RECORD OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	PAGES AFFECTED	CHANGES VERIFIED (SIGNATURE)
1	1/19/01	VIII-11/12 Aeromedical Policy	/s/ DuGranrut
2	5/7/04	IV-9,10 Qualification, Evaluation, Designation	/s/ Kozak
3	12/20/06	IV-5,6 Qualification, Evaluation, Designation	/s/ Kenul

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CHAPTER I INTRODUCTION

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CHAPTER I INTRODUCTION

1. AIRCRAFT OPERATIONS CENTER

A. MISSION

The Aircraft Operations Center (AOC) exists to supply NOAA programs and other activities with mission-ready airborne platforms and personnel while ensuring availability of all services commensurate with a safe, efficient and cost effective aviation operation.

B. AUTHORIZATION

AOC was established under the U.S. Department of Commerce, NOAA, by Department Organization Order 25-5B, Amendment 2, July 27, 1983. AOC was transferred to the Office of NOAA Corps Operations by Department Organization Order 25-5, March 3, 1989, and further defined under NOAA Circular 89-15, June 16, 1989, and NOAA Administrative Order 216-103, July 3, 1991.

Sections of the aforementioned Orders appear throughout this manual and are available in their entirety in the office of the Director, AOC.

C. REGULATORY AUTHORITY

Aircraft operated by the U. S. government are public aircraft and, as such, are not subject to the Federal Aviation Regulations, except for those regulations prescribed under the authority of Section 307(a), 307(c), and 501 of the Federal Aviation Act of 1958 pertaining to the use of airspace, the control of air traffic, and aircraft registration, respectively. Public aircraft status, however, does not permit operations outside the territorial limits of the U.S. without a valid airworthiness certificate (AC 20-132). NOAA aircraft operated internationally may be considered in the same category as Department of State and Department of Defense aircraft, and, as such, are subject to the same general policies which may apply to these agencies aircraft. To avoid diplomatic incidents, formal diplomatic clearance shall be obtained for any country which requires such clearance prior to conducting flight operations in that country or its airspace.

Regardless of the area of operation, it is NOAA policy that aircraft shall be certified, maintained, and operated in accordance with all pertinent regulations and guidelines set

forth by the AOC, FAA, ICAO, DOD and Aircraft Manufacturers to the fullest practical extent.

For purposes of this manual, the term "NOAA aircraft" means any aircraft used exclusively in the service of NOAA and includes aircraft owned, leased, rented, under military bailment, or otherwise in possession of the agency for the purpose of flight or ground test.

2. AOC AIRCRAFT OPERATIONS MANUAL

A. PURPOSE

This manual contains basic policy for standardized operations within the Aircraft Operations Center and supersedes previously issued editions of the Operations Manual.

This publication is not intended to cover every contingency which may arise nor every rule of safety and good practice. It is designed to furnish policy guidance, enhance safety, and promote operational readiness by addressing general operating procedures for all aircraft operated by AOC. Specific operating instructions for each aircraft or mission can be found in the applicable Aircraft Flight Manuals.

B. WAIVER REQUESTS

The procedures and standards contained in this manual constitute criteria necessary to promote the safe and efficient operation of NOAA aircraft. Crewmembers shall not be scheduled for, nor shall they engage in, aviation activities unless they satisfy the requirements of this manual. Requests for waivers to these procedures, standards, and requirements may be approved only by the Director, AOC.

Waivers shall be requested in writing and forwarded through the appropriate supervisors. Waivers are intended to allow aircraft or crewmembers to perform flight missions when conditions exist that are temporary in nature or that can be corrected in a specified time.

CHAPTER I INTRODUCTION

C. DISTRIBUTION

A current copy of the Aircraft Operations Manual shall be posted on AOC's network and be available for viewing by anyone at anytime. A hard copy of this manual shall be distributed to each Flight Crewmember and AOC Division Chief. Other interested parties may receive a copy upon request. Aircraft Commanders are responsible for ensuring a copy of this manual is onboard their aircraft for flight. It is the responsibility of each individual assigned a manual to keep it up to date.

