duty/AFRC interfly with ANG, and OG/CC approval authority for ANG to ANG interfly.

3.3.1.5.3. Formal attachment of aircrew members flying with AFRC units for the sole purpose of continuation training will not utilize interfly authority. Formal attachment of aircrew members will be IAW DAFMAN 11-401, *Aviation Management*, and the AFRC supplement.

3.3.1.6. Crew member(s) will follow operational procedures defined in this manual and the MC-12W AOH. **(T-2).**

3.4. Not Used.

3.5. Flight Duty Period (FDP).

3.5.1. The MC-12W is considered a "Transport" aircraft for FDP calculations. Reference AFMAN 11-202V3_AFSOCSUP for FDP calculations.

3.6. Crew Rest. In addition to the restrictions in AFMAN 11-202V3_AFSOCSUP, it is permissible for crew members not previously placed in crew rest to fly if they consent and have met the crew rest requirements during unusual circumstances and when approved by the commander or operations officer. **(T-3).**

3.7. Standby Duty. A period of time during which a crew may be required to launch on an anticipated mission for which a firm departure time cannot be established.

3.7.1. Standby duty and FDP begin at show time and ends at the expiration of the FDP.

3.7.2. Aircrew members will be provided an uninterrupted 12-hour crew rest period preceding the start of standby duty. **(T-3)**. Aircrew not dispatched on a mission following standby duty will be re-entered into crew rest preceding any duty. **(T-3)**.

3.7.3. Crews will show at the beginning of the standby period to receive mission briefings and prep equipment for flight. Crews will remain in vicinity of the mission workspaces or as required to meet response times. Any activities that require a member to depart the defined areas must be approved by the PIC. A duty crew may be used to pre-flight the alert aircraft and prepare mission products. SQ/CC or DO may authorize release from standby duty prior to end FDP.

3.8. Alert Procedures. Reference AFMAN 11-202V3_AFSOCSUP, for alert FDP guidance.

3.8.1. Alert aircrews will prepare a weight and balance for the alert aircraft and are authorized to prepare Takeoff and Landing Data (TOLD) using the worst weather conditions expected during the alert period. **(T-3)**. Use this data only for alert scrambles. If the alert aircraft is flown for other reasons, compute data for that flight using existing weather conditions.

3.8.2. When an alert crew change occurs and the same aircraft remains on alert, the oncoming alert crew will complete a face-to-face turnover and review the aircraft forms for the aircraft. **(T-3)**. If unable to accomplish a face-to-face turnover, accomplish a preflight.

3.9. Fatigue Management. When scheduling mission durations, see AFI 90-802, *Risk Management* for Operational Risk Management (ORM) assessment requirements. Several factors should be considered. These include, but are not limited to: mission requirements, mission priority, aircrew experience level, aircrew proficiency, fatigue, long-term aircrew welfare, aircraft maintenance status, weather, threats, time of day, and moon illumination.

3.9.1. It is the PIC's responsibility to terminate a mission if safety may be compromised by fatigue factors, regardless of authorized FDP.

3.9.2. Aircrews will receive additional crew rest for deployments spanning several time zones (e.g., OCONUS deployments). Aircrews crossing four or more time zones within a 24-hour period, (e.g., crew member returning from cross country leave or crew member completing deployment from OCONUS or CONUS), will not fly any sorties for 48-hours. **(T-3)**.

3.10. Tactics Training Program. See AFSOCMAN 11-207 for unit tactics training responsibilities. Additionally, units will develop a tailored tactics training program covering threats crews are exposed to on operational missions as well as threats that may be encountered if executing a wartime tasking. **(T-2)**.

3.10.1. Unit Weapons Officer. The unit weapons officer is responsible for the development, maintenance, and currency of the instructional materials used in the tactical training of crews. The weapons officer ensures the tactics training syllabus of instruction (SOI) is comprehensive and meets the unit commander's training objectives and will ensure timely dissemination of tactical and intelligence information pertinent to unit aircrew members.

3.10.2. Tactical Flight Operations. The tactics flight training program is designed to provide MC-12W crewmembers with the necessary skill to confidently and successfully survive operating within a low/medium-threat environment. In all cases, the PIC shall coordinate planned tactical maneuvers including departures and arrivals with air traffic control (ATC).

Tactical maneuvers at uncontrolled fields will not be flown unless operational or training needs dictate. **Exception:** Units may develop Letters of Agreement (LOA) with uncontrolled airfields that may be used for local training. A list of these approved airfields will be published in a local supplement to this manual.

3.10.3. Tactical Radio Communications. The PIC will plan and brief individual responsibilities for secure communication loading, voice radio configurations and communication responsibilities during the mission. Coordination between all aircrew members is essential for safe and effective mission accomplishment. All aircrew members that have the capability to monitor radios must be alert to back up the assigned crew members when duties allow. The PIC will assign radio monitoring and transmission duties after examining each phase of flight for mission requirements and individual workload.

3.10.4. Preparation for Tactical NVG Operations. Cockpit and cabin lights may be taped or covered with NVG compatible film if they will interfere with NVG operations and cannot be otherwise disabled without removing aircraft power (e.g., pulling circuit breakers). Landing gear indicators will not be covered.

3.11. Aircrew Uniform.

3.11.1. See AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program*, and DAFI 36-2903, *Dress and Personal Appearance of United States Air Force and United States Space Force Personnel*, or as mission requirements dictate for wear of the aircrew uniform and other flying clothing/equipment.

3.11.2. Aircrews may wear conservatively styled civilian clothing, if the wear of civilian clothing is directed by mission requirements and authorized by the Foreign Clearance Guide (FCG) or a combatant commander or his delegated authority. The civilian clothing items worn must be approved by the unit commander. Clothing predominately made from non-cotton or non-flame resistant (FR) materials are not authorized. When wearing civilian clothes, aircrew will comply with all requirements of [paragraph 3.12](#), this manual. **(T-3)**.

3.12. Personal and Professional Equipment.

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

3.12.2. All aircrew members will have flight gloves readily available during all flights. **(T-3)**.

3.12.3. Flashlights. Each crewmember must carry an operable flashlight on each flight. **(T-3)**.

3.12.4. Each crewmember will carry an operable headset on each flight. **(T-3)**.

3.12.5. All crewmembers will carry and perform a thorough preflight of their own NVGs prior to flight for missions using NVGs. **(T-3)**. If conducting NVG airland operations, the PIC will preflight one spare set of NVGs. **(T-3)**. The PIC will ensure spare batteries are available during flight.

3.12.6. Passports. Carry passports on missions when required by the FCG. **(T-3)**.

3.12.7. Shot Record. Aircrew members will ensure they meet immunization requirements for the mission area of operations. **(T-3)**.

3.12.8. Identification. Identification tags (dog tags) will be carried on each crewmembers person. **(T-3)**. A valid US government issued identification card (e.g., CAC) will also be carried on all flights. **(T-3)**.

3.12.9. Foreign Object Damage (FOD) Hazards. Aircrew will not wear wigs, hairpieces, rings, scarves, ornaments, pins, hair clips or fasteners, or earrings in the aircraft or on the flight line. **(T-3)**. Crew members will remove rings and scarves before performing aircrew duties. **(T-3)**. **Exception:** Plain elastic hair fasteners or plastic barrettes are allowed, providing they do not interfere with the wearing of headsets, NVG mounts, helmets, or the donning of oxygen equipment. All devices will be accounted for before and after flight. **(T-3)**.

3.13. Survival and Protective Equipment. The unit will establish minimum survival and protective equipment to be worn or carried on a crew member's person for contingency or combat operations. **(T-3)**. All personnel will wear the survival and protective equipment provided during hostile environment operations. **(T-3)**.

3.13.1. When conducting overwater flights beyond power off gliding distance from land, the SQ/CC and/or PIC should consider the following factors:

3.13.1.1. Climate zone, water temperature, and existing weather throughout range and route of proposed flight.

3.13.1.2. Operational requirements (e.g., fuel requirements from an Equal Time Point (ETP) at an altitude not requiring oxygen, glide procedures, number of aircrew, use supplemental oxygen, etc.).

3.13.1.3. Number, type, and communications capabilities of aircraft in nonstandard formation (if applicable).

3.13.1.4. Location, availability, and capability of Search and Rescue (SAR) forces. Alert status and flying time from alert staging location of SAR aircraft (e.g., MC-130, HC-130, US Coast Guard) to overwater route of flight.

3.13.1.5. Anticipated time in water prior to rescue by SAR or commercial systems (e.g., cargo or fishing vessels, military or SAR ships).

3.13.1.6. Winds, wave height, and their impact on SAR or commercial systems.

3.13.1.7. Aircraft and ground communications ranges and capabilities, commercial shipping lanes, and air corridors transited by military aircraft and commercial air carriers.

3.13.2. The PIC will ensure all aircrew are briefed on and review aircraft ditching, water survival, and rescue signaling procedures. **(T-3)**.

3.14. Aircrew Publication Requirements. Crewmembers will have access to the following publications on all missions. Electronic publications located on an Electronic Flight Bag (EFB) (e.g., iPad or similar device) or mission planning computer are sufficient and may replace paper publications:

3.14.1. MC-12W AOH Volumes 1 & 2, and MC-12W Quick Reference Handbook, and any other supplements for equipment or performance data updates; all operating manuals for aircraft equipment (Flight Management System (FMS), Avionics, Enhanced Ground Proximity Warning System (EGPWS)/Terrain Avoidance Warning System (TAWS), etc.). **(T-2)**.

3.14.2. EFB's and Accessories. EFB use will comply with AFMAN 11-202V3_AFSOCSUP. **(T-2)**. EFBs and accessories (e.g., Stratus) may be powered by aircraft 120V AC power outlets for charging. Allow only one device to be powered at a time. Aircrew will not allow them to connect to mission systems (e.g., via USB). **(T-2)**.

3.15. Aircraft Forms. MC-12W Aircraft Forms (e.g., weight & balance, safety equipment, aircraft write-ups, etc) will be reviewed before applying power to the aircraft or operating aircraft systems. **(T-2)**. Aircraft must be released for flight by authorized maintenance personnel (or PIC if on Temporary Duty (TDY) without maintenance support) and documented in the MC-12W Aircraft Forms. Ensure DoD DESC AIR Contract Fuel card and door key are aboard the aircraft. Ensure DoD Fuel Identaplate, and Multi-Service Corporation (MSC) card are aboard the aircraft. PIC will ensure all required documentation/items are accounted for before and after the mission. **(T-2)**.

Chapter 4

GENERAL FLIGHT RULES

4.1. Checklists. A checklist is not complete until all applicable items have been accomplished. Momentary hesitations for coordination items, ATC interruptions and deviations specified in the flight manual, etc., are authorized. Notes amplifying checklist procedures or limitations may be added to the checklists.

4.1.1. Each aircrew member will use the AFSOC/A3V approved checklist for their duty position when conducting ground or flight operations. **(T-2).**

4.1.2. AFSOC/A3V may approve the use of any checklist inserts in accordance with AFI 11-215, *Flight Manuals Program*. The inserts should be placed at the end of the appropriate checklist or in an in-flight guide. Operations group standardization and evaluation (OGV) is the approval authority for local in-flight guides and inserts not affecting AOH guidance and procedures.

4.2. Duty Station. All crew members will be at their duty stations during critical phases of flight. **(T-3)** During other phases of flight, crew members may leave their duty stations to meet physiological needs and perform normal crew duties. Only one pilot may be absent from their duty station at a time. Notify the crew prior to going off intercom. Aircrew follow AFMAN 11-202V3, *Flight Operations*, requirements will be complied with when one pilot is out of the seat.

4.2.1. With both pilots in their seats, PIC may authorize rest periods for one pilot occupying a primary duty station during non-critical phases of flight (the other pilot will be awake and alert). **(T-3).**

4.2.2. During training missions, pilot seat swaps (on the ground or in-flight) may be accomplished only with a qualified pilot at the flight controls. **(T-3).** In-flight seat swaps will be accomplished above 1,000 feet above ground level (AGL). **(T-3).**

4.3. Takeoff and Landing Policy.

4.3.1. A current and qualified pilot may take off and land from either seat under any condition.

4.3.2. The PIC will land the aircraft during:

4.3.2.1. Aircraft emergencies unless conditions prevent compliance. **(T-3).**

4.3.2.2. Missions with Distinguished Visitor (DV) 4, per FLIP General Planning 4-3, or higher on board the aircraft. **(T-3).**

4.3.3. Before Landing Checklists. Aircrew will complete the Before Landing Checklist no lower than 300 feet AGL for visual approaches or at 100 feet above Decision Height or leaving MDA for instrument approaches. **(T-2).** Aircraft will be established on final, wings level, with a controlled rate of descent in a position to execute a safe landing no lower than 150 feet AGL. **(T-2).**

4.3.4. Touch-down/Go-Around Point. The pilot flying the aircraft will verbally identify a touch-down and go-around point on all runways. **(T-2).**

4.4. Seatbelts. Shoulder harness will be fastened for takeoff, tactical approaches, and landing. **(T-3). Exception:** Crew members performing specific duties (e.g., instructors) may be away from their seat without restraints fastened during non-critical phases of flight.

4.5. Passenger Policy. DoDI 4515.13, *Air Transportation Eligibility*, establishes criteria for passenger movement on DoD aircraft. DAFMAN 11-401_AFSOCSUP, provides further guidance on orientation and public affairs travel. Refer to these publications directly. In all cases, passengers will be manifested on DD Form 2131, *Passenger Manifest*. **(T-3).**

4.5.1. During spouse orientation flights comply with DAFMAN 11-401 and all supplements. Threat reaction maneuvers are prohibited. Additionally, spouses will not fly on the same aircraft. **(T-3).**

4.5.2. For other orientation categories, passengers will be seated with lapbelts fastened during threat maneuvers. **(T-3).**

4.5.3. Space-required. DoDI 4515.13 lists several categories of passengers who are authorized official travel on DoD aircraft. Apply the space-available processing, approval, and restrictions to all space-required categories with the following exceptions:

4.5.3.1. Supported Forces. A subcategory of space-required passenger defined by this manual as U.S. and foreign military personnel who are an integral part of the mission being performed. Approval is assumed by the mission tasking. Manifest on DD Form 2131, *Passenger Manifest*.

4.5.3.2. Mission Essential Personnel (MEP). A sub-category of space-required passenger defined by DAFMAN 11-401, DAFMAN 11-401_AFSOCSUP, and this manual. Off-station travel is documented by travel orders. A letter of authorization from the group commander or COMAFSOF will document local flights. **(T-3).** Deployed squadron or mission commanders may approve squadron-assigned personnel, or maintenance personnel required for mission accomplishment. **(T-3).** When frequent local flights are necessary, commanders may issue annual authorizations by name or Air Force Specialty Code, as appropriate. When using this option, it is the PIC's responsibility to ensure that all restrictions in the following paragraph are complied with for each individual mission. **(T-2).**

4.5.3.2.1. Restrictions. Both pilots must be fully qualified (unless specified otherwise by DAFMAN 11-401_AFSOCSUP). **(T-2).** Simulated emergency procedures are prohibited. **(T-2).** There are no restrictions on mission events. Passengers will be seated and secured during threat maneuvers. **(T-2).** The PIC will ensure supported forces are briefed on the mission profile and events before flight. **(T-2).**

4.6. One-Time Flights. An aircraft may be released for one-time flight in accordance with 14 CFR § 21.197, *Special Flight Permits* or 14 CFR § 21.199, *Issue of Special Flight Permits* as applicable with a condition that might be hazardous for continued use, provided the aircraft is airworthy for one flight to another station as determined by MC-12W maintenance superintendent and with the concurrence of 645 Aeronautical Systems Group (AESG) and the PIC. The 645 AESG will act in the place of the Federal Aviation Administration (FAA) Administrator for acceptance/ approval.

4.7. Crew Resource Management (CRM).

4.7.1. Any crewmember may initiate a Knock-It-Off call (directive call to cease current activity due to safety of flight) for any situation where safety of flight is a factor, or a “Terminate” to cease maneuvering in accordance with AFI 11-214, *Air Operations Rules and Procedures*, (substitute “crewmembers” for references to “flight lead,” “formation members,” etc.). In addition, any crewmember may initiate a “Time Out” call. The use of “Time Out” is intended primarily to focus CRM priorities and communications and will accomplish the following:

4.7.1.1. Provide a clear warning of incorrect prioritized crew actions, or of a pending deviation or loss of situational awareness.

4.7.1.2. An opportunity to break the error chain before a mishap occurs.

4.7.1.3. A notification to all crewmembers that someone sees the crew departing from established guidelines, the briefed scenario, or that someone is simply uncomfortable with the developing conditions.

4.7.1.4. A notification during training scenarios to pause the scenario for instructor and/or student clarification.

4.7.2. As soon as possible after a CRM assertive statement has been called, the pilot flying (PF) will accomplish the following:

4.7.2.1. For “Terminate” and “KIO”, safety permitting, the aircraft will be stabilized and ensure safety of flight. Safety of flight will be ensured and it will be determined whether or not to continue the maneuver.

4.7.2.2. Time and situation permitting, the initiating crewmember will be allowed to voice their concerns.

4.7.2.3. Time and situation permitting, the PIC will seek other crewmembers inputs relative to the stated concerns.

4.7.2.4. After considering all inputs, the PIC will announce a course of action.

4.8. Risk Management (RM). RM is a logic based, common sense approach to making calculated decisions on human, material, and environmental factors before, during, and after all operations. USAF policy on RM is contained in AFI 90-802. The PIC will ensure RM worksheets are completed in accordance with MAJCOM and local guidance as part of preflight 7 activities and updated appropriately during flight as conditions change. Aircrews should attempt to contact appropriate supervision in the event that mission conditions drive RM metrics to a higher level.

4.9. Advisory Callouts. The PF will periodically announce intentions during departures, arrivals, approaches, and when circumstances require deviating from normal procedures. The pilot not flying (PNF) will monitor PF actions and maintain situational awareness at all times. Tables 4.1 through 4.4 depict mandatory advisory callouts for enroute climbs/descents, non-precision approaches, precision approaches, missed approaches, and significant deviations respectively. Advisory callouts may be omitted if aircraft avionics provide audible advisories. PF must confirm avionics advisories, and PNF will confirm automated systems are set in accordance with ATC clearance or desired flight profile.

4.9.1. Anytime an altitude or altimeter setting is changed when operating in a non-standard configuration, both pilots will verify the units of measure.

4.9.2. Any crewmember observing an altitude deviation of more than 200 feet from assigned or a decrease of 10 knots airspeed from desired or a potential terrain/obstruction conflict will immediately notify the PF. PF will acknowledge the warning and take appropriate action to correct the deviation.

Table 4.1. Enroute Climb/Descent.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
At 1,000 feet prior to level-off	1,000 to go	Leaving (current altitude) for (desired altitude)

Table 4.2. Non-precision Approaches.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
1,000 feet above Minimum Descent Altitude	1,000 feet above	MDA
100 feet above MDA	100 feet above	100 feet above
At MDA	Minimums	Maintaining MDA
Runway environment in sight, prior to or at Missed Approach Point (MAP)	Approach lights at (clock position)	Continuing or Landing See notes 1, 2
At MAP, runway in sight	Runway in sight	Runway in sight (clock position); Continuing or Landing See notes 1, 2
At MAP, runway not in sight	Go Around	Missed Approach See note 1

Table 4.3. Precision Approaches.

PHASE OF FLIGHT	PNF CALL	PF RESPONSE
1,000 feet above Decision Altitude (DA)/Decision Height (DH)	1,000 feet above	DH
At 100 feet above DA/DH	100 feet above	100 feet above
When runway environment is in sight	Runway environment in sight	Runway environment in sight (clock position); Continuing or Landing See notes 1, 2

At DH	Decision Height	Continuing for (type of landing) or Missed Approach See notes 1, 2
<p>Table 4.2 – 4.3 Notes:</p> <p>1. The PF will announce his/her intentions to either land or go-around. If the runway environment is not in sight and/or the aircraft is not in position for a normal landing, a go-around will be made.</p> <p>2. The pilot may continue to 100 feet height above touchdown (HAT) with reference to the approach lights. The pilot may not descend below 100 feet above touchdown zone elevation (TDZE) referencing only the approach lights unless the red terminating bar or the red side row bars are distinctly visible and identifiable.</p>		

Table 4.4. Significant Deviations Callouts.

DEVIATION	PNF CALL	PF RESPONSE
Knots Indicated Airspeed (KIAS) in accordance with AFMAN 11-2MC-12WV2, <i>MC-12W Aircrew Evaluation Criteria</i> . Aircrew Evaluation Criteria 'Q' parameters for maneuver or phase of flight	XX fast/XX slow	Correcting to
Heading in accordance with AFMAN 11-2MC-12WV2 'Q' parameters for maneuver or phase of flight	Heading degrees left/right	Correcting to
Altitude in accordance with AFMAN 11-2MC-12WV2 'Q' parameters for maneuver or phase of flight	Altitude high/low	Correcting to
Course Deviation Indicator (CDI) Left or Right One Dot	Left/Right of course dot	Correcting
Radio Magnetic Indicator (RMI) Course Left or Right $\pm 5^\circ$	Left/right of Course degrees	Correcting
Final approach Vertical Decent Speed Greater Than 1,000 feet per minute, or pre-briefed decent rate	Sink rate	Correcting or Intentional
Bank in Excess of 30° , unless previously briefed.	Bank degrees	Correcting or Intentional

4.10. Communications Policy.

4.10.1. Sterile Cockpit. Conversation will be limited to that essential for crew coordination and mission accomplishment during critical phases of flight, within known or briefed enemy weapons engagement zones (WEZ), and as deemed appropriate by the PIC.

4.10.2. Radio setup. The Pilot and/or CSO operating the radios will notify the crew which agency is set in each radio, and update the crew when the radio set up changes.

4.10.2.1. All crew positions will monitor Ultra High Frequency (UHF) and Very High Frequency (VHF) guard emergency frequencies to the maximum extent possible.

4.10.2.2. Aircrew will not use unauthorized frequencies for interplane or SECURE VOICE training. (T-2).

4.10.2.3. Due to the presence and activity of the cockpit voice recorder, caution will be exercised when discussing classified information over the interphone. Classified conversations will be limited to mission-essential information.

4.11. Runway, Taxiway, and Airfield Requirements. The PIC is responsible for ensuring TOLD is properly computed. In addition to the restrictions listed in the aircraft performance manual, comply with the following:

4.11.1. Minimum runway width is 60 feet. (T-2).

4.11.2. Minimum runway length for takeoff is Accel-stop, per the AOH. (T-2). OG/CC or equivalent may authorized use of AEO TOFL per the AOH.

4.11.3. Minimum runway length for landing is Normal Landing Distance—Flaps Down per AOH. A landing will not be made at an airfield from which a takeoff cannot be safely executed. (T-2). NOTE: This does not apply to emergency situations.

4.11.4. Touchdown, Go-Around, and Touch and Go Decision Points. Aircrews will define and brief an identifiable touchdown, go-around, and touch and go decision (if applicable) point on all runways and landing zones (LZs). If the aircraft is not on the ground by the pre-briefed touchdown point or is not immediately ready for takeoff by the touch-and-go decision point, the crew will immediately execute a go-around or an abort as applicable. On runways or LZs with no distance markings timing may be used provided there is no other visually identifiable points. The PIC will brief timing calculation method and execution. Reference [Attachment 3](#) for timing chart data.

4.11.4.1. If the landing distance of the desired landing configuration is within 1000 feet of the runway length TOLD per the AOH V1; aircrew members will:

4.11.4.1.1. Brief a visual touchdown point that is within the first 1000 feet of the runway. Calculate timing and use it as the secondary method to land within the first 1000 feet of the runway (timing chart found in [Attachment 3](#)). If unable to determine a visual touchdown point, use timing as the primary method for go-around criteria (e.g., If not wheels down within five seconds of crossing the threshold results in a go-around).

4.11.4.1.2. TOLD Assumptions: Power retarded to maintain 3-degree approach angle, idle at 50 feet, props full-forward, runway paved, dry surface, approach speed KIAS as tabulated, power levers ground fine after touchdown, braking maximum without sliding, obstacle height 50 feet. A 3-degree glide path from 50 feet will allow the MC-12W to touchdown approximately 1000 feet down the runway.

4.11.4.2. The touch-and-go decision point will be no closer to the departure end of the runway than the greater of the full flap landing distance or the AEO TOFL per the AOH. Aircrew will abort if this point is reached before the aircraft is in a valid takeoff configuration per the AOH (e.g., flaps up or flaps approach).

- 4.11.4.2.1. The minimum runway length for touch-and-go landing is 6000 feet or AEO TOFL plus 2000 feet calculated per the AOH, whichever is greater. **(T-2)**. CAUTION: Using a minimum runway length for touch-and-goes does not account for longer than normal touchdowns, longer than normal distances traveled during reconfiguration, or performance-degrading conditions like tailwind, high pressure altitude/decision altitude, slope, etc. Be prepared to discontinue the takeoff if any of these factors arise.
- 4.11.5. Intersection Takeoffs. Intersection takeoffs may be accomplished at the PIC's discretion if the requirements of [paragraph 3.11.2](#) are met and the operating environment (gross weight, obstructions, climb criteria, weather, etc.) allows a safe takeoff and departure. Takeoff performance will be calculated based on the runway remaining from the point at which the takeoff is initiated.
- 4.11.6. Use of Overruns. If overruns are available, properly stressed, and authorized for normal operations, they may be used to increase the runway available for takeoff or landing.
- 4.11.7. Taxiing, takeoff, or landing over any ground obstruction or obstacle (arresting cable, tie down cable, etc.) should be avoided if possible. Damage may result due to low clearance L3 faring. High speed taxi over ground obstructions, obstacles, or cables is prohibited.
- 4.11.8. Runway Condition Reading (RCR) Limitations. If a value is not reported, use RCR 12 for wet runways and RCR 5 for icy runways. Conversions from other braking action standards to RCR should be in accordance with DoD FLIP documents. Normally, RCR values are not reported for taxiways and ramps. During periods of reported low RCR, the taxiways and ramps may have an even lower RCR than reported for the runway. The runway surface should be considered wet when water on the runway causes a reflective glare. **(T-2)**.
- 4.11.8.1. During operations on runways partially covered with snow or ice, base takeoff computations on the reported Runway Surface Condition (RSC) or RCR for the cleared portion of the runway. A minimum of 25 feet either side of centerline should be cleared. If 25 feet either side of centerline is not cleared, takeoff data will be computed based on the non-cleared portion. **(T-2)**.
- 4.11.8.2. Runways/taxiways with a reported RCR value less than 6 will not be used. **Exception:** The OG/CC may authorize crews to taxi on taxiways with a reported RCR value of 3 or greater.
- 4.11.9. Wind Limitations. Airfields will be considered below minimums for takeoff and landing when winds (including gusts) are greater than:
- 4.11.9.1. Maximum wind (any direction) – 50 knots. **(T-3)**.
- 4.11.9.2. Maximum tailwind component – 10 knots. **(T-3)**.
- 4.11.9.3. Maximum crosswinds. Maximum demonstrated crosswind from the AOH is 25 knots. Reference [Table 4.5](#) for CONUS training mission limits. Operational missions should exercise extreme caution and incorporate appropriate risk management when taking off or landing with crosswinds above 25. Crews should consider delaying takeoff or diverting rather than operate above demonstrated crosswinds. Additionally, crews should consider adjusting landing configuration anytime the crosswind exceeds 15 knots. Maximum crosswind component for touch and go landings is 15 knots.

Table 4.5. MC-12W Crosswind Takeoff and Landing Limits.

RCR Values	6	7	8	9	10	11	12 and above
Training Max Crosswind Component	10	12	15	17	20	22	25

4.11.10. NVG landing zone personnel requirements. Qualified aircrews may conduct NVG operations at blacked-out airfields or on LZs with an active control tower, a landing zone safety officer (LZSO), and/or landing zone controller (LZC) in accordance with DAFMAN 13-217, *Drop Zone, Landing Zone, and Helicopter Landing Zone Operations*. **(T-2)**.

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

4.12.1. See AFMAN 11-218_AFSOCSUP, *Aircraft Operations and Movement on the Ground*, and MAJCOM supplements for taxi distance requirements from obstructions. In addition to the requirements of AFMAN 11-218_AFSOCSUP, comply with the following:

4.12.2. Without wing walkers, avoid taxi obstructions by at least 25 feet. With wing walkers, avoid taxi obstructions by at least 10 feet. If wing walkers are unavailable or if provided and doubt still exists as to proper clearance, deplane a crew member to maintain obstruction clearance. **Exception:** When operating at a civilian airport and taxiing on a Fixed Based Operator (FBO) ramp, the PIC may taxi the aircraft within 25 feet of obstacles or other aircraft without wing walkers when using marked taxi routes. The PIC will comply with marshaller instructions. Taxi routes must be used by similar types of aircraft for which the routes were designed and in specifically designed parking spots. Support equipment shall be located in appropriately designated areas. **(T-2)**.

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

4.12.4. Minimum taxiway width is 30 feet. **(T-2)**. There will be no obstacles over four inches high within 40 feet of taxiway centerline, and no obstacles over 24 inches high within 50 feet of taxiway centerline. The use of wing walkers should be considered if wingtips overhang an unprepared surface during taxi operations, and/or if obstacles may be a factor. **(T-2)**.

4.12.5. Reverse Taxi. 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. A marshaller should be present for all reverse taxi operations. CAUTION: Using brakes to stop the aircraft while reverse taxiing may result in aircraft tail contacting the ground.

4.12.5.1. The pilot performing reverse taxi operations will coordinate reverse taxi directions and signals to be used with the marshaller prior to commencing reverse taxi operations. **(T-2)**.

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

4.12.5.3. Stop no less than 25 feet from obstructions. **(T-2)**.

4.13. Landing Zone Procedures.

4.13.1. In accordance with AFI 13-217_AFSOCSUP, *Drop Zone and Landing Zone Operations*, LZs/runways must meet AFSOC minimum requirements for the mission design

series aircraft used. Crews will complete a detailed safety of flight review prior to commencing operations. **(T-2)**. For an LZ to be suitable for MC-12W operations, the LZ must meet the requirements detailed in **paragraph 4.11. (T-2)**.

4.13.1.1. It is the responsibility of all aircrew and/or ground personnel to notify the point of contact for the unit LZ survey program, in a timely manner, of any changes or discrepancies on existing surveys. **(T-2)**.

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

4.13.2. Aircrews may conduct airland operations at airfields specified in the Airfield Suitability and Restrictions Report (ASRR). Surveys are available on Talon Point at <https://talonpoint.net/>. **(T-2)**.

4.13.3. Tactical LZ surveys may be used during exercises and operational missions when a full LZ survey is unavailable. Requests to use tactical surveys will be forwarded to OG/CC or COMAFSOF for review and approval.

4.13.4. The OG/CC or COMAFSOF may approve the use of other DOD services or host nation equivalent LZ surveys. **(T-2)**.

4.13.5. Refer to AFI 13-217_AFSOCSUP, for LZ marking descriptions. The overt and covert markings and signals to be used during LZ operations will be established during mission planning and included in the aircrew briefing.

4.13.5.1. Aircrews may land at an LZ marked with any AMP configuration in accordance with AFI 13-217_AFSOCSUP provided the PIC adheres to the requirements detailed in **paragraph 4.11. (T-2)**.

4.13.5.2. AMP-3 lighting is for situational awareness and for reference. A visible “box” does not define the touchdown and go-around point. Regardless of AMP lighting pilots are required to adhere to the requirements in **paragraph 3.11.4. (T-2)**.

4.14. Aircraft Rescue and Fire Fighting (ARFF) Requirements. ARFF requirements at non-USAF active or flying installations are as follows:

4.14.1. During contingency LZ usage, up to eight takeoffs and landings within four consecutive days may be accomplished at a LZ or airfield without ARFF equipment or local established procedures in the event of an aircraft incident or accident. OG/CC or COMAFSOF is waiver authority for flight operations at locations not possessing ARFF capabilities or local procedures.