D. REVISIONS

Revisions to this manual shall consist of a revised page which will be substituted for a corresponding page. New or revised text will be marked by a vertical bar on the left margin adjoining the text. This change symbol indicates the addition of new information, a changed procedure, the correction of an error, or rephrasing of the previous text. Substantial revisions to the Aircraft Operations Manual will be issued as a completely new edition.

Recommendations for revisions or additions to this manual are welcome and should be forwarded directly to the Chief, Operations Division. A review meeting will be conducted as necessary to consider recommended changes. The review meeting should consist of all available aircrew affected by the revision. The Director, AOC, has the final approval authority for any change recommendations.

E. WORDING

Words used in this manual to denote mandatory or permissive actions are defined as follows:

(1). "Shall" or "must" means the procedure or standard is mandatory.

(2). "Should" means the procedure or standard is recommended.

(3). "May" and "need not" means that the procedure or standard is optional.

(4). "Will" means futurity of action only and does not indicate any degree of requirement for application of a procedure or meeting a standard.

The use of masculine pronouns throughout this manual is to be construed as inclusive of both male and female gender.

3. AOC AIRCRAFT FLIGHT MANUALS

A. PURPOSE

Aircraft Flight Manuals are promulgated for specific aircraft and contain detailed instructions and operating limitations for the aircraft type and mission concerned.

These manuals are not intended to duplicate instructions and procedures found in other manuals, but to address differences between how AOC operates a particular aircraft and the procedures called for in other approved aircraft operating manuals or instructions.

Procedures and requirements shall be at least as stringent as the general standards set forth in the AOC Aircraft Operations Manual and shall be strictly observed in operating NOAA aircraft. Where an AOC Aircraft Flight Manual indicates a deviation from any other operating manual, the provisions of the AOC Aircraft Flight Manual take precedent.

4. OTHER AIRCRAFT OPERATING MANUALS

A. GENERAL

Where an AOC Aircraft Flight Manual has not been published or a particular procedure has not been addressed, the FAA, DOD, or Manufacturers approved Operating Manual shall govern the operation of that NOAA aircraft, together with the AOC Aircraft Operations Manual and any standard operating procedures approved by the Director.

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CHAPTER II MANAGEMENT

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CHAPTER II MANAGEMENT

1. MANAGEMENT QUALIFICATIONS AND DUTIES

A. DIRECTOR

The Director, AOC, is responsible for managing the acquisition, operation, maintenance, modification and utilization of NOAA aircraft and has overall management authority for meeting the needs of NOAA for aircraft support services.

The Director develops policies, standards, and procedures which govern the safe, efficient, and economical use of NOAA aircraft. He identifies those regulations under which NOAA aircraft will be certified, maintained, and operated and has the authority to waive such regulations when compliance would be impractical or would unduly impede or prevent the safe, efficient, and economical accomplishment of the AOC mission.

The Director designates aircraft for special purpose uses and specifies the crew complements and duty assignments necessary to operate these aircraft. He promulgates as necessary the forms, records, and reports required to ensure the effective implementation and administration of the policies, standards, and guidelines contained in this manual.

B. SAFETY STAFF

The Safety Staff is responsible for developing, implementing, and evaluating the AOC Safety Program (published as AOC Directive 64-1 series). Its purpose is the preservation of human and material resources through the prevention of damage and injury by eliminating or reducing hazards to an acceptable level. The Safety Program is applicable to all personnel involved in the support or operation of NOAA aircraft, therefore all aviation-related activities shall be conducted so as to meet the standards and requirements contained in this manual.

The Safety Staff performs inspections of facilities, equipment, and operations to assure safety and to meet occupational health requirements. They may direct immediate action to ensure compliance with requirements, such as grounding of aircraft, removal of equipment, or changing of practices or procedures.

C. SCIENCE AND ENGINEERING DIVISION

The Science and Engineering Division designs, develops, installs, calibrates, modifies, maintains and operates sophisticated and varied research measurement systems for in-situ and remote measurements from aircraft. The division specifies hardware and software for onboard and ground based diagnostic systems and analysis of data quality in response to the requirements of user research systems. It develops calibration facilities for aircraft system evaluation. It acquires, installs and operates ground based equipment for research involving AOC aircraft and/or other program efforts. The division provides engineering expertise, planning, and development for AOC supported projects and operating requirements. The division is responsible for contract oversight of all AOC engineering contracts.