4.14.2. Refer to AF Pamphlet (AFPAM) 32-2004, *Aircraft Fire Protection for Exercises and Contingency Response Operations*, to calculate ARFF requirements. Non-USAF ARFF vehicles may be used if the agent and pumping capabilities are equivalent.

4.14.3. Waivers to the ARFF requirements will be considered on a case-by-case basis. Required information for waiver request can be found in AFPAM 32-2004.

4.14.4. Squadron commanders (SQ/CC) may authorize operations at training LZs and local airfields that do not possess local ARFF services.

4.15. Aircraft Lighting. See AFMAN 11-202V3_AFSOCSUP and AFMAN 11-218_AFSOCSUP for operations of aircraft lighting except when in compliance with contingency requirements or guidance.

4.15.1. See AFMAN 11-202V3_AFSOCSUP for operations guidance during NVG training.

4.15.2. If Infrared (IR) covers or bulbs are installed on any of the aircraft lighting systems, the PIC will verify that the other overt lighting systems are operable prior to takeoff. **(T-3).**

4.16. Engines Running Onload or Offload (ERO). ERO procedures will be conducted in accordance with the AOH. An ERO will only be run for operational necessity or aircrew proficiency. Once the lineup checklist has been accomplished crews will run the operational stop checklist any time the door is opened with engines running. Prior to running the lineup checklist crews will feather the #1 propeller and verify the aircraft is depressurized prior to opening the door. **(T-2).**

4.17. Hazardous Weather.

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

4.17.1.1. Crews should confirm the type of aircraft the forecast turbulence applies to, or what type of aircraft reported the encounter, to gain a more accurate picture for their route of flight.

4.17.1.2. Flight into an area of known or forecast moderate or greater mountain wave turbulence is prohibited. Mountain wave turbulence is normally a predictable condition. Military weather forecasters can advise crews of the potential for encountering mountain wave turbulence. However, weather data availability in mountainous regions and forecast model limitations prevent the prediction of all events. Crews must be familiar with the causes of mountain wave turbulence and the characteristic clouds that generally forewarn its presence. **WARNING:** Serious injury may occur if aircrews do not have their lap belts fastened and the aircraft encounters moderate or severe turbulence.

4.17.2. Cold weather altitude correction. When performing approaches and landings at locations where temperatures are 0°C or below, refer to the AOH, Indicated Outside Air Temperature (OAT) Correction Chart, and AFMAN 11-202 V3_AFSOCSUP, Temperature Correction paragraph, to ensure adequate obstacle clearance.

4.17.3. Icing. Flight into areas of forecast known or reported severe icing is prohibited. Prolonged operation, such as cruise flight or holding, in areas of moderate icing should be avoided. Aircrews will exercise extreme caution when performing missions in any type or levels of icing that requires activation of aircraft de-ice boots. Prolonged operation in even light icing conditions may cause ice accumulation on surfaces without de-ice capability. The increased weight and change in aerodynamic surfaces associated may have a significant effect on aircraft stall characteristics.

4.17.3.1. Freezing drizzle typically produces moderate icing while freezing rain generally produces severe icing. Freezing fog typically causes light icing but long term exposure may result in significant ice accumulation on aircraft surfaces. **NOTE:** Freezing precipitation causes low level moderate to severe icing. Official icing forecasts should be obtained from the local AF weather flight or servicing Operational Weather Squadron (OWS) to ensure the most accurate intensity is provided for the local situation. Air Force

Visual Aid 15-137, *Operational Weather Squadron Areas of Responsibility*, provides worldwide contact information for OWSs.

4.17.3.2. Takeoff under conditions of freezing rain is prohibited. Takeoff under conditions of freezing drizzle will not be accomplished except when aircraft has been properly de-iced/anti-iced in accordance with flight manual procedures.

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

4.17.3.3.1. Aircrews will only use de-ice and anti-ice fluid types (i.e., I, II, IV) listed in their respective flight manual. Aircrews will be familiar with, and follow all restrictions in their associated flight manual with respect to anti-ice/de-ice procedures.

4.17.3.3.2. MIL-A-8243 Type I and Type II de-icing fluids do not provide any anti-icing benefit, and therefore do not have holdover times. For approved anti-icing fluids, crews should use anti-icing holdover times as published in AF Technical Order (TO) 42C-1-2, *Anti-Icing, De-Icing and Defrosting of Parked Aircraft*, and the FAA aircraft ground deicing holdover tables located at the FAA web site: https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/. The holdover time begins when anti-icing fluid is first applied and the PIC shall use time, temperature, and dilution of mixture to determine when times are exceeded and re-apply fluid if required. (T-2).

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

4.17.4. Thunderstorms. Do not fly above (within 2,000 ft.) thunderstorms or cumulonimbus clouds.

4.17.4.1. If unable to vertically clear thunderstorms or cumulonimbus clouds:

4.17.4.1.1. Avoid thunderstorms by 20 NM at or above FL 230.

4.17.4.1.2. Avoid thunderstorms by 10 NM below FL 230.

4.17.4.1.3. During combat operations, PIC will refer to paragraphs 1.4 and 3.8 of this manual to determine the appropriate course of action.

4.17.4.1.4. Avoid gust fronts and winds preceding a rapidly moving thunderstorm. CAUTION: Aircraft damage may occur 20 NM or more from any thunderstorm.

4.17.4.2. Aircrew should avoid flying in areas of recently dissipated thunderstorms and potential convective activity downwind of thunderstorms.

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

4.17.4.3.1. Attempt to maintain VMC (Visual Meteorological Conditions).

4.17.4.3.2. Maintain at least 5 NM separation from heavy rain showers.

4.17.4.3.3. Avoid areas of high lightning potential, i.e., clouds within plus or minus 5,000 feet of the freezing level or plus or minus 8°C of the freezing level. NOTE:

Approaches or departures may be accomplished when thunderstorms are within 10 NM providing they are not producing any hazardous conditions (such as hail, lightning, strong winds, gusts fronts, heavy rain, wind shear, or microburst) at the airport, and are not forecast or observed to be moving in the direction of the route of flight (to include the planned missed approach corridor, if applicable).

4.17.5. Volcanic Dust Precautions. Aircraft flight operations in areas of forecast or known volcanic activity or dust is prohibited. All missions will be planned to avoid volcanic activity by at least 120 NM.

4.18. Simulated Emergency Procedures Training. Simulated emergency flight procedures will be conducted according to AFMAN 11-202V3_AFSOCSUP, *Aircrew Training*, and this manual. A realistic approach will be used; emergencies will not be compounded. **(T-2).** The IP will alert crew members prior to initiating simulated emergency flight procedures. See AFMAN 11-202V1_AFSOCSUP, *Aircrew Training*, and AFMAN 11-2MC-12WV1 for additional information.

4.18.1. If an actual emergency arises, all simulated emergency flight procedures training and flight maneuvers practice will be terminated, and the simulated condition will be reversed in the safest manner possible. Training will be resumed only when the IP determines it is safe.

4.18.2. Simulated emergencies will only be conducted during training and evaluation or currency flights when a current and qualified IP is occupying one of the pilot seats. **(T-2).** IP candidates who occupy a pilot seat and are under the direct supervision of an EP not in a pilot seat may conduct simulated emergencies during upgrade evaluations.

4.18.3. Simulated emergency procedures that degrade flight control capabilities will not be practiced. **(T-2).**

4.19. Engine-Out Limitations. Refer to AFMAN 11-202V3_AFSOCSUP. Simulated engine failure is not authorized at less than engine-out minimum control speed (V_{mca}). Simulated engine failure will not be initiated below 500 feet AGL. Simulated engine-out power will be in accordance with AOH procedures for Simulating One-Engine-Inoperative (zero thrust). **(T-2).** **WARNING:** Performing simulated engine-out training below One-Engine Inoperative Speed (V_{sse}) may provide more realistic training on aircraft handling and performance characteristics. However, V_{mca} is below AOH recommended intentional V_{sse} , and MC-12W ISR Supplement does not have a correction factor for V_{mca} . In addition, AOH procedures for Simulating One-Engine-Inoperative assumes training is conducted at V_{sse} .

4.19.1. Instructors and Evaluators will exercise extreme caution and prebrief additional risks and mitigation measures if performing simulated single engine failure below V_{sse} . For training on aircraft handling characteristic at or near V_{mca} , crews should perform the Practice Demonstration of V_{mca} procedure in the AOH. **WARNING:** Performing simulated engine-out training at zero torque as opposed to zero thrust, implies a compound emergency combining loss of thrust with an additional malfunction of the autofeather system.

4.19.2. Refer to AOH for torque/prop settings that simulate zero thrust. In addition, AOH performance data does not have a correction for the V_{mca} increase due to the increased drag and yaw caused by an engine operating at zero torque.

4.20. Training Maneuvers and Restrictions. Table 4.6 lists the training maneuver restrictions that apply on all training flights.

Table 4.6. Training Maneuver Restrictions.

Item	Maneuver	Restriction	Other Restriction
1	Simulated engine failure after takeoff	500 feet AGL minimum.	IP/EP in seat.
2	Simulated One Engine Inoperative go-around	Not Lower than 300 AGL	IP/EP in seat or IP upgrade candidate on evaluation w/ EP supervising from jump seat.
3	Approach to Stalls/Slow Flight	5,000 feet AGL minimum	IP/EP in seat.

4.21. Touch-and-Go Landings. Via training syllabus completion, all PICs are considered certified to perform touch-and-go landings unless prohibited by a AF Form 8, *Certification of Aircrew Qualification*, restriction.

4.21.1. Reported ceiling must be at or above 300 feet and visibility must be at or above $\frac{3}{4}$ mile, or RVR 40 (Runway Visual Range). **(T-2).**

4.21.2. Runway RCR must be 12 or higher. If runway RCR is not available, braking action must be reported as “medium” or better. **(T-2).**

4.21.3. PICs performing touch-and-go landings will perform a crew briefing that includes at the minimum: go around criteria, calls, crew duties, and abort criteria. **(T-2).**

4.21.4. 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.

4.22. Prohibited In-Flight Maneuvers. The following maneuvers or procedures are prohibited in the aircraft and may only be practiced in the flight simulator:

4.22.1. Simulated engine-out takeoffs below 500 feet. **(T-2).**

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

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

4.22.4. Simulated aborted takeoffs. **(T-2).**

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

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

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

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

4.23. Instructor Briefing. Before all initial, upgrade, or re-currency training missions, the instructor will brief the following.

- 4.23.1. Requirements and objectives for each student regaining currency. (T-2).
- 4.23.2. Planned training area and seat changes. (T-2).
- 4.23.3. The importance of smoothly advancing power to avoid asymmetric thrust. (T-2).
- 4.23.4. Engine failure, including recognition and corrective action. (T-2).
- 4.23.5. Proper use of ailerons, flaps, trim, and rudder to maintain coordinated flight. (T-2).
- 4.23.6. AFMAN 11-2MC-12WV2 flight parameters including airspeed, descent point, descent gradient, threshold crossing height, and touchdown zone. (T-2).
- 4.23.7. Flight manual procedures and considerations for proper use of brakes and reverse thrust for slowing during landing rollout. (T-2).

4.24. Debriefing. Overall training performed will be reviewed and evaluated. (T-2). Each student or aircrew member should understand thoroughly what training has been accomplished. The crew will ensure all training has been accomplished and documented, positive actions, areas for improvement, and action items prior to the subsequent training mission (Mission Qualification Training (MQT)/upgrade only). (T-2).

4.25. Functional Check Flights (FCFs) and Acceptance Check Flights (ACFs). The MC-12W does not have an Air Force maintenance requirement for FCFs and ACFs. Unit commanders may determine operational flight check requirements.

4.26. Traffic Alert and Collision Avoidance System (TCAS). When signature management allows the full capabilities of the TCAS system on the MC-12W, it is imperative for pilots to follow resolution advisories (RAs) to obtain aircraft separation computed by TCAS. Failure to follow the computed RA may increase the probability of a midair collision. Pilots who deviate from an ATC clearance in response to an RA shall notify ATC of the deviation as soon as practical and promptly return to the ATC clearance when the traffic conflict is resolved or obtain a new clearance. (T-2). When operating in a stack with 500' separation from other aircraft the PIC may brief alternate responses to TCAS alerts or may select "TA only" provided that adequate separation can be confirmed visually. (T-2).

4.27. Radar Altimeter.

- 4.27.1. During VFR operations, the recommended low altitude warning setting is 90 percent of intended or flown cruise altitude.
- 4.27.2. For instrument approaches, set the radar or barometric altimeter low altitude warning to the appropriate Height Above Touchdown, Height Above Aerodrome, Minimum Descent Altitude, Decision Altitude, or Decision Height prior to the Final Approach Fix.

4.28. Instrument Flight Rules. When IMC conditions will be unavoidable pilots will file an IFR flight plan. When operating in the local area, a local IFR flight can be requested with clearance delivery and cancelled when VFR on top.

4.29. Aircrew Flight Equipment.

- 4.29.1. Oxygen. Oxygen on board for takeoff must be sufficient to accomplish the planned flight from the ETP to recovery should oxygen be required.

4.29.1.1. One EROS or equivalent mask/bottle and one Emergency Passenger Oxygen System (EPOS) will be available for the CSO and TSO each. The EROS bottles must have at least 500psi of oxygen for local missions and 1000psi prior to departure for off-station missions. EPOS will be distributed before departure if necessary. For flights with additional crewmembers or passengers/observers, EPOS will be available for all occupants. **(T-3)**. For operations in mountainous terrain, extended overwater ops, or austere areas with few divert bases, the PIC should consider equipping the crew with additional EPOS. However, EPOS primary use is for escaping a smoke filled cabin and not for long term oxygen supply.

4.29.1.2. Crewmembers occupying a crew station will have an oxygen mask connected and readily available for use from before engine start until after engine shutdown. **(T-3)**.

4.29.2. Rafts. On overwater flights, a life raft will be carried when the distance from land at the planned cruising altitude exceeds a glide ratio of approximately 2 miles per 1,000 feet (2:1 glide ratio). For example, if planned cruising altitude is FL240, a life raft would be required if flying more than 48 miles from land. **(T-2)**.

4.29.3. Life preserver units (LPU)-10/P or personal flotation device. Aircrews will ensure the appropriate number and type of life preservers are aboard for overwater missions. **(T-2)**. Each aircrew member will ensure an LPU-10/P or personnel flotation device is fitted and within easy reach before takeoff on overwater flights (outside gliding distance to land). **(T-2)**.

4.29.3.1. LPUs need not be worn for takeoffs, landings, and approaches.

4.29.3.2. LPUs will be worn for overwater missions below 2,000 feet.

4.29.4. Anti-Exposure Suits. Anti-exposure suits will be worn by all aircrew and passengers on flights which are beyond engine out gliding distance from land and the water temperature is 60°F (16°C) or less. **(T-3)**. Anti-exposure suits for the aircrew and passengers are issued/fitted by Aircrew Flight Equipment (AFE) personnel. **(T-3)**.

4.30. Aircraft Recovery from Unprepared Surfaces. Aircrews will not normally attempt to recover an aircraft after inadvertent entry onto unprepared surfaces not suitable for taxi. **(T-2)**. Ground crews will accomplish aircraft recovery. **(T-2)**. Unless an emergency dictates otherwise, aircrews may only accomplish recovery if there is no aircraft damage, the surface will support the aircraft, and the PIC has coordinated with appropriate MAJCOM maintenance authorities. **(T-2)**.

4.31. Fire Control, Emissions, Navigation, Communication, Emergency (FENCE) Checks . See AFTTP 3-1.MC-12W or AOR SPINS for FENCE check requirements.

4.32. Laser Usage. Lasers will always be employed in accordance with established tactics, theater rules of engagement, and theater special instructions. Prior to employing a laser, aircrew members should make every attempt to notify crew and any ground party. At no time will any laser be fired over the horizon. **(T-3)**.