D. OPERATIONS DIVISION

The Chief, Operations Division, is responsible to the Director, AOC, for conducting standardization, maintenance, training, scheduling, and planning activities necessary to ensure that NOAA aircraft are operated in accordance with prescribed standards. He administers an aircraft operations standardization program for all NOAA flight personnel. Through a curriculum of flight and ground training and periodic aircrew proficiency flight evaluations, the Operations Division Chief promotes aviation safety, operational efficiency, and mission accomplishment. The Chief assigns an Aircraft Commander to support all flights, projects and programs. The Aircraft Commander is responsible to the Director for the safety of the aircraft and the personnel on the aircraft.

The Operations Division consists of the Aircraft Flight Branch and the Aircraft Maintenance Branch. The Aircraft Flight Branch consists of the Aircraft Management Section and the Project Coordination Section.

The Aircraft Management Section provides operationally ready aircrews for AOC-supported projects. It is responsible for preparing flight schedules, maintaining continuous records of aircraft locations, aircraft flight time, and pilot flight time as well as ensuring availability of appropriate aircraft operating manuals. It maintains the AOC Aircraft Operations Manual and establishes and maintains regulatory flight data and qualifications for all crewmembers. It establishes and coordinates aircrew training and ensures establishment and maintenance of appropriate training records.

CHAPTER II MANAGEMENT

The Aircraft Management Section personnel continuously review publications, information, and regulations relevant to NOAA aircraft operations. The staff disseminates pertinent regulatory material and, in conjunction with the Safety Officer, distributes safety information to flight personnel.

The Project Coordination Section serves as the liaison between the AOC components and the user organizations to coordinate, plan and execute the multi disciplinary AOC effort in support of programs requesting AOC airborne platforms. The section develops and implements strategies, including studies to ensure the credibility and validity of the data collected with the AOC provided instrumentation.

The Aircraft Maintenance Branch formulates and administers the aircraft maintenance program for AOC and controls availability of all AOC aircraft. The staff ensures that all aircraft operated and maintained by AOC are in a continuous airworthy condition and that they are maintained in accordance with the applicable maintenance procedures. The Maintenance Branch is responsible for oversight of all phases of contract aircraft maintenance that is required by AOC. It ensures the accuracy and timeliness of AOC aircraft logbook forms and records and ensures that all maintenance test flights are conducted and recorded in accordance with applicable regulations.

The Aircraft Maintenance Officer is responsible to the Chief, Operations Division and Director, AOC, for maintaining NOAA aircraft and related equipment according to the standards and procedures established in the Aircraft Maintenance Operating Instructions.

E. RESOURCE MANAGEMENT STAFF

The Resource Management Staff administers budget and finance, procurement, personnel management and other administrative support areas for the Aircraft Operations Center. The staff provides the Director, AOC, with advice, options and alternatives after assessing the financial management of operations as well as other aspects of the aircraft program. It prepares and justifies the budget and initiates reprogramming and adjustments to financial operation plans. The staff develops and maintains management information systems to provide financial and technical data for strategic planning, cost accounting, personnel management and other decision-making purposes. It provides management guidance with respect to the technical propriety, procedural adequacy, and funding impacts of procurement. It acts as the AOC business manager with respect to

post-award contract administration. It serves as a focal point for management and liaison for Administrative Support Center specialists on administrative payments, procurement, and a variety of personnel administration matters including salary, administration, classification, staffing, awards, performance evaluation and grievances. The staff establishes and monitors travel authorizations and billing procedures, and determines funding availability. It is responsible for property management.

The Resource Management Staff provides the AOC supply function. It oversees requisition, warehousing, supply and distribution of equipment, aircraft parts and supplies, special purchase equipment, computer and electronic items to flight base and field locations. The Resource Management Staff provides statistical analysis and recommendations necessary for the Director to apply or alter controls as necessary to insure the quality and cost effectiveness of essential products and services provided by the elements of AOC or contractual services providing essential products and services in lieu of an AOC in-house operation.

F. MISSION COMMANDER

The Mission Commander, sometimes known as the Project Manager, is the direct representative of the Director, AOC, during all field phases of a project. The Mission Commander monitors and controls all funds and budgets for the project, is the prime liaison with user organization(s) principle investigators and manages all field services for aircraft and personnel. The Mission Commander sets work schedules, approves overtime and approves Time and Attendance Forms during all field operations. The Mission Commander reports to the Director, AOC, and liaisons with the AOC Division Chiefs.

A Mission Commander (MC) will be assigned to each project. The Mission Commander can delegate their authorities and responsibilities to an Aircraft Commander when the MC is absent from the field operations location. On flights without a designated Mission Commander, the Aircraft Commander will assume the Mission Commander's duties and responsibilities as stated throughout this manual.

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CHAPTER III POLICIES AND PROCEDURES

CHAPTER III POLICIES AND PROCEDURES

1. OPERATIONAL POLICIES

A. OFFICIAL USE

NOAA aircraft shall be used for official purposes only. In determining whether a use is official, all pertinent factors will be considered, including whether the use is essential to the completion of an operation, mission, or other legitimate NOAA function or activity, and is consistent with the purpose for which the aircraft was acquired. In the absence of the Director, the Mission Commander shall act for the Director and have the responsibility and authority to determine official flight status. Aircraft Commanders have the responsibility and authority to deny passage on their aircraft of any persons, crewmembers or passengers, that they determine to be unofficial. Each flight of a NOAA aircraft shall have an appropriate task or accounting number assigned by the aircraft user or AOC.

B. NONESSENTIAL FLIGHTS

The use of NOAA aircraft for nonessential flights shall not be authorized. Any flight which could be so construed is prohibited. Examples of flights which are nonessential include:

(1). Flights of a routine business nature for which other transportation, commercial or military, could be more economically substituted.

(2). Flights by any official pilot or groups thereof, the sole purpose of which is the convenience or enjoyment of the persons concerned and which are not essential for the performance of official duties or the accomplishment of bona fide training.

(3). Flights not scheduled or approved by AOC.

C. PASSENGERS

Persons who have no official function aboard NOAA aircraft, are not part of the normal crewmember complement, are not AOC personnel or are not needed in a programmatic capacity are not authorized to fly on NOAA aircraft. Media representatives may be authorized to fly in certain situations but must first have approval from the Director,

AOC, in order to be cleared for flight aboard NOAA aircraft. All flights associated with hurricanes will be approved by the Director, AOC. All other AOC mission flights must receive approval from the NOAA General Counsel's office through the Director, AOC.

D. CELEBRATIONS AND PUBLIC DISPLAYS

Participation in celebrations and public displays in an official capacity shall be approved only by the Director, AOC.

2. COMMAND AND CONTROL

A. COMMAND

The Chief, Operations Division, shall designate an Aircraft Commander for each flight, group of flights, or mission on NOAA aircraft. The Aircraft Commander has command authority over all crewmembers and passengers in flight, and he has command responsibility for ensuring the safe conduct of the mission and compliance with all AOC safety policies and procedures. In the absence of a Mission Commander, the Aircraft Commander shall represent the Director, AOC, during field phases of the operation by monitoring and controlling project aircraft support costs, establishing and maintaining liaison with the user organizations' field investigators, and managing all AOC field personnel and aircraft services.

B. CONTROL

A designated Aircraft Commander or Copilot shall be in control of the aircraft at all times during flight. The Aircraft Commander and all other Flight Crewmembers shall be in their seats during takeoff, climb to initial cruising altitude, descent, and landing. A pilot in training may occupy either seat on AOC missions when under the direct supervision of an Aircraft Commander, Instructor Pilot or Flight Examiner Pilot, and in compliance with Part D of this Section. A Navigator in training may occupy the Navigator's seat on AOC missions when under the direct supervision of an Instructor Navigator. A Flight Engineer in training may occupy the Flight Engineer position on AOC missions when under the direct supervision of an Instructor Flight Engineer. Except during emergencies or adverse weather conditions, and at the discretion of the Aircraft Commander, crewmembers or passengers may briefly occupy Flight Crewmember seats to develop an understanding of

the duties and responsibilities of those positions. Aircraft Commanders shall occupy the left or right seat during these brief periods and shall oversee control of the aircraft at all times.