4.32.1. Safety. The nominal ocular hazard distances for all MC-12W lasers are detailed in the Aircrew Operating Handbooks. Any crew member observing adverse weather conditions (i.e., clouds, smoke, etc.) that may cause laser energy to be reflected back into the aircraft should notify the crew immediately if laser operations are planned.

4.32.2. Laser Arming. Prior to arming, the crew member will state which laser they have selected.

4.32.3. Employment Guidance for Specific Laser Types for Training Missions.

4.32.3.1. Laser Range Finder. During training missions, the laser range finder may only be used at an approved range or military installation unless 12hz mode is verified and not fired directly at personnel.

4.32.3.2. Visible Laser. During training, the visible laser will not be employed outside the boundaries of a military installation or air and ground ranges. The visible laser will not be employed inside the airspace of an active military airfield unless approved by the controlling agency. While using a visible laser on a military installation or range, as part of an approved training event, only a visible laser which is eye safe to all persons on the ground can be directed at any person, vehicle, or building. The OG/CC or COMAFSOF is the waiver authority for employing a visible laser during a training mission outside the boundaries of a military installation or range.

4.32.3.3. Laser Target Marker (LTM). During training, the laser target marker will not be employed outside the boundaries of a military installation or range without SQ/CC or designated representative approval. The LTM will not be employed at night inside the airspace of an active airfield unless approved by either the airfield manager or control tower.

4.32.3.4. Laser Range Designator (LRD). During training, the laser LRD will only be fired on laser-approved ranges. If ground parties are present they will be advised prior to laser arming to ensure they have taken safety precautions.

4.33. Flares. If flares have been dispensed during flight, a hung flare check must be accomplished upon next landing prior to entering ramp areas with other aircraft or personnel. **(T-3)**. The PIC will deplane a crew member or have ground personnel visually inspect dispensers to ensure that there are no hung flares. **(T-3)**. If a hung flare is detected, follow local airfield hung flare procedures. If hung flare procedures do not exist at stopping location, park the aircraft 300 feet away from other aircraft, flight line equipment, or personnel.

4.33.1. A hung flare is a flare that has partially fired or is extended from the magazine. Missing flare endcaps should not be considered hung flares.

4.33.2. Dispense flares in accordance with controlling agency procedures and restrictions. Follow regulations for local agency notification prior to flare usage.

4.34. Personnel Recovery/On-scene Commander (OSC) Checklist. See AFTTP 3-1.MC-12W or specific AOR guidance on personnel recovery/OSC TTPs.

4.35. Formation Flying. Formation takeoffs and landings are prohibited. MC-12W are authorized to operate in accordance with Military Authority Assumes Responsibility for Separation of Aircraft procedures.

4.36. Operational Reports and Forms. Aircrews will consult governing instruction or contact wing, unit, or local flight safety officers for assistance with safety forms.

4.36.1. AFSOC Form 97, *Aircraft Incident Worksheet*. Refer to DAFI 91-204_AFSOCSUP, *Safety Investigations and Reports*, and the AFSOCSUP. The AFSOC safety office (AFSOC/SE) will be notified of the following high interest items: insertion injuries, IFR incidents, dropped objects, or any other incident which, in the judgment of the flight safety officer, needs to be reported. Use the AFSOC Form 97 when reporting these incidents to

AFSOC/SE. DAFI 91-204_AFSOCSUP and the AFSOCSUP provide policy guidance that is common to investigating and reporting all US Air Force mishaps and instructions for using AFSOC Form 97. Safety investigations and reports are conducted and written solely to prevent future mishaps. NOTE: Safety investigations take priority over any corresponding legal investigations, except friendly fire mishaps.

4.36.2. 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, the front side of an AF Form 457 will be completed and sent to the parent wing flying safety office. If addressing a computer flight plan deficiency, a copy of the AF Form 72, *Air Report (AIREP)* will be attached. Aircrews will ensure the parent unit receives it within 5 days of the event. For more information, see AFI 91-202, *The US Air Force Mishap Prevention Program*.

4.36.3. 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.

4.36.3.1. DAFI 91-204_AFSOCSUP and DAFMAN 91-223, *Aviation Safety Investigations and Reports*, list HATR reportable incidents.

4.36.3.2. The PIC shall report the hazardous condition to the nearest ATC agency (e.g., center, Flight Service Station (FSS), control tower, or aeronautical radio station) as quickly as safety allows. Include the following information in the radio call (as appropriate):

4.36.3.2.1. Aircraft identification or call sign.

4.36.3.2.2. Time and position (radial/DME of Navigation Aid (NAVAID), position relative to the airfield, incident, etc.).

4.36.3.2.3. Altitude or flight level.

4.36.3.2.4. Description of the other aircraft or vehicle.

4.36.3.2.5. Advise controlling ATC agency that the PIC will file a HATR upon landing.

4.36.3.3. 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. **(T-2)**.

4.36.3.4. Aircrews are reminded that properly reported HATRs grant the aircrew immunity from disciplinary action provided:

4.36.3.4.1. If they were the offending party, their violation was not deliberate.

4.36.3.4.2. They committed no criminal offense.

4.36.3.4.3. Their actions did not result in a mishap.

4.36.3.4.4. They properly reported the incident using procedures above.

4.37. Report Violations, Unusual Events, or Circumstances. PIC shall document events that require them to deviate from AFMAN 11-202V3_AFSOCSUP, (unless waived by appropriate authority) or alleged navigation errors (including over-water position errors over 24 NM, border, or ATC violations).

4.37.1. Deviation(s) will be described in following report format: **(T-2)**.

4.37.1.1. Facts. Pertinent details of the event shall be reported. **(T-2)**.

4.37.1.2. Investigation and analysis. Circumstances which required/drove deviation(s) shall be reported. **(T-2)**.

4.37.1.3. Findings and conclusions.

4.37.1.4. Recommendations to prevent recurrence.

4.37.1.5. Corrective actions taken.

4.37.2. The following attachments will be included with the report:

4.37.2.1. Formal notification of incident. **(T-2)**.

4.37.2.2. Crewmember's official statements (if applicable). **(T-2)**.

4.37.2.3. Other pertinent documents submitted in evidence (logs, charts, etc.). **(T-2)**.

4.37.3. OG/CC shall send the original investigation report to the appropriate MAJCOM within 45 days of the event/notification. **(T-2)**.

4.37.4. Operational Reporting (OPREP)-3 reporting procedures contained in AFMAN 10-206, *Operational Reporting (OPREP)*, will be used for navigation errors over 24 NM. **(T-2)**.

4.37.5. PIC shall expeditiously report unusual events/circumstances that impact their mission to appropriate MAJCOM agencies. Reportable events include, but are not limited to, spectrum interference, laser incident directed at the aircraft, interception, engine failure, hostile fire, injury to passenger or aircrew member, etc. This list is not all encompassing. Most events require C2 agents to forward OPREP reports to higher headquarters. In all cases, pass the "who, what, when, where, why, and how" of the incident to a C2 agency. **(T-2)**. The Spectrum Interference Resolution Program, covered in AFI 17-221, *Spectrum Interference Resolution Program*, establishes procedures to combat the effect of meaconing, intrusion, jamming, and interference. PICs who encounter electromagnetic interference (EMI) will report the event to the nearest C2 agency as soon as practical. **(T-2)**.

4.38. Petroleum, Oil, and Lubricants (POL)—Aviation Fuels Documentation. See AFI 11-253, *Managing Purchases of Aviation Fuel and Ground Services*, for purchasing aviation fuel and ancillary ground services at commercial airports (and some military installations) worldwide. The U.S. Government Aviation Into-Plane Reimbursement (AIR) card is authorized for use by all US government aircraft, state, and local law enforcement aircraft, and some foreign government aircraft. A list of all AIR Card® accepting merchants can be found at <https://aircardsys.com>.

Chapter 5

PREFLIGHT

5.1. Flight Planning Systems. The primary flight planning system for AFSOC is XPlan, which is part of the AFSOC Mission Planning Environment (MPE). XPlan replaces Portable Flight Planning System (PFPS). The MC-12W does not have a Flight Performance Module engineered in XPlan at the date of this publication, but a “UBuild” interim solution is in place. XPlan may still be utilized for imagery study, terrain avoidance, IMOM analysis and any other feature that was available in PFPS.

5.1.1. Until a valid FPM/VPM/AWE for the MC-12W is developed aircrews may utilize ForeFlight and AOH Vol 1 data for route and fuel planning.

5.1.2. Electronic Data Transfer. If the flight planning computer transfers a flight plan to the aircraft electronically, it must be an AFSOC approved system. AFSOC/A3 will periodically publish a list of approved systems. Aircrews will not use unapproved versions of any system to load aircraft avionics without AFSOC/A3 approval. **(T-2).**

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

5.2.1. When reporting or receiving positions using coordinates derived from maps, charts, or related cartographic products, a complete reference to the source of the coordinates will be provided. This reference will include the datum map or chart producer, series, sheet number, edition and date.

5.2.2. When reporting or receiving positions using coordinates derived from non-cartographic sources such as GPS receivers, Analytical Photogrammetric Positioning Systems, or related systems, a complete reference to the source of the coordinates will be provided. This reference will include the datum, method used to derive the coordinates, agency producing the coordinates, and accuracy of the coordinates.

5.3. Flight Logs. Prepare a flight log for each off-station mission and include the following as a minimum: turn points, headings, distances, estimated time enroute (ETE), Minimum Safe Altitude (MSA), and fuel computations. A flight log is not required if the above information is included on a flight map. A flight log is also not required for local training flights or when mission requirements are unknown such as during an alert status, counterdrug missions, LEA support or other dynamic operational domestic missions. Foreflight NavLog fulfills this requirement.

5.4. Aircrew Flight Equipment (AFE). Prior to departure, aircrews will ensure appropriate life support, survival, and MC-12W equipment is aboard the aircraft.

5.4.1. Prior to departure, aircrews will review, sign, and date the AFTO Form 46, *Positioned Aircrew Flight Equipment*. **(T-2).**

5.4.2. Prior to departure, aircrews will ensure survival gear configuration matches mission requirements. For over-water missions, aircrews will confirm appropriate number and type of life preservers and raft are aboard. **(T-2).**

5.4.3. Aircrew members discovering equipment missing will:

5.4.3.1. Make an MC-12W Aircraft Forms entry for mission equipment. **(T-2)**.

5.4.3.2. Annotate AFTO Form 46 in the next vacant column indicating the quantity remaining for the item. **(T-2)**.

5.4.4. PIC will determine whether or not to replace the missing equipment before continuing the mission. **(T-2)**.

5.5. Aircraft Equipment Requirements. A fully mission capable aircraft is the ultimate objective of the logistics effort. Redundant systems may allow crews to safely perform some missions when a component/system is degraded. The final responsibility regarding equipment required for a mission rests with the PIC. If one crew accepts an aircraft to operate a mission or mission segment without an item or system, this acceptance does not commit that crew, or a different crew, to accept subsequent operations with the same item or system inoperative. When the PIC considers an item essential, designate the component Mission Essential on the aircraft maintenance forms, and the item will be repaired or replaced prior to departure. **(T-3)**.

5.5.1. Minimum Equipment. Aircrews will reference AOH V1, Chapter 5 for minimum equipment listing (MEL) to determine which aircraft systems are required for flight. **(T-3)**. Information from the POH *Kinds of Operational Equipment List* (KOEL) and the FAA *Master Minimum Equipment List* (MMEL) have been incorporated in the AOH.. Lists may be tailored by the OG/CC for all local MELs. The PIC is responsible for operations with degraded equipment. Operating outside of the AOH V1, Chapter 5 guidelines requires OG/CC or COMAFSOF approval. For contingency operations, when communication issues prevent any possibility of a waiver request, the PIC is the approval authority operating outside the aircraft MEL guidelines but must notify the chain of command of the situation as soon as conditions permit.

5.5.1.1. Tactical mission requirements are the Minimum Essential Subsystem List (MESL). The PIC is the approval authority for operations with degraded MESL equipment. If the PIC elects to operate with degraded equipment or aircraft systems, the PIC will coordinate mission requirements (i.e., revised departure times, fuel requirements, maintenance requirements, etc.) prior to flight with the mission control agency to ensure the decision does not adversely impact follow-on missions.

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

5.5.2. Mode 5. Aircrews will ensure that they have an operable Mode 5 when required for mission accomplishment. Aircrews will conduct an operational ground test of the Mode 5 (ground test assets permitting) when required for mission accomplishment/aircraft safety. When required, an operational check of the Mode 5 will be made prior to takeoff (test equipment permitting), preferably with the ground test set. Do not plan to penetrate the Air Defense Identification Zone (ADIZ) without an operational Mode 5. NOTE: Crews will annotate any failure or unsuccessful interrogation of the Mode 5 in the aircraft forms.

5.5.2.1. When required, attempts will be made to fix an inoperable Mode 5 before takeoff. Takeoff will not be delayed nor the mission cancelled due to an inoperable Mode 5, except

when required for mission accomplishment or the aircraft will transit an area where safe passage procedures are implemented. **(T-2)**.

5.5.2.2. IFF modes 1, 2, 3A and S codes are not classified and may be left set in the transponder. IFF Mode 5 codes will be zeroized before leaving the aircraft for extended periods of time. **(T-3)**.

5.5.3. Landing Gear System. If a landing gear malfunction is encountered (including any malfunction resulting in the inability to raise or lower the landing gear), only a full stop landing will be made. **(T-2)**.

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

5.5.4. Radar. Weather mode radar must be operative for flights into areas of known or forecast thunderstorms or turbulence. **(T-2)**.

5.5.5. Global Positioning System (GPS) Navigational Systems. Fly the BE-300 and MC-12W in accordance with guidance in the AOH.

5.5.6. Weight and Balance. Weight and balance will be computed using the AOH, equivalent electronic program, or vector template. A copy of each mission's weight and balance will be maintained at the squadron or operations center (as applicable) and carried with the aircrew. For enroute stops, weight and balance need not be recomputed provided the zero fuel weight has not changed. The crew will compute in-flight crew and passenger equipment movement to ensure center of gravity limits are not exceeded. **(T-2)**. These computations will be briefed during the crew or mission brief or during flight, as required.

5.5.7. One-time Flight Clarification. A Code-3 discrepancy may be downgraded for a one-time flight. The priority is to move the airplane to a repair capable facility. PIC must coordinate with appropriate agencies to ensure repair capability exists at the destination. One-time flights may include enroute technical stops only when necessary to recover the airplane. **(T-2)**.

5.5.7.1. The SQ/CC, chief of maintenance, MC, or deployed maintenance representative must authorize this release. **(T-2)**.

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

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

5.5.8. Performance Data Fuel Planning. SQ/CC, DO, or MC may approve use of appropriate FAA approved AOH torque increase charts for performance calculations to plan fuel loads based on historical engine data and forecast atmospheric conditions. Absent SQ/CC, DO, or MC approval, crews will accomplish torque checks in accordance with AOH procedures before utilizing other than the +0% torque chart for fuel planning.

5.5.8.1. Prior to takeoff roll, crews will ensure each engine can achieve the increased torque used in fuel planning assumptions without exceeding ITT limitations. Do not takeoff if the actual torque increase is not equal to or greater than the assumed torque increase. Instead, either reduce weight (burn/offload fuel, reduce equipment/crew/passengers) or wait until environmental conditions improve to takeoff (using the actual increased torque for performance calculations).

5.5.8.2. In order to maximize fuel, maintenance/aircrews may perform torque checks in accordance with AOH procedures prior to fueling to determine actual engine performance. These torque checks will be performed during atmospheric conditions that closely mimic forecast takeoff conditions.

5.6. Mission Planning Actions.

5.6.1. Crewmembers departing their local operating area will (at a minimum):

5.6.1.1. Review FLIP, NOTAMs, operations order, special instructions (SPINS), operational risk assessment, and country risk assessment as applicable.

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

5.6.1.3. Complete isolated personnel report (ISOPREP) review and, if traveling over semi-permissive or non-permissive countries, an evasion plan of action (EPA) for each crew member.