C. PERSONNEL AUTHORIZED TO OPERATE NOAA AIRCRAFT

The following personnel may act as Flight Crewmembers on NOAA aircraft:

(1). NOAA aviators who are:

(a). NOAA Corps or Civil Service employees who are designated as NOAA Aviators and in aviation service or approved by the Director, AOC.

(b). Qualified and current in the aircraft to be flown.

(2). Non-NOAA aviators who are:

(a). Authorized by the Director, AOC, to operate NOAA aircraft.

(b). In possession of appropriate FAA Airman and Medical certifications and ratings or military aviators holding the equivalent.

(c). Qualified and current in the aircraft to be flown.

(3). Personnel listed in (1) and (2) above who have been previously designated in the aircraft to be flown but are not current, when a qualified and current Aircraft Commander in the aircraft to be flown occupies the left or right seat.

D. LIMITATIONS

The following restriction applies until a candidate is designated a Copilot in the aircraft to be flown: The candidate may not fly the aircraft at any time below 200' AGL except during designated training flights. Candidates for Copilot designation of an aircraft requiring a type rating, or heavy aircraft, must be graduates of an AOC approved school in that aircraft before flying below 200 feet. Upon designation, a Copilot is authorized to perform all duties in either pilot seat as assigned by an Aircraft Commander.

CHAPTER III POLICIES AND PROCEDURES

3. AIRCREW SCHEDULING AND COMPLEMENT

A. EQUITABLE DISTRIBUTION OF FLIGHT TIME

Flight Crewmembers shall be scheduled by the Operations Division so that flight time and periods of deployment are equitably distributed among those in the same crewmember positions. Flight schedules will be structured to ensure that training and proficiency requirements are met.

B. BASIC AIRCREW COMPLEMENT

To effectively meet AOC mission requirements, operational aircrews shall consist of the following personnel:

Aircrew Position	Aircraft Type
Aircraft Commander	All AOC aircraft
Copilot (a)	Multiengine fixed-wing
Navigator (b)	Heavy Turboprop Aircraft
Flight Engineer	Heavy Turboprop Aircraft
Observer (c)(d)	Heavy Aircraft, Helicopter Aircraft
Flight Director (b)	Heavy Aircraft

Notes: (a) An additional pilot is not required on twin-engine aircraft day VFR ferry flights if the aircraft is FAA certified for single-pilot operation and approval is received from the Director, AOC.

(b). Requirement for Navigator and/or Flight Director is determined by the Chief, Operations Division or Aircraft Commander.

(c). Single-pilot helicopter operations shall be conducted with a qualified Crew Chief or Observer in the cockpit to assist the pilot. This requirement may be waived by the Chief, Operations Division.

(d). Helicopter and light aircraft operations conducted to remote locations may require a qualified mechanic as the Observer.

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CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

1. INTRODUCTION

A. GENERAL

This chapter establishes policy and provides guidance for the qualification, evaluation and designation of personnel involved in the operation of NOAA Aircraft. The AOC Operations Division shall ensure that crewmembers are trained to achieve the stated qualifications and to maintain the level of proficiency and currency necessary to safely and effectively accomplish their assigned duties. The requirements shown in this manual, along with each aircraft's crewmember training syllabus, shall be regarded as the minimum standards relating to crewmember qualifications.

B. CATEGORIES OF CREWMEMBER DESIGNATIONS

(1). Flight Crewmembers

Personnel who are assigned to perform duties involving the operation of an aircraft in flight shall be designated as Flight Crewmembers upon meeting the training and qualification requirements for a specific aircraft. Flight Crewmembers may hold one or more designations such as Aircraft Commander, Copilot, Flight Engineer or Navigator.