5.6.1.4. Obtain terrain charts, local country FLIP, and evasion charts for unfamiliar destinations, if available.

5.6.1.5. Obtain required customs forms.

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

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

5.7. Airfield Certification. Aircrews will thoroughly review all available airfield and approach/departure information for airfields certification insuring AFMAN 11-202V3_AFSOCSUP compliance. The PIC will ensure compliance with the international procedures in FLIP General Planning (GP), Area Planning (AP), and the FCG. **(T-2).**

5.8. International Procedures. The PIC will review the FCG and brief crew members on applicable items before flights outside the CONUS. Comply with Customs, Immigration, Agriculture, Immunization, and quarantine requirements. The unit dispatching the mission is responsible for border clearance and other special clearances when required. Entry into foreign countries by personnel and equipment is directed by military agreements, diplomatic agreements, directives of the operational control commander, International Civil Aviation Organization (ICAO) standards, and the FCG. **(T-3).**

5.9. Intelligence Briefing. Before departing on missions outside the United States, crews will receive an intelligence briefing that will emphasize terrorist, enemy, and friendly political and military development in the area in which they will be operating. In theater, aircrews should receive intelligence updates on initial arrival at a forward operating location, or enroute stop, and thereafter when significant developments occur. Report information of possible intelligence value

to the local intelligence office at the completion of each mission to ensure timely dissemination of mission reports (MISREPs). (T-3).

5.10. Authenticators and Classified Material. Obtain and safeguard current authenticators and other classified materials required for area being transited. Carry authenticators when flying into an ADIZ, participating in exercises, on overseas missions, deployments, and when specified in operation plans. The communications security (COMSEC) material required depends on the theater of operation and user. Obtain sufficient COMSEC materials for the duration of the mission. (T-3).

5.10.1. Turn in authenticators and other classified materials at destination (if applicable) and obtain receipts for classified material. Issue and turn-in of authenticators is normally a function of base operations. At locations where no storage facilities exist, the PIC will ensure classified material is properly protected. (T-3).

5.10.2. Remove/Zeroize any potential or classified information in the FMS and/or GPS, aircraft radios, or mission systems/software when not required for flight or continuous mission operations. Each crewmember is responsible for all classified materials. (T-3).

5.10.3. In an emergency, destroy or damage classified material and equipment prior to crash landing if possible. Follow destruction procedures outlined in the MC-12W Aircrew Operator Handbook. (T-3).

5.11. IFR Destination Filing Requirements. See AFMAN 11-202V3_AFSOCSUP for forecast weather destination requirements. Additionally:

5.11.1. If the approach does not contain a minimum ceiling, pilots will compute it by rounding the MDA to the next 100 feet (e.g., a 545' MDA would require a 600' minimum ceiling). (T-2).

5.11.2. Pilots will file an alternate, regardless of forecast weather, for all OCONUS destinations except on intra-theater flights. (T-2).

5.11.3. When filing to a remote or island destination, pilots will use 1+15 holding fuel in lieu of an alternate when required. (T-2). Compute holding fuel using planned destination gross weight and flight level (FL) 200. 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. In addition to AFMAN 11-202V3_AFSOCSUP requirements, the destination's prevailing surface winds, accounting for RCR, must be within limits at ETA and forecast to remain so for 2 hours thereafter. (T-2).

5.12. Fuel Planning/Management. See AFMAN 11-202V3_AFSOC and the following:

5.12.1. Required ramp fuel will consist 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). See [Table 5.1](#) and the AOH for fuel planning considerations. (fuel plan not required on local missions remaining within 250 NM).

5.12.2. Alternate fuel is the fuel for flight from intended destination to alternate aerodrome at optimum altitude and normal cruise speed. Aircrews will compute fuel, time, and altitude using the AOH. When holding is required or in lieu of an alternate at a remote or island destination, compute holding using planned destination gross weight at FL200. This provides 30 minutes holding fuel in addition to the 45 minute reserve requirement. NOTE:

Additional/contingency fuel may be added to allow crews flexibility when dealing with unplanned contingencies (e.g., weather avoidance, ATC delays, etc.), single runway operations, etc. **(T-2)**.

Table 5.1. Fuel Planning Chart.

Item	Fuel Load Component	Fuel Requirement
1	Start, taxi, takeoff	100 pounds
2	Enroute (note 1)	Fuel for planned climb and cruise to overhead destination at cruise altitude or initial approach fix altitude.
3	Enroute reserve (Class II route) (note 3)	Fuel for 10 percent of flight time over Class II route (see note 4) or route segments not to exceed 1 hour at normal cruise.
4	Alternate	Fuel from overhead destination to the alternate at normal speed and altitude, or optimum performance criteria.
5	Alternate with visibility only criteria	Fuel for descent, approach, and missed approach; use 200lbs + fuel from destination to alternate using climb and normal cruise charts.
6	Holding (note 2)	0+45 fuel using holding charts at 10,000 feet. When holding in lieu of alternate is required or when the alternate is located in Alaska or at latitudes greater than 59 Deg N/S, use 1+15 holding fuel computed at 20,000 feet.
7	Approach and landing	150 pounds
8	Known holding delays	Fuel for planned holding when delays are anticipated.
<p>WARNING: Planning estimates only. Aircraft Commanders must consistently evaluate their fuel state and aircraft performance during flight to confirm/ensure validity of their fuel plan given atmospheric conditions and prolonged engine performance in austere environments.</p>		
<p>Notes:</p> <ol style="list-style-type: none"> 1. All planned off-course maneuvering for departure or enroute deviations will be included. 2. Fuel required over destination or alternate is fuel for holding plus approach and landing or 550 pounds, whichever is greater. 3. Class II route is any enroute operation that takes place outside the operational service volumes of ICAO standard airway. Refer to FAAH-8261-16B, <i>Instrument Procedures Handbook</i>. 		

5.12.3. Normal recovery fuel is 550 pounds. Crews will plan to arrive at initial or the Final Approach Fix for the final destination with normal recovery fuel. **(T-2)**.

5.12.4. Minimum fuel is 400 pounds. Crews will declare “minimum fuel” whenever it is determined that they will land with less than 400 pounds of fuel. **(T-2)**.

5.12.5. Emergency fuel is 300 pounds. Crews will declare an emergency whenever it is determined that they will land with 300 pounds of fuel or less. **(T-2)**.

5.12.6. Fuel Computations for Class II Routing. When flying along a Class II route, crews should ensure they have enough fuel to complete the flight from the ETP. Crews will consider worst case recovery with one-engine inoperative or two-engine unpressurized. **(T-2)**.

5.12.7. Joker/Bingo Fuel. Calculate Bingo Fuel as defined in AFI 11-214. **(T-2)**.

5.13. Objective Area Planning.

5.13.1. Chart Selection. Charts with a scale of 1:500,000 or greater detail are required for objective area operations. **(T-2)**. Charts with a scale of 1:250,000 or greater are highly desired.

5.13.2. Emergency Safe Altitude (ESA). An ESA is an altitude that will provide positive terrain clearance should IMC be encountered. A minimum of 1,000 feet (2,000 feet in mountainous terrain) above the highest obstacle or terrain feature within 10 nautical miles (NM) of the intended flight path/objective area will be used. An ESA will be computed for all objective areas, and all enroute flight paths not on established airways. **(T-2)**. NOTE: Mountainous areas are defined as having a 500 foot change in surface altitude over 1/2 NM.

5.13.3. Minimum Safe Altitude (MSA). An MSA is an altitude that provides VMC terrain clearance and limited threat avoidance during degraded aircrew situational awareness or periods of task saturation. A minimum of 500 feet above the highest obstacle or terrain feature within 5 NM of the intended flight path/objective area will be used. An MSA will be computed for all objective areas, and an emergency escape route will be planned and briefed if MSA is higher than single-engine service ceiling. **(T-3)**.

5.13.4. Pilots will ensure all charts used for flight have the most current airspace, threats, and hazards posted, as well as ESA for all route/mission segments, and MSA for planned objective area(s). Aircrew will also ensure appropriate civil airspace is annotated along their route of flight. Crews will carry charts with sufficient detail to avoid terrain during normal and emergency operations, avoid civil and tactical airspace, and conduct objective area operations. **(T-2)**. Electronic maps (TORCH software, etc.) provide significant situational awareness but may not be relied on as the sole source of navigation. **WARNING:** Failure to maintain an accurate altimeter setting during flight may cause lower than planned terrain clearances or impact with terrain when using the computed ESA/MSA; forecast minimum altimeter will be used if terrain clearance is questionable and/or local altimeter setting is unavailable.

5.13.5. Peacetime and Wartime SAFE PASSAGE Procedures. Pilots shall be familiar with peacetime and wartime safe passage of friendly military aircraft procedures.

5.14. Call Signs.

5.14.1. For training and operational missions, crews will use unit assigned static call signs. **(T-3)**.

5.14.2. Search and Rescue. On actual search, rescue, and recovery missions, aircrews may use the call sign "Air Force Rescue" plus the last five digits of the aircraft tail number if directed by the Joint Personnel Recovery Center.

5.15. Flight Crew Information File (FCIF).

5.15.1. Crewmembers will review FCIF, Volume 1 and update the FCIF currency record before all missions or ground aircrew duties. **(T-2)**. When unable to sign the FCIF currency record or complete electronic FCIF review procedures, initialing and numbering the latest

FCIF by an individual's name on the flight authorization orders certifies the FCIF currency review of all items is complete. **(T-2)**.

5.15.1.1. PICs who fly with General Officers are responsible for briefing appropriate FCIF items. **(T-2)**.

5.15.1.2. Go/No-Go status will be in accordance with AFMAN 11-202V2_AFSOCSUP, *Aircrew Standardization/Evaluation Program*, and as supplemented. During exercises and contingencies, deployed squadrons will develop procedures to comply with this paragraph and local requirements.

5.15.2. Crew members delinquent in FCIF review or joining a mission enroute will receive an FCIF update from a primary aircrew member counterpart on the mission. **(T-2)**.

5.15.3. Crew members not assigned or attached to the unit operating a mission will certify FCIF review by entering the last FCIF number and their initials behind their name on the file copy of the flight authorization or file copy of their crew orders. **(T-2)**.

5.16. Mission Kits. The PIC or a designated representative will ensure a current mission kit is on board the aircraft. (T-2). The kit will contain, but is not limited to the items listed below. (T-2). Maintain sufficient quantities of directives and planning documents to allow implementation of evacuation and contingency plans:

- 5.16.1. AF Form 457, USAF Hazard Report.
- 5.16.2. AF Form 651, Hazardous Air Traffic Report (HATR).
- 5.16.3. AF Form 711B, USAF Mishap Report.
- 5.16.4. AFSOC Form 97, Incident Report.
- 5.16.5. DD Form 1385, Cargo Manifest.
- 5.16.6. DD Form 1801, International Flight Plan.
- 5.16.7. CF 6059B Form, Customs Declaration.
- 5.16.8. DD Form 2131, Passenger Manifest.
- 5.16.9. SF 44, Purchase Order – Invoice Voucher.
- 5.16.10. Foreign Nation's Customs Forms (when applicable).
- 5.16.11. All applicable home station forms.

5.17. Route Navigation Kits. A route navigation kit will be carried on all flights. **(T-3)**. Kits will contain sufficient quantities of material to cover planned and alternate missions as required. **(T-3)**. Paper kits are not required if at least three EFBs are on board and operated in accordance with AFMAN 11-202 V3_AFSOCSup. Minimum contents of route navigation kits (applicable to area of operation) are:

- 5.17.1. FLIP Instrument Flight Rules (IFR) Supplement.
- 5.17.2. FLIP Flight Information Handbook (FIH).
- 5.17.3. FLIP enroute charts (high and low).
- 5.17.4. FLIP instrument approach procedures.

- 5.17.5. Standard instrument departures (for planned theater of operation).
- 5.17.6. Standard terminal arrival routes (STAR).
- 5.17.7. Topographical and sectional charts for areas of operation.
- 5.17.8. FLIP VFR supplement. NOTE: Local area navigation kits may be used in lieu of route navigation kits on local unit training sorties. Content of these kits is a local unit decision.

5.18. Aircraft Commander Briefing/Pre-Mission coordination. The PIC, or designated representative, will make every effort to coordinate with supported forces prior to the mission briefing. All crew members should attend each briefing. Use only OGV approved briefing guides. Crew members may only be excused from specialized briefings for pre-flight duties; however, the PIC will back brief all appropriate items.

5.18.1. Passenger Briefings (if applicable).

5.18.1.1. Prior to each flight with passengers on board, the PIC will ensure that a briefing has been conducted. When more than one flight is accomplished by the same crew and passengers, subsequent briefings are not required except to brief route information, mission changes, etc. **(T-2)**.

5.18.1.2. The passenger briefing will include demonstration of seat belt, emergency oxygen, fire extinguishing systems, and location/operation of normal and emergency exits. All overwater flights will include a briefing on personal and aircraft life support equipment. **(T-2)**.

5.19. CSO Preflight Duties. In addition to the duties established in applicable AFMAN/AOH and other directives for MC-12W aircraft requiring a CSO, the CSO will comply with the procedures and duties specified throughout this manual. **(T-2)**. These items need not be briefed and will be performed as normal procedures. The PIC may assign other duties as necessary.

5.19.1. Review the planning products (i.e., TOLD, Comm Card, etc.) to ensure they match the mission tasking. **(T-3)**.

5.19.2. Carry and operate Simple Key Loader (SKL) and portable media drives. **(T-3)**.

5.19.3. Intel Coordination. Coordinate with Intel to determine threats, Essential Elements of Information, and any other required mission specific details prior to the flight. **(T-3)**.

5.19.4. Training Missions. The instructors will normally develop the mission scenario. If no instructor is on-board, the CSO and/or PIC are responsible for scenario development. **(T-3)**.

5.19.4.1. The CSO should coordinate with opposing force/mission ready training (OPFOR/ MRT) members to develop a scenario that meets the training requirements of all participants. Specific areas to be covered include, but are not limited to, communications plan, specific mission events to be included in the scenario, and deconfliction with other players.

5.20. TSO Preflight Duties. In addition to the duties established in applicable AFMAN/AOH and other directives for MC-12W aircraft requiring a TSO, the TSO will comply with the procedures and duties specified throughout this manual and AFSOCI 11-2TSOV3. **(T-2)**. These items need not be briefed and will be performed as normal procedures. The PIC may assign other duties as necessary.

5.20.1. Training Missions. The TSO should coordinate with the CSO to develop the mission scenario.

5.20.1.1. The TSO should coordinate with the CSO and with OPFOR/MRT members to develop a scenario that meets the training requirements of all participants. Specific areas to be covered include, but are not limited to, communications plan, specific mission events to be included in the scenario, and deconfliction with other players.

5.21. Alert Aircraft Procedures. To accept an aircraft on alert, complete a normal aircraft preflight. After 72 hours on alert, allow maintenance personnel access to inspect the aircraft.

5.21.1. Parking. Park the alert aircraft in a designated alert parking area to expedite taxi and takeoff. **(T-3)**.

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

5.21.3. Flying Alert Aircraft. The alert aircraft may be flown for purposes other than actual alert missions provided the following conditions are complied with:

5.21.3.1. Ensure sufficient fuel remains on board to meet mission requirements. If not, upon flight completion, refuel the aircraft to required alert fuel quantity. **(T-3)**.

5.21.3.2. Communication contact is maintained with the primary controlling agencies. **(T-3)**.

5.21.3.3. A qualified aircrew for the alert mission is on board. **(T-3)**.

5.21.3.4. Controlling agencies are notified any time the alert aircraft departs the local area. **(T-3)**.

5.21.4. Once accepted for alert, the alert aircrew will make an entry in the aircraft maintenance forms, stating, "Aircraft accepted on alert at [local time and date]." No maintenance may be performed on it without prior approval of the alert crew PIC and notification of the squadron director of operations (DO) or deployed MC. To ensure integrity of the aircrew preflight, a current and qualified crew member must be present whenever maintenance is performed, or at the completion of the maintenance, the aircrew is required to check the area in which maintenance was performed. **(T-3)**. The check should be performed as soon as practical after the maintenance and must be performed prior to flight. **(T-3)**.

Chapter 6

DEPARTURE

6.1. On Time Takeoffs. Mission departures are on time if the aircraft is airborne +/- 10 minutes from the scheduled takeoff time. Early departures are authorized provided pre-coordination is completed with local agencies to confirm local sorties, down-range sorties and aircrew impacts are evaluated and no adverse effect will result.

6.2. Departure Planning. AFMAN 11-202V3_AFSOCSUP and this chapter, will be used for departure planning. TOLD will be computed using AOH, Jeppesen-produced special departure procedures (SDP) found at <https://ww2.jeppesen.com/> and/or OGV-approved performance data extracts. All TOLD computations will be verified by both pilots. Rolling takeoffs are authorized if the available runway exceeds the TOFL by 1000 feet. Flaps approach takeoffs are authorized when supported by climb data.

6.2.1. VFR Departures. VFR departures will not be flown in lieu of obstacle clearance planning. **(T-2)**. For all VFR departures, a two engine climb gradient will be calculated as well as an One Engine Inoperative (OEI) climb gradient to comply with **paragraph 6.2.1.2**, this manual. **(T-2)**.

6.2.1.1. When departing VFR, VFR cloud clearances will be maintained until obtaining an IFR clearance. **(T-2)**.

6.2.1.2. VFR departures to an IFR minimum enroute altitude (MEA) or MSA are authorized when there is no authorized IFR departure method for the airport, when the aircraft cannot depart using one of the IFR departure methods contained in AFMAN 11-202V3_AFSOCSUP or when operational requirements dictate (i.e., tactical necessity). A VFR climb to an IFR MEA/MSA is only to be used as a last resort when the mission priority dictates increased risk. This guidance does not apply to planned VFR training or operational flights where the majority of the flight is to be conducted under VFR. VFR departures require detailed planning to ensure obstacles and high terrain are avoided. **WARNING:** Aircrews are responsible for ensuring terrain clearance when departing VFR. Refer to AFMAN 11-202V3 “Visual Climb Over the Airport” for specific guidance.

6.2.1.3. The minimum climb performance for VFR departures is determined by ensuring all the following conditions are met: **(T-2)**.

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

6.2.1.3.2. OEI climb capability shall ensure departure and emergency return route provides obstacle avoidance. **NOTE:** If unable to comply with any of the above conditions, download cargo/fuel or delay until more favorable conditions exist.

6.2.1.3.3. FLIP for host nation VFR requirements will be referenced before flying VFR outside the United States.

6.2.2. IFR Departures. Aircrews must use an approved IFR departure method as outlined in AFMAN 11-202V3_AFSOCSUP. **(T-2)**.

6.2.2.1. With SQ/CC (or designated representative) approval, MC-12W aircrews are permitted to subtract 48 feet/nautical mile (ft/nm) from the published climb gradient to compute OEI requirements when mission priority justifies increased risk.

6.2.2.2. With SQ/CC (or designated representative) approval MC-12W aircrew are authorized to utilize OEI SDPs available for the MC-12W. SDPs are MDS specific escape procedures intended only for emergency use after the loss of an engine. Appropriate ORM practices will be incorporated in the approval process to ensure each mission's requirements outweigh the additional risk of using this method for OEI compliance. Retrieve current SDPs from the Dynamic Runway Analysis tab at <https://www.milplanner.com> (contact OGV for current username and password).

6.2.2.2.1. Each PIC must be appropriately trained and certified in SDPs. SDP certification will be accomplished and documented in accordance with AFMAN 11-2MC-12WV1. **(T-2)**.

6.2.2.2.2. See AFMAN 11-202V3_AFSOCSUP for utilizing SDP for OEI planning.

6.2.2.2.3. The MC-12W is authorized for area navigation (RNAV) with FMS NAVAID Waypoint Substitution on an SDP.

6.2.2.2.3.1. Aircraft must be capable of using RNAV as the primary means of navigation with either a successful Predictive Receiver Autonomous Integrity Monitoring (RAIM) check accomplished or Active RAIM. The GPS solution must meet the required accuracy for terminal area operation. **(T-2)**.

6.2.2.2.3.2. Named waypoints/NAVAIDs must be available in the navigation database. **(T-2)**. Named waypoints or NAVAIDs that exist in the FMS database will not be entered into the FMS using latitude/longitude, place/bearing-place/bearing/or place/bearing/distance in lieu of names. **(T-2)**.

6.2.2.2.3.3. Building and manually entering waypoints/fixes into the FMS for SDP use is permitted as user defined data. This includes entering fixes or intersections that are defined by place/bearing-place/bearing or place/bearing/distance from named waypoints/ NAVAIDs. NOTE: If the requirements of AFMAN 11-202V3_AFSOCSUP cannot be met, cargo/fuel will be offloaded, downloaded, or burned, and aircrew should delay until more favorable conditions exist.

6.3. NVG Departures.

6.3.1. NVG Departure Weather Minimums. Pilots may use NVGs to assist in instrument takeoffs as mission requirements dictate. Crews will consider weather conditions, moon illumination and position, sky glow at dawn and dusk, cultural lighting, and weapon/expendable effects when planning NVG operations.

6.3.2. NVG Malfunctions during Takeoff. During an NVG takeoff, if the PF experiences NVG failure, takeoff may be continued at the discretion of the PIC. If NVG malfunctions occur after the PNF states "V1", consideration should be given to either continuing the takeoff as the PF transitions to white-light operations or transfer operational control of the aircraft if appropriate. The PNF should be ready to immediately assume aircraft control if the pilot experiences spatial disorientation or an NVG malfunction. Pilots should exercise sound and conservative judgment to continue NVG operations with aircraft malfunctions. The PIC will

ensure that contingencies and contracts have been appropriately briefed before accomplishing NVG operations. **(T-2)**. **WARNING:** NVGs and associated components (battery cords, safety cords, and other hardware) can become entangled with emergency equipment, overhead panel switches, or other controls. Any interference can cause inadvertent engine shutdown, or repositioning of other critical switches or controls.

6.4. CSO Duties. Immediately after takeoff, cross-check available flight references to ensure the aircraft remains clear of obstructions. To monitor aircraft on approaches and departures, the CSO will use digital or paper charts in an appropriate scale for the aircraft location/speed/etc. **(T-2)**.

6.5. Takeoff Weather. Existing takeoff weather may be less than approach and landing minimums, but requires a departure alternate in accordance with AFMAN 11-202V3_AFSOCSUP. In all cases RVR must be at least 1,000 feet (1,600 feet for training missions). If RVR is not available prevailing visibility must be at least 1/2 mile (800 meters). **(T-2)**.

6.6. Tactical Departures. In accordance with AFTTP 3-1.MC-12W, *Tactical Employment MC-12W*, tactical departures are restricted to VMC to allow visual terrain clearance up to MSA. **Exception:** The straight-ahead steep tactical departure may be performed in IMC if clearance allows.

6.6.1. At the discretion of the PIC, if dictated by runway conditions and/or operational necessity, a tactical departure may be performed from a rolling takeoff. **(T-3)**.

6.6.2. Prop levers should remain full forward to the maximum extent possible when operating within a WEZ. **WARNING:** Aircrews must ensure positive terrain clearance for the departure and climb out flight paths.

Chapter 7

ENROUTE

7.1. CSO In-flight Duties.

7.1.1. Communications. Monitor the primary ATC radio unless otherwise directed by the PIC. Record ATC clearances and monitor the read back during departure, enroute, and approach. This procedure is not required when ATC instructions require immediate execution by the pilot, or when such action interferes with the timely performance of other time-sensitive duties.

7.1.2. Mission Systems. Operate applicable mission systems in accordance with the AOH. Brief crew on any mission system that is not fully functional.

7.1.2.1. The crew will ensure the mission systems are operated and employed in compliance with applicable United States Signal Intelligence Directives (USSIDs) and classified guidance.

7.1.3. Enroute Navigation. Back up the pilots in obstacle and terrain clearance. Monitor aircraft heading and altitude, immediately notify the PF if these parameters are different than those briefed by the PIC.

7.2. Flight Progress. The following procedures for flight progress will be used:

7.2.1. Prior to oceanic flights, plot the oceanic portion on an appropriate chart and compute ETP returns due to a medical emergency (two-engine at cruise altitude), loss of pressurization (two-engine at 10,000 feet), and loss of one engine (one engine at drift down altitude). NOTE: The differences in the two-engine normal and single-engine Long Range Cruise profiles are significant. Therefore, special attention during mission planning should be given to determining turnaround point if required due to engine loss.

7.2.2. In-flight, all available navigational aids to monitor the FMS performance will be used. In the event of malfunction or any loss of navigation capability that degrades navigational accuracy immediately report the malfunctions to the controlling air route traffic control center.

7.2.3. Communications Navigation System/Air Traffic Management Capability (CNS/ATM). Airspace and associated navigational equipment capability are continually evolving. Pilots should maintain a thorough knowledge of current FLIP requirements/policies. Aircrews may reference **Table 7.1** for MC-12W CNS/ATM approved operations.

7.2.3.1. Reduced Vertical Separation Minimum (RVSM) Airspace. Airspace where RVSM is applied is considered special qualification airspace (FL 290-FL 410). Both the operator and the aircraft must be approved for operations in these areas. **(T-2)**. Pilots will immediately notify ATC if any of the required equipment fails after entry into RVSM airspace. Aircrews will refer to FLIP GP and applicable AP for theater unique information. The MC-12W is certified/approved for flight in RVSM airspace.

7.2.3.2. Required Navigation Performance (RNP) Airspace. The MC-12W is certified for RNP Airspace, see **Table 6.1** Airspace where RNP is applied is considered special qualification airspace. RNP airspace is being incorporated around the world to increase air traffic capacity by decreasing separation requirements between routes. Pilots will immediately notify ATC if any of the required equipment fails after entry into RNP

airspace and coordinate a plan of action. Malfunctions or failures of RNP required equipment will be documented in the aircraft forms. **(T-2)**.

7.2.3.3. RNP-10. Navigation accuracy is within 10 NM of track 95% of the time. Remote/Oceanic operation in RNP-10 airspace is authorized provided that all required equipment is operational and adequate GPS coverage is available. The GPS coverage must be checked using the Fault Detection and Exclusion (FDE) software prior to departure. **(T-2)**. If the FDE software verifies satellite availability and the predicted Horizontal Integrity Limit (HIL) is within tolerances for the airspace (e.g., less than 10 NM for RNP-10 airspace), then the flight is authorized. If sufficient satellite coverage for FDE is not available or the HIL is greater than airspace tolerances, then the flight is not authorized. **(T-2)**.

7.2.3.4. Basic Area Navigation (BRNAV)/RNP-5 Airspace. Due to the increased sensitivity required, this airspace is considered special qualification airspace. BRNAV/RNP-5 meets a track keeping accuracy equal or better than +/- 5 NM for 95% of the flight time. Minimum equipment to operate in BRNAV/RNP-5 airspace is an approved GPS with RAIM 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/RNP-5 airspace and coordinate a plan of action; however, with sufficient NAVAID reception, the MC-12W may still operate in the BRNAV airspace. Malfunctions or failures of RNP required equipment will be documented in the aircraft forms. **(T-2)**.

7.2.3.5. See **Table 7.1** below for complete listing of MC-12W CNS/ATM approved operations.

Table 7.1. MC-12W CNS/ATM Operational Approvals (Electronic Flight Information System/Proline 21 aircraft) Airspace/ Equipment.

Airspace/Equipment Type MC-12W	Certified	Operational Approval	Pilot Training Required	Notes
Frequency Modulation (FM) Immunity (FMI)	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
LNAV/VNAV, LPV Approaches	Yes	Yes	Yes	Training incorporated into initial qualification
RVSM	Yes	Yes	Yes	Training incorporated into initial qualification

Airspace/Equipment Type MC-12W	Certified	Operational Approval	Pilot Training Required	Notes
RVSM/GPS Enroute	Yes	Yes	Yes	Training incorporated into initial qualification
RNP 10	Yes	Yes	No	
RNP-5	Yes	Yes	No	
BRNAV	Yes	Yes	No	
MINIMUM NAVIGATION PERFORMANCE SPECIFICATION	Yes	Yes	No	
Remote Oceanic	Yes	Yes	No	Operation on Special Routes are approved (e.g., Blue Spruce)

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

7.3.1. Aircraft subjected to harassment or hostile action by foreign aircraft will immediately contact the nearest USAF air and ground voice facility and report the encounter. **(T-2)**. The aircraft nationality, type, insignia, or any other identifying features will be reported; the position, heading, time, speed and altitude when harassed, and the type of harassment will be noted. Relay of the report to the nearest C2 agency will be requested. **(T-2)**.

7.4. Jamming and Interference. All aircrews and other radio users must be familiar with the procedures for reporting incidents of Meaconing, Intrusion, Jamming, and Interference (MIJI) or Spectrum Interference. **(T-2)**. Info AFSOC/A3TW on all MIJI/SI reports.

7.4.1. Other incidents will be reported as indicated in AFMAN 10-206.

7.5. In-Flight Meals. The pilots will not consume in-flight meals within 1½ hours of each other during flight if the meals were procured from the same source and consist of the same menu.. **(T-2)**.

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

7.7. In-flight Emergency Procedures.

7.7.1. Single Engine Considerations. The PIC will ensure there is enough fuel available to continue to a suitable airfield, should an engine failure occur. Fuel burn at 10,000 feet Mean Sea Level (MSL) or single engine service ceiling (whichever is lower) will be computed.

7.7.2. Single Engine Drift Down. Some operations over mountainous regions require minimum enroute altitudes that are higher than the airplane's single engine service ceiling. In those cases, an adequate margin of safety may be obtained by cruising at an altitude higher than the minimum IFR altitude. Select an altitude that will allow the aircraft to lose an engine and drift down cruise to an area that assures the single engine service ceiling can maintain terrain clearance. The PIC will ensure the aircraft can maintain the minimum IFR altitude for the entire route of flight with one engine inoperative.

7.8. TSO In-flight Duties. TSO in-flight duties are defined in AFSOCMAN 11-2TSOV3.

Chapter 8

ARRIVAL

8.1. Descent. Before descent into unfamiliar areas, pilots will review appropriate terrain charts to increase aircrew situational awareness of obstructions. Primary crewmembers will not be involved in duties other than aircraft operations, descent and approach monitoring, and required checklist items from the initial descent point to landing. **(T-2).**

8.1.1. Pilots should fly a precision approach if available; however, visual approaches may be flown during VFR conditions. See AFTTP 3-1.MC-12W for operational or continuation training requirements for NVG tactical approaches.

8.2. Instrument Approach Procedures.

8.2.1. The PIC will not fly an instrument approach or departure at an airfield unless the procedure has been Terminal Instrument Procedures reviewed and approved by AFSOC or another MAJCOM and is valid for the date used. **(T-1).** Approved procedures can be checked on GDSS2.

8.2.2. GPS approaches. The BE-300 and MC-12W are approved to use GPS for enroute operations, terminal procedures to include RNAV arrivals and departures, and RNAV instrument approaches to the RNAV published approach minimums. BE-300/MC-12W aircraft are certified to conduct Localizer Performance with Vertical guidance (LPV), Lateral Navigation (LNAV) and Lateral Navigation/Vertical Navigation approaches.

8.2.2.1. Self-contained Approaches. Although the MC-12W navigation system enables approaches and pseudo approaches to be constructed and flown, these type approaches may only be used as a situational awareness aid and may not be used as the sole means of navigating to a runway or LZ in IMC. **WARNING:** Self-constructed approaches and pseudo approaches do not guarantee obstacle or terrain clearance.

8.2.3. Destination weather. If the ceiling is below the value depicted for published precision approach, but visibility is at or above authorized minimums, the PIC will comply with the Vis-Only Alternate fuel requirements of **Chapter 4**, AFMAN 11-202V3_AFSOCSUP before initiating enroute descent, penetration, or approach.

8.2.4. Flight Instrumentation Requirements.

8.2.4.1. Full flight instrumentation for a Category I (CAT I) Instrument Landing System (ILS), for the pilot flying the approach, consists of an attitude director indicator (ADI), a CDI, a means to identify the NAVAID (either aurally or by verifying the correct station identifier on the distance measuring equipment (DME) indicator), complete differential pressure instruments, and heading/compass systems.