(2). Air Crewmembers

Personnel who are assigned to perform emergency procedure duties in flight, not involving the operation of the aircraft, shall be designated as Air Crewmembers upon meeting the Observer training and qualification requirements for a specific aircraft. Air Crewmembers may hold one or more designations such as Flight Director, Observer, Crew Chief, Aerial Photographer or Electronics Technician.

(3). Mission Crewmembers

Personnel assigned to perform a particular function either in flight or on the ground, not directly involving the operation of the aircraft or its emergency procedures, but involving the assigned mission, shall be designated as Mission Crewmembers. Such positions may include Data Recorders, Mechanics, Principle

Investigators, Program Managers or various non-designated mission support personnel. Mission Crewmembers do not qualify under AOC specification as Flight or Air Crewmembers.

C. AOC AIRCRAFT CATEGORIES AND TYPES

Due to the variety of missions performed by AOC personnel and the different aircraft involved, crewmembers are designated in specific aircraft by the following AOC aircraft categories and types:

AOC Category	AOC Type
Heavy Aircraft	Multi-Engine Turboprop Multi-Engine Turbojet
Light Aircraft	Single Engine Multi-Engine Piston Multi-Engine Turboprop Multi-Engine Turbojet
Helicopter Aircraft	Single Engine Multi-Engine

Aircraft may also be referred to as Fixed Wing or Rotary Wing aircraft. Aircraft having a zero fuel weight over 20,000 pounds are categorized as AOC Heavy Aircraft.

2. CREWMEMBER QUALIFICATION

A. GENERAL

Crewmember candidates shall be required to progress through a qualification process and meet the criteria listed in this section before being recommended for designation in any crewmember position. This will normally require qualification in subordinate positions before being designated in a command or supervisory position. In other words, a candidate would normally be qualified first as a Copilot before obtaining an Aircraft Commander designation. In any case, criteria listed for lower positions must be met prior to designation in a higher position.

CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

B. TRAINING SCHOOL REQUIREMENTS

Crewmember Position	Training School Requirement
Copilot Aircraft Commander	Graduated from an FAA Fixed Wing or Rotary Wing Flight Training Program (as appropriate) or hold an equivalent certificate of training.
Flight Engineer	Graduated from a DOD Flight Engineer school or hold an equivalent certification of training.
Navigator	Graduated from the U.S. Air Force aviation navigation school or hold an equivalent certification of training.
Air Crewmember	No initial training school requirement.

C. TRAINING SYLLABUS REQUIREMENTS

Flight and Air Crewmembers shall progress through a written training syllabus for each position held on aircraft to which they are assigned prior to evaluation or designation. Training syllabus sheets and their requirements for sign off may be found in the applicable Aircraft Flight Manuals.

D. PHYSIOLOGY, SURVIVAL AND WEAPONS TRAINING REQUIREMENTS

Requirements for crewmember physiology, survival and weapons qualification training and currency are listed in Chapter VII, “Flight Safety and Survival”, of this manual.

E. FLIGHT SIMULATOR TRAINING REQUIREMENTS

Flight Crewmembers shall complete an approved simulator course for the aircraft to which they are assigned as soon as practicable during the first year of an aviation assignment in that aircraft.

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CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

F. FAA CERTIFICATE, RATING AND EXAM REQUIREMENTS*

Crewmember Position	**FAA Certificate, Rating and Exam Requirements**
Heavy Aircraft	
Flight Engineer	FAA Flight Engineer Certificate, Turbo Propeller Rating FAA Airframe and Powerplant License
Navigator	FAA Flight Navigator Certificate
Copilot	FAA Commercial Pilot Certificate, Instrument Airplane Multi-Engine Land Airline Transport Pilot written examination
Aircraft Commander	Airline Transport Pilot, Appropriate Type Rating
Light Aircraft	
Copilot, Aircraft Commander	FAA Commercial Pilot Certificate, Instrument Airplane Single & Multi-Engine Land Airplane Single Engine Sea (as appropriate) Type Rating (as appropriate)
Helicopter Aircraft	
Copilot, Aircraft Commander	FAA Commercial Pilot Certificate, Rotorcraft-Helicopter Instrument Helicopter
Air Crewmember	No Certificates or Ratings required

* NOTE This does not include required FAA Medical Certificates or equivalent. See Chapter VIII, “Aeromedical Policy” for medical requirements.