8.2.4.2. Full flight instrumentation for a precision approach radar (PAR), for the pilot flying the approach, consists of complete differential pressure instruments, heading/compass systems, and an attitude indicator.

8.3. Landing Zone Operations. Only fully mission qualified aircrews or those receiving instruction are authorized to operate on landing zones. **(T-2).** LZ operations may be conducted operationally or for training provided the requirements defined in **paragraph 4.11** are met. If

conditions warrant, crews may consider a flaps approach takeoff for shorter takeoff ground runs/close-in obstacles.

8.4. Tactical Approach.

8.4.1. The objective of a tactical approach is to effectively transition from tactical enroute parameters to a predictable and repeatable final approach. The last 1/2 mile of every approach should be the same, whether originating with a tactical arrival, instrument procedure, or visual approach. If it is determined that a tactical approach is required, the crew must conduct a thorough brief to include visual references for transition to 1/2 mile 'standard' final, as well as a go-around point based on required landing distance and run available. **(T-3)**. This brief will be accomplished prior to beginning descent on the tactical approach. **(T-3)**. See AFTTP 3-1.MC-12W for additional information on tactical approaches.

8.4.1.1. PF responsibilities: Prior to descent brief crew on type of descent/approach, starting altitude, pull out altitude, level off altitude, and any planned turns. Set altitude alert window to level off altitude. Set barometric altitude to 150 feet AGL converted to MSL (at the lowest) as a stable approach final decision point. Go around if approach is unstable or situational awareness is lost.

8.4.1.2. PNF responsibilities: Call pull out altitude, level off altitude, and radar altimeter alive. Call a go around if approach is unstable or situational awareness is lost.

8.4.1.3. CSO/TSO responsibilities: Monitor altitude from sensor data and backup PNF on calls. Query PF of intentions for any turns not briefed. Call a go around if approach is unstable or situational awareness is lost. **WARNING:** Tactical threats are only one part of crews' ORM analysis. Crews must remain vigilant for terrain, obstacles, and manned/unmanned aircraft in the ATC pattern during tactical arrivals. Crews should anticipate flowing into the normal pattern, and remember that ATC and others in the pattern may be looking for them at standard IFR altitudes during position reporting.

8.5. NVG Landing. NVGs have inherent limitations which can further be reduced by poor weather conditions. Crews will consider weather conditions, moon illumination and position, sky glow at dawn and dusk, cultural lighting, and weapon/expendable effects when planning NVG operations. SQ/DO approval is required when illumination is 10% or less.

8.5.1. NVG instrument approach weather minimums are the minimums for the approach.

8.5.2. NVG landings to any airfield or LZ may be made, regardless of AMP configuration, by any pilot qualified to perform NVG landings.

8.5.3. An Special Tactics Squadron controller (or qualified equivalent), LZSO, LZC, or an active control tower is required to conduct NVG landings at unlit or covertly marked landing zones or airfields.

8.6. Wake Turbulence Avoidance.

8.6.1. Aircrews will comply with wake turbulence avoidance criteria. Acceptance of traffic information, instructions to follow an aircraft, or a visual approach clearance is acknowledgment that the PIC will ensure takeoff and landing intervals and accepts responsibility of providing wake turbulence separation. Aircrews will refer to FLIP GP, AFMAN 11-202V3_AFSOCSUP, and the Airman's Information Manual for additional information and wake turbulence avoidance techniques. **WARNING:** Wind can affect the

path and duration of wake turbulence thereby prolonging the turbulence hazard or placing the turbulence in an unanticipated location. The PIC should coordinate with ATC as required when operating in the vicinity of large/heavy aircraft, and is responsible for adjusting aircraft operations and flight path as necessary to preclude serious wake turbulence encounters.

8.6.1.1. The PIC will exercise caution when conducting taxi or flight operations within the vicinity of helicopter(s) or tilt-rotor aircraft. In a slow hover-taxi or stationary hover near the surface, helicopter main rotor(s) or tilt-rotor aircraft produce high velocity downwash vortices out to a distance approximately three times the diameter of the rotor. In forward flight, departing or landing helicopters or tilt rotor aircraft produce a pair of strong, high-speed trailing vortices similar to wing tip vortices of larger fixed-wing aircraft. **(T-2)**.

8.6.1.2. When taking off or landing behind a fixed-wing aircraft, the following rules will be followed.

8.6.1.2.1. Maintain two minute spacing behind small aircraft (12,501 - 41,000 pounds). **(T-1)**.

8.6.1.2.2. Maintain three minute spacing behind large and heavy aircraft (greater than 41,000 pounds). **(T-1)**.

8.6.1.2.3. No spacing is required behind like aircraft or aircraft weighing less than 12,500 pounds. **(T-1)**.

8.7. Aircraft Recovery Away from Main Operating Base (MOB). The PIC is responsible for ensuring the aircraft is turned to meet subsequent mission tasks. The PIC will ensure proper ground handling, services, and security personnel are available at the planned non-MOB location. If qualified personnel are unavailable, the aircrew is responsible for turning the aircraft to meet subsequent mission tasks. **(T-2)**.

8.7.1. In those instances where maintenance personnel are not available and crew members are not qualified to accomplish the required ground inspections, the PIC will enter a red dash symbol in the MC-12W aircraft maintenance forms updating current status and enter a red dash symbol and a discrepancy that reflects that the applicable maintenance inspection (i.e., preflight, thru-flight, basic post-flight) is overdue on the discrepancy and maintenance work sheet. **(T-2)**.

8.8. Caustic Fluids.

8.8.1. An entry will be placed in the aircraft maintenance forms, "Aircraft Subjected to Salt Spray" anytime the aircraft is flown over salt water below 1,000 feet AGL, except for takeoffs and landings. Document the lowest altitude and duration the aircraft was subjected to salt spray.

8.8.2. An entry will be placed in the aircraft maintenance forms of "Aircraft Deiced" with date/time and type(s) of fluid used. **WARNING:** Aircrew will not use Clearwater Rinse facilities in order to prevent damage to the aircraft. **(T-3)**.

8.9. Classified Equipment and Material. Aircrews will comply with the following or as directed in MAJCOM supplement.

8.9.1. Equipment. When classified equipment is onboard, the C2 center or base operations office must be made aware of the requirement for aircraft security. **(T-2)**. At bases not under

jurisdiction of the AF, aircraft and equipment protection must be assured. (T-2). For classified aircraft components which cannot be removed and stored, the aircraft should be locked. If available, US military personnel (e.g., Ravens) should be used to guard the aircraft; otherwise, guards employed by the host country for flightline/airport area control should be used. Classified information stored in navigation or radio equipment will not be left unguarded. (T-2).

8.9.2. Material. Aircrews will ensure COMSEC and other classified materials are turned in at destination and receipts are obtained for COMSEC and classified material. (T-2). The on-site C2 center should be used to provide temporary storage for COMSEC and other classified materials during enroute, turnaround, and crew rest stops. If a storage facility is not available, the aircraft gun storage box may be used for material classified up to and including SECRET. Encrypted COMSEC will only be transferred to authorized DoD personnel. (T-2).

8.9.2.1. Remain Overnight (RON) COMSEC Storage. Refer to AFMAN 17-1302-O, *Communications Security (COMSEC)*, for additional guidance. Every effort should be made to store classified material in a secure facility (i.e., Base Operations/Command Post) if that facility exists. If remaining overnight at a location that does not or cannot provide this storage capability, then the following procedures should be used:

8.9.2.1.1. If carrying an electronic keyed device, (i.e., SKL), the key will be removed from the device and carried by one of the pilots or the CSO. (T-2). The device will be placed somewhere on the aircraft not in plain view (i.e., under a seat, in the baggage compartment). (T-2).

8.9.2.1.2. All classified documents (authenticators, SPINS extracts, etc.) will be locked in a securable storage box. (T-2). The key to the box will also be carried at all times by one of the pilots. (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 and report any suspected or possible compromise immediately, even if it delays the mission. (T-2).

8.10. Cockpit Voice Recorder (CVR). If CVR is not erased, ensure the aircraft is secured according to the classification level of the conversation recorded. (T-2).

8.11. Emergency Destruction. Destroy/damage classified material/equipment prior to a crash landing if possible. If the situation does not permit securing of classified material during ground egress, when able, aircrew will obtain the names and telephone numbers of all un-cleared emergency responders and/or maintenance personnel who boarded the aircraft and were exposed to classified material. If Sensitive Compartmented Information (SCI) material was inadvertently disclosed, the System Security Officer will be contacted to conduct an inadvertent disclosure briefing to those members exposed to SCI. (T-2).

8.12. Maintenance. MC-12W aircraft forms will be completed after each flight. After landing, crewmembers will debrief maintenance personnel on the condition of the aircraft. At stations where there is no maintenance, and maintenance support is required, crews should contact their home unit or maintenance contractor for guidance. Controlling C2 and home station will be notified of maintenance status before entering crew rest. The OG/CC or equivalent will determine contract maintenance response priority for multiple aircraft requiring maintenance at different locations beyond the contract hub/spoke allowance. (T-2).

8.12.1. Aircrews will ensure that the engine trend data sheet is completed during flight and entered into aircraft forms post-flight. **(T-2).**

8.13. Impoundment of Aircraft. If an aircraft is involved in a serious in-flight incident, the PIC should impound the aircraft immediately after landing and contact the controlling C2 agency for further instructions. **(T-2).**

8.14. Customs, Immigration, and Agriculture Inspections.

8.14.1. Aircrews will complete customs, agriculture, and public health clearance forms, as required, prior to opening the crew or cargo doors or enplaning and deplaning personnel. **(T-1).**

8.14.2. Aircrews will proceed directly from the aircraft to customs, immigration, or agricultural inspection for processing at those stations where federal or local inspections are required. The PIC or designated representative completes the necessary forms before reporting to inspectors. **(T-1).**

8.14.3. After clearing with border clearance agencies, the PIC or designated representative will return to the aircraft for offloading and other post-flight procedures. **(T-1).**

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

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

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

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

8.14.6.2. If foreign authorities insist on conducting a search, the PIC must negotiate to delay the search until contact is made with responsible Air Force Operations division in-

country (AF/A3OFN), or the appropriate US Embassy. The PIC should unequivocally state, the aircrew has no authority to consent to the search and that they must relay the foreign request to these agencies for decision. The PIC should then notify these agencies of the foreign request by the most expeditious means available. Thereafter, the PIC should follow instructions provided by the appropriate US Embassy and HQ USAF.

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

8.14.6.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the PIC should state that he protests the course of action being pursued and that the PIC intends to notify both HQ USAF and the appropriate American Embassy of the foreign action. The PIC should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and appropriate US embassy as soon as possible.

8.14.7. In all instances, specific instructions may be briefed because of sensitive cargo or equipment. These instructions and applicable provisions of classified supplements to the foreign clearance guide should be followed where applicable.

8.15. Utilization of Civilian Law Enforcement or Medical Personnel. It is the policy of the DoD to cooperate with civilian law enforcement officials to the maximum extent practicable. AFI 10-801 incorporates the appropriate directive and provides uniform policies and procedures service members must follow when supporting federal, state, and local civilian law enforcement agencies. It establishes specific limitations and restrictions on the use of Air Force personnel, equipment, facilities, and services by civilian law enforcement organizations. Before transporting civilian law enforcement officials or civilian medical personnel, obtain proper authorization through OG/CC or COMAFSOF. A legal review by the servicing staff judge advocate may be necessary to ensure compliance with applicable law and DoD policy. Crews will not transport civilian law enforcement personnel into areas of imminent danger or where confrontation with civilian criminal targets is likely, will not use military force against civilian criminal targets unless in self-defense, and will not direct the action of civilian authorities in enforcing the law or making arrests. **(T-2)**. ANG crews will follow appropriate NGB specified guidance when supporting federal, state, and local civilian law enforcement agencies in support of domestic operations. **(T-2)**.

8.16. Hazardous Material Procedures. See AFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*, for any missions requiring the transport of hazardous materials.

8.17. Narcotics. Aircrew members will ensure narcotics and other unauthorized items are not smuggled onboard the aircraft. Maintain narcotics that are part of official medical kits in accordance with appropriate directives. Transportation of narcotics for ANG domestic operations will follow in accordance with National Guard Regulation 500-2/Air National Guard Instruction 10-801, *Emergency Employment of Army and Other Resources: National Guard Counterdrug Support* for guidance on counterdrug support and unit specific supplements to this volume. **(T-2)**.

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

8.18.1. Ensure documentation is entered into the aircraft maintenance forms. (T-3).

8.18.2. Notify the controlling agency as soon as practical. (T-3). Include route of flight, altitude, and weather conditions encountered and approximate coordinates of dropped object event.

Chapter 9

POST MISSION

9.1. Aircraft Beddown. Aircrews may assist the normal maintenance function when critical contingency tasking dictates their use, provided this action does not impact crew duty and crew rest limits specified in [chapter 3](#).

9.2. Aircrew Debrief.

9.2.1. The PIC, or designated representative, will make every effort to debrief with supported forces, ISR tactical coordination cells, processing exploitation dissemination cells, or designated AF Distributed Common Ground System unit, as available following each mission. If not practical immediately after landing, the PIC is responsible for coordinating with squadron leadership for subsequent debrief. **(T-2)**.

9.2.2. The PIC will conduct a crew debrief with all crewmembers following each flight. **(T-2)**. As a guide, the following items should be reviewed after every mission: weapons/sensor parameters, accuracy, identification procedures, adherence to training rules, communications procedures and discipline, flight discipline, CRM, and tactical employment.

9.2.3. The PIC will ensure all crewmembers complete mission/training event summaries in accordance with squadron SOPs. **(T-2)**.

9.2.4. The PIC will complete a post-mission/after action report in accordance with squadron or deployed command SOPs, as well as a DSR/operation summary to the AFSOC Operations Center for above wing level taskings as directed, and a MISREP to the local Intel function for aircraft threat events. **(T-2)**. File safety reports in accordance with [paragraph 3.37](#) to local and home station safety offices.

9.3. Aircraft Servicing. Aircrews are not normally required to service the aircraft; however, they are qualified and authorized to perform those aircrew maintenance support tasks found in this volume while away from home station. Without exception, applicable aircrew checklists will be used during all refueling and defueling operations.

9.3.1. Aircraft Refueling. Aircrew members qualified in ground refueling may perform refueling duties. Aircrews should only refuel in cases when maintenance support is not readily available and the mission would be delayed.

9.3.2. Engine Oil. Low oil found within 30 minutes of engine shutdown may be an indication of a greater problem. Crews may service oil only if the local situation warrants departing and taking the higher risk of in-flight engine trouble and returning directly to a maintenance location, rather than staying and waiting for a service team to arrive. **(T-2)**.

9.3.3. Concurrent servicing is not authorized for MC-12W aircraft. **(T-2)**.

9.3.4. The preflight inspection will remain valid until either:

9.3.4.1. 72 hours from the time of inspection, or, **(T-2)**

9.3.4.2. Another maintenance preflight inspection is performed. **(T-2)**.

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

Chapter 10

AIRCRAFT SECURITY

10.1. Aircraft Security. Aircraft security will be accomplished IAW [Attachment 10](#) of the AFMAN 11-202V3_AFSOCSUP. (T-2). The MC-12W is a protection level “3” resource. This security priority designation applies to operational aircraft, wherever they are located worldwide.

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Deputy Chief of Staff, Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

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FLIP enroute (high and low)

FLIP General Planning (GP)

FLIP Flight Information Handbook (FIH)

FLIP instrument approach procedures

FLIP Instrument Flight Rules (IFR) Supplement

FLIP VFR supplement

DoD Dictionary of Military and Associated Terms, November 2021

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Standard instrument departures (for planned theater of operation)

Standard terminal arrival routes

14 CFR § 21.197, *Special Flight Permits*

14 CFR § 21.199, *Issue of Special Flight Permits*

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

AF Form 70, *Pilot's Flight Plan and Flight Log*

AF Form 72, *Air Report (AIREP)*

AF Form 457, *USAF Hazard Report*
AF Form 523, *USAF Authorization to Bear Firearms*
AF Form 651, *Hazardous Air Traffic Report (HATR)*
AF Form 711B, *USAF Mishap Report*
AF Form 847, *Recommendation for Change of Publication*
AF Form 1297, *Temporary Issue Receipt*
AFSOC Form 97, *Aircraft Incident Worksheet*
AFTO Form 46, *Prepositioned Aircrew Flight Equipment*
AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*
DD Form 1385, *Cargo Manifest*
DD Form 1801, *DoD International Flight Plan*
DD Form 1896, *DoD Fuel Identaplate*
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SF 44, *Purchase Order-Invoice Voucher*
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Abbreviations and Acronyms

AC—Aircraft Commander
ACF—Acceptance Check Flight
ADI—Attitude Director Indicator
AEO—All Engines Operating
AF—Air Force
AFE—Aircrew Flight Equipment
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFMC—Air Force Materiel Command
AFPAM—Air Force Pamphlet
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFSOC—Air Force Special Operations Command
AFTO—Air Force Technical Order
AFTTP—Air Force Tactics, Techniques, and Procedures

AGL—Above Ground Level
AIMS—Airlift Implementation and Monitoring System
AIREP—Air Report
AMP—Airfield Marking Pattern
ANG—Air National Guard
AOH—Aircrew Operations Handbook
AP—Area Planning
ARMS—Aviation Resource Management System
ASRR—Airfield Suitability and Restrictions Report
ATC—Air Traffic Control
ATM—Air Traffic Management
AVPOL—Aviation Petroleum, Oil, and Lubricants
BRNAV—Basic Area Navigation
BFT—Blue Force Tracker
C2—Command and Control
CAT I—Category I Approach
CDI—Course Deviation Indicator
CFR—Code of Federal Regulations
CHOP—Change of Operational Control
CIRVIS—Communications Instructions for Reporting Vital Intelligence Sightings
CNDC—Canadian National Defense Contract
CNS—Communication-Navigation System
COMAFSOF—Commander of Air Force Special Operations Forces
COMSEC—Communications Security
CONUS—Contiguous United States or Continental United States
CRM—Crew Resource Management
CSO—Combat Systems Officer
CVR—Cockpit Voice Recorder
DA—Decision Altitude
DAF—Department of the Air Force
DD—Defense Department (Form)
DESC—Defense Energy Support Center

DH—Decision Height
DME—Distance Measuring Equipment
DOD—Department of Defense
DSR—Deployed Status Report
DV—Distinguished Visitor
EAL—Entry Access List
EGPWS—Enhanced Ground Proximity Warning System
EMI—Electromagnetic Interference
EP—Evaluator Pilot
EPOS—Emergency Passenger Oxygen System
EROS—Emergency Respiratory Oxygen System
ESA—Emergency Safe Altitude
ETA—Estimated Time of Arrival
ETP—Equal Time Point
FAA—Federal Aviation Administration
FAAN—FAA Notice
FBI—Federal Bureau of Investigation
FBO—Fixed Base Operations
FCF—Functional Check Flight
FCG—Foreign Clearance Guide
FCIF—Flight Crew Information File
FDE—Fault Detection and Exclusion
FDP—Flight Duty Period
FENCE—Fire Control, Emissions, Navigation, Communications, Emergency (In-flight Check)
FIH—Flight Information Handbook
FL—Flight Level
FLIP—Flight Information Publication
FM—Frequency Modulation
FMI—Frequency Modulation Immunity
FMP—Flight Manuals Program
FMS—Flight Management System
FOD—Foreign Object Damage

FSS—Flight Service Station
GDSS—Global Decision Support System
GP—General Planning
GPS—Global Positioning System
HAT—Height Above Touchdown
HATR—Hazardous Air Traffic Report
HF—High Frequency
HIL—Horizontal Integrity Limit
HQ—Headquarters
IAW—In Accordance With
ICAO—International Civil Aviation Organization
IFF—Identification Friend or Foe
IFR—Instrument Flight Rules
ILS—Instrument Landing System
IMC—Instrument Meteorological Condition
Intel—Intelligence
IP—Instructor Pilot
ISOPREP—Isolated Personnel Report
ISR—Intelligence, Surveillance, and Reconnaissance
KIAS—Knots Indicated Airspeed
KIO—Knock It Off
KOEL—Kinds of Operational Equipment List
LEA—Law Enforcement Agency
LNAV—Lateral Navigation
LPU—Life Preserver Unit
LZ—Landing Zone
LZC—Landing Zone Controller
LZSO—Landing Zone Safety Officer
MAJCOM—Major Command
MAP—Missed Approach Point
MAF—Mobility Air Force
MC—Mission Commander

MDA—Minimum Descent Altitude
MDS—Mission Design Series (e.g., MC-12W)
ME—Mission Essential
MEA—Minimum Enroute Altitude
MEL—Minimum Equipment List
MEP—Mission Essential Personnel
MISREP—Mission Report
MMEL—Master Minimum Equipment List
MOB—Main Operating Base
MQT—Mission Qualification Training
MSA—Minimum Safe Altitude
MSC—Multi Service Corporation
MSL—Mean Sea Level
NAVAID—Navigational Aid
NDB—Non Directional Beacon
NGB—National Guard Bureau
NM—Nautical Mile
NOTAM—Notice to Airmen
NVG—Night Vision Goggles
OAT—Outside Air Temperature
OCONUS—Outside the Contiguous United States or Outside the Continental United States
OEI—One Engine Inoperative
OG/CC—Operations Group Commander
OGV—Operations Group Stan/Eval
OPCON—Operational Control
OPR—Office of Primary Responsibility
OPREP—Operations Report
ORM—Operational Risk Management
OSC—On Scene Commander
OWS—Operational Weather Squadron
PAR—Precision Approach Radar
PF—Pilot Flying

PIC—Pilot in Command
PL—Protection Level
PNF—Pilot Not Flying
POH—Pilot Operations Handbook
POL—Petroleum, Oil, and Lubricants
RAIM—Receiver Autonomous Integrity Monitoring
RCC—Rescue Coordination Center
RCR—Runway Condition Reading
RMI—Radio Magnetic Indicator
RNAV—Area Navigation
RNP—Required Navigation Performance
RON—Remain Over Night
RSC—Runway Surface Condition
RVR—Runway Visual Range
RVSM—Reduced Vertical Separation Minimums
SCI—Sensitive Compartmented Information
SDP—Special Departure Procedures
SF—Standard Form
SIGMET—Significant Meteorological Information
SITCO—Shell International Trading Company
SO—Sensor Operator
SOP—Standard Operating Procedure
SORN—System of Records Notice
SPINS—Special Instructions
SQ/CC—Squadron Commander
SQ/DO—Squadron Operations Officer
Stan/Eval—Standardization and Evaluation
STAR—Standard Terminal Arrival Routes
TAWS—Terrain Avoidance Warning System
TCAS—Traffic Alert and Collision Avoidance System
TDY—Temporary Duty
TDZE—Touch Down Zone Elevation

TERPS—Terminal Instrument Procedures

TO or T.O.—Technical Order

TOFL—Takeoff Field Length

TOLD—Takeoff and Landing Data

TSO—Tactical Systems Operator

TSOC—Theater Special Operations Commands

UHF—Ultra High Frequency

US—United States

USAF—United States Air Force

USSID—United States Signals Intelligence Directive

VFR—Visual Flight Rules

VHF—Very High Frequency

VMC—Visual Meteorological Conditions

V_{mca}—One Engine Out Minimum Control Speed

VNAV—Vertical Navigation

VOR—Very High Frequency Omni-directional Radio-range

V_{ref}—Approach speed for landing

V_{sse}—Single Engine Inoperative Speed

V_x—Two Engine Best Climb

V_y—Two Engine Best Rate of Climb

WG/CC—Wing Commander

Office Symbols

AFSOC/A3—AFSOC Operations

AFSOC/A3T—AFSOC Training

AFSOC/A5/8—AFSOC Strategic Plans and Programs

NGB/A5/8—NGB Strategic Plans and Programs

Terms

Air Reserve Component (ARC)—Refers to Air National Guard and Air Force Reserve Command forces, both Associate and Unit Equipped.

Air Traffic Control—A service provided by an appropriate authority to promote the safe, orderly and expeditious use of the air transportation system and to maximize airspace utility.

Base Station—A functional ops station with one or more work stations normally located in a tactics office or base operations facility. The base station is air transportable to forward operating environments. The most common configuration is a dual station unit.

Basic RNAV (BRNAV)—BRNAV is defined as RNAV that meets a track keeping accuracy equal to or better than +/- 5 NM for 95% of the flight time. This value includes signal source error, airborne receiver error, display system error, and flight technical error. This navigation performance assumes the necessary coverage provided by satellite or ground based navigation aids are available for the intended route to be flown.

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

Command and Control—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

Command and Control Center—Each C2 Agency provides supervision, guidance, and control within its assigned area of responsibility. For the purpose of this AFMAN, C2 Agencies include operations centers, command posts, air mobility elements, tanker airlift control elements (TALCE), air mobility control centers, and tanker task forces.

Datum—A reference point from which maps are drawn, common GPS datum is usually derived world-wide from WGS-84.

Deviation—A deviation occurs when takeoff time is not within -20/+14 minutes of scheduled takeoff time. Notify controlling agency before takeoff to adjust the scheduled takeoff time.

Equal Time Point—Point along a route at which an aircraft may either proceed to destination or first suitable airport or return to departure base or last suitable airport in the same amount of time based on specific operating conditions.

Execution—Command-level approval for initiation of a mission or portion thereof after due consideration of all pertinent factors. Execution authority is restricted to designated command authority.

Global Positioning System (GPS)—This is a US space-based positioning, velocity, and time system composed of space, control, and user elements. The space element is nominally composed of 24 satellites in six orbital planes. The control element consists of five monitor stations, three ground antennas and a master control station. The user element consists of antennas and receiver processors that provide positioning, velocity, and precise timing to the user.

Ground Time—Interval between engine shut down (or arrival in the blocks if engine shutdown is not scheduled) and next takeoff time.

Home Station Departure—For the purposes of [Chapter 4](#) of this manual, home station departure refers to a flight duty period which begins at the unit's home base and is planned to terminate at another location.

Instructor Supervision—Supervision by an instructor of like specialty. For critical phases of flight, the instructor must occupy one of the seats or stations, with immediate access to the controls.

Light Icing—A descriptor used operationally by flight crews when they report encountered icing intensity to traffic control. The rate of ice buildup requires occasional cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1/4 inch to one inch (0.6 to 2.5 cm) per hour on the outer wing. The pilot should consider exiting the condition.

Maintenance Status—See Below

A-1—No maintenance required.

A-2 (Plus Noun)—Minor maintenance required, but not serious enough to cause delay. Add nouns that identify the affected units or systems, i.e., hydraulic, UHF radio, radar, engine, fuel control, generator, boom or drogue, etc. Attempt to describe the nature of the system malfunction to the extent that appropriate maintenance personnel will be available to meet the aircraft. When possible, identify system as mission essential (ME) or mission contributing (MC).

A-3 (Plus Noun)—Major maintenance. Delay is anticipated. Affected units or systems are to be identified as in A-2 status above.

A-4—Aircraft or system has suspected or known biological, chemical, or radiological contamination.

Meaconing—the interception and rebroadcast of navigation signals. These signals are rebroadcast on the received frequency, typically, with power higher than the original signal, to confuse navigation.

Mission—1) The task, together with the purpose, that clearly indicates the action to be taken. 2) In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. 3) The dispatching of one or more aircraft to accomplish one particular task.

Moderate Icing—A descriptor used operationally by flight crews to report encountered icing intensity to traffic control. The rate of ice buildup requires frequent cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1 to 3 inches (2.5 to 7.5 cm) per hour on the outer wing. The pilot should consider exiting the condition as soon as possible.

Operational Control (OPCON)—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training.

Operational Missions—Missions executed at or above TACC level. Operational missions priority 1, 2, and 3 missions tasked by the TACC.

Operational Risk Management (ORM)—ORM is a logic-based, common sense approach to making calculated decisions on human, materiel, and environmental factors before, during, and after Air Force operations. It enables commanders, functional managers and supervisors to maximize operational capabilities while minimizing risks by applying a simple, systematic process appropriate for all personnel and Air Force functions.

Prescribed Form—A form designed to support the implementation of requirements in a directive Air Force publication. Use and purpose of a prescribed form must be contained in the publication it supports (also known as the prescribing publication).

Ravens—Airforce security personnel who specialize in aircraft & airfield security

Receiver Autonomous Integrity Monitoring (RAIM)—A technique whereby a GPS receiver/processor monitors the GPS. This integrity determination is achieved by a consistency check among redundant measurements.

Severe Icing—A descriptor used operationally by flight crews reporting encountered icing intensity to traffic control. The rate of ice buildup results in the inability of the ice protection systems to remove the buildup of ice satisfactorily. Also, ice builds up in locations not normally prone to icing, such as areas aft of protected surfaces and any other areas identified by the manufacturer. Immediate exit from the condition is necessary.

Tanker Airlift Control Element (TALCE)—Team of qualified Air Force personnel established to control, coordinate, and function as an Air Force tanker and airlift C2 facility at a base where normal Air Mobility Command C2 facilities are not established or require augmentation. TALCEs support and control contingency operations on both a planned and no-notice basis.

Tanker Task Force (TTF)—Force of tanker aircraft assembled and tasked to perform a specific function.

Training Mission—Mission executed at the unit level for the sole purpose of aircrew training for upgrade or proficiency. Does not include operational missions as defined in this AFMAN.

Unilateral—Operations confined to a single service.

Zero Fuel Weight—Weight, expressed in pounds, of a loaded aircraft not including wing and body tank fuel. All weight in excess of the maximum zero fuel weight will consist of usable fuel.

Attachment 2

MC-12W CRITICAL ACTION PROCEDURES (CAPS)

A2.1. MC-12W CAPs –Pilots and CSOs shall be able to immediately accomplish these procedures in the published sequence without reference to the checklist. CAPs may be abbreviated when written, but procedural intent must be clear.

Figure A2.1. MC-12W PILOT CAPS.

Engine Fire on Ground
CONDITION LEVER - CUTOFF
FIREWALL VALVE - CLOSE
STARTER - STARTER ONLY
EXTINGUISHER (IF FIRE WARNING PERSISTS) – ACTUATE
Emergency Engine Shutdown on Ground
CONDITION LEVERS - CUTOFF
PROPS - FEATHER
FIREWALL VALVES - CLOSE
MASTER SWITCH - OFF
BATT BUS - EMER OFF
ESIS – OFF
Takeoff Abort
POWER - GROUND FINE
BRAKES - AS REQUIRED
Engine Failure Takeoff Continued
V _r - ROTATE
POWER - MAX ALLOWABLE
GEAR - UP
AIRSPEED - V ₂ TO ACCEL HEIGHT (1500' AGL MIN OR FOLLOW SDP)
PROP (INOP ENG) - VERIFY FEATHERED
Engine Fire/Failure in Flight
CONDITION LEVER - CUTOFF
PROP - FEATHER

FIREWALL VALVE - CLOSE
EXTINGUISHER (IF FIRE WARNING PERSISTS) – ACTUATE
Environmental Smoke/Fumes
OXYGEN MASK – DON
MASK SELECTOR SWITCH – EMER
MIC – OXY

Figure A2.2. MC-12W CSO CAPS.

Environmental Smoke/Fumes
OXYGEN MASK – DON
CREW – NOTIFY
Pressurization Loss
OXYGEN MASK – DON

Attachment 3

MC-12W TIMING CHART

Figure A3.1. MC-12W Timing Chart.

Airspeed (knots)	Feet Per Second	Time to Reach 1,000ft (in Seconds)
1	1.7	589
104	176	5.7
105	178	5.7
107	181	5.6
114	193	5.2
115	195	5.2
117	198	5.1
129	218	4.6
130	220	4.6
132	223	4.5