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CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

G. MINIMUM FLIGHT EXPERIENCE REQUIREMENTS

Position	Total Time	PIC Time	Cross Country Time	Night Time	Instrument Time
Heavy Turboprop					
Flight Engineer	500 [300]*				
Flight Navigator	500 [200]				
Copilot	1500 [10]	500	500	100	75
Aircraft Commander	2500 [450]	1250 [250]	500 [100]	100 [40]	150 [40]
Hurricane AC**	2800 [500]	1250 [250]	500 [100]	100 [40]	150 [40]
Heavy Turbojet					
Copilot	1500 [25]	500 [10]	500	100	75
Aircraft Commander	2500 [500]	1250 [250]	500 [100]	100 [40]	150 [40]
Light Single Engine					
Aircraft Commander	[15]	[10]			
Light Multi-Engine Piston					
Copilot	[10]	[10]			
Aircraft Commander	500 [300]	200 [150]	100 [50]	25 [20]	50 [20]
Light Multi-Engine Turboprop					
Copilot	[10]	[10]			
Aircraft Commander	600 [300]	250 [150]	100 [50]	25 [20]	50 [20]
Light Turbojet					
Copilot	500 [10]	200 [5]	100	25	40
Aircraft Commander	1000 [200]	450 [100]	150 [50]	45 [20]	75 [20]
Helicopter Aircraft					
Copilot	600 [25] (75)	300 [10]	75	25 (10)	40
Aircraft Commander	1000 [400] (500)	500 [200]	150 (75)	50 (25)	50 (25)

NOTES *Time in brackets [ ] denotes time in a specific AOC Category and Type aircraft.

hurricane seasons and fifty hurricane penetrations in a pilot position.

H. WRITTEN EXAMINATION REQUIREMENTS

Flight Crewmembers shall pass a written examination for each aircraft to which they are assigned prior to evaluation or designation. Written examinations should cover both aircraft systems and emergency procedures. These written examinations may be taken as part of an approved simulator course.

3. CREWMEMBER EVALUATION, DESIGNATION AND REQUALIFICATION

A. GENERAL

Crewmember qualification is based on a combination of different training requirements including syllabus flights, proficiency flights, simulator training, instrument currency requirements, ground training and aviator experience.

A crewmember is ready for an evaluation checkflight when, at a minimum, he has satisfied the requirements in the "Crewmember Qualification" section above along with any additional requirements listed in the applicable Aircraft Flight Manual.

B. AOC FLIGHT INSTRUCTORS

The Director, AOC, shall designate a Flight Instructor for each AOC aircraft. As such, they will administer all evaluation flight-checks for the appropriate crew position in which they are qualified.

Further, it is AOC policy to have the Chief of Training administer evaluation checkflights to the AOC Flight Instructors annually for standardization and safety. The Chief of Training shall receive an annual check from an outside source. This evaluation may be administered in an approved simulator or aircraft and may be given by an evaluator approved by the Chief, Operations Division.

CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

C. S/E REPORTS

Upon completion of an evaluation checkflight, the Flight Instructor shall complete an aircrew standardization/evaluation report. The report shall include a recommendation for designation, or for additional training, as appropriate. The report shall be submitted to the Chief , Operations Division.

D. CREWMEMBER DESIGNATION

Crewmember designation shall be determined as follows:

(1). Passed an oral examination and an evaluation checkflight given by an AOC approved Instructor Pilot.

(2). Qualified in all other respects as to ground and flight currency requirements, written examinations and training syllabus.

(3). As determined by the Chief of Training, the candidate is fully qualified to perform the duties of the designated position.

E. REQUALIFICATION

Flight Crewmembers returning to an aviation billet will not normally have to progress through the initial qualification process after having been designated in a Crewmember position. Such requalification shall consist of an appropriate checkout including a flight familiarization syllabus and demonstration of the knowledge, proficiency, and capabilities commensurate with the crew position involved. Progression through subordinate Crewmember positions may be required if it is determined that such progression is necessary to ensure adequate qualification.

4. CURRENCY REQUIREMENTS

A. ANNUAL CHECKFLIGHTS

Flight Crewmembers shall complete an annual checkflight in each aircraft to which the Flight Crewmember is assigned. Annual checkflights for Flight Instructors may be

considered complete at annual simulator training with approval from the Chief, Operations Division. WP-3D flight engineer checkflights may be performed in either the aircraft of the 2F87 or 2C41 simulators. The flight engineer checkflights shall be performed by an AOC designated Instructor Flight Engineer (IFE) or a qualified Fleet NATOPS designated IFE and shall include other members of the Flight Crew (pilots and navigators) where appropriate.

B. ANNUAL SIMULATOR TRAINING

Flight Crewmembers shall complete an approved simulator course annually in the primary aircraft to which the Flight Crewmember is assigned.

C. ANNUAL CHECKFLIGHT/SIMULATOR TRAINING OVERLAP

Flight Crewmembers shall make every effort to complete annual checkflight and simulator training requirements. However, if operational requirements, cost considerations, etc. prevent this from occurring, one will suffice for the other for a maximum period of six months. In no event will a Flight Crewmember remain current if both requirements have lapsed.

Flight Instructors are responsible for monitoring annual checkflight requirements and arranging for evaluations to be completed. They shall make every effort to meet the annual requirement.

D. DATE OF STANDARDIZATION/EVALUATION CHECKFLIGHT

The S/E checkflight should be completed within the 12 calendar months from the last S/E check. Pilots, navigators, and flight engineers shall be considered delinquent if the check is not completed by the end of the twelfth calendar month following the previous checkflight.

5. FLIGHT CURRENCY REQUIREMENTS

A. LANDINGS

Within the preceding 90 days, each pilot will complete three day landings and three night landings. Pilots of heavy aircraft who hold an Airline Transport Pilot Certificate are exempt from the night landing requirement.

CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

B. INSTRUMENTS

Within the preceding six months, each pilot shall complete instrument recency of flight requirements as outlined in FAR 61.57. In addition, each pilot shall maintain a minimum of six hours of actual or simulated instrument time, three hours of which must be accrued in the appropriate aircraft platform.

6. DELINQUENCY

A. GENERAL

A crewmember shall be considered delinquent and will be restricted from flight duties for their designated aircraft if the following requirements have not been met in accordance with the appropriate sections of this Manual:

(1). Have a valid FAA Airman's Certificate.

(2). Possess a current FAA Medical Certificate or equivalent.

(3). Is current in physiological training, if required.

(4). Is current in water survival training.

(5). Is current in arctic survival training, if required.

(6). Has passed required written examinations.

(7). Has passed required checkflights and simulator training.

(8). Has maintained currency in accordance with FAR Part 61 in reference to landings, and instrument requirements.

CHAPTER IV QUALIFICATION, EVALUATION AND DESIGNATION

B. NOTICE OF DUE DATES

The Aircraft Management Section shall inform crewmembers when due dates for currency requirements are approaching. Advance notification will begin according to the following schedule and reminders will be issued each month until the due date:

(1). FAA Medical Certificate or equivalent: Two months

(2). Physiological Training: Three months

(3). Water Survival Training: Three months

(4). Annual checkflights and simulator training: Two months

(5). Landings, Night Time, and Instruments: Monthly

Crewmembers are responsible for their qualification and currency. Each crewmember will request training to ensure their qualification and currency through the Chief, Operations Division, as soon as possible upon notification of impending delinquency. Failure of the Aircraft Management Section to notify a crewmember of an approaching currency requirement does not relieve the individual of the responsibility to maintain his currency.

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CHAPTER V FLIGHT OPERATIONS PROCEDURES

1. PREFLIGHT

A. CREW REPORTING

Crewmembers for each flight shall report to the Mission Commander and/or Aircraft Commander at a specified time and place prior to each departure. Crewmembers shall not be required to report more than one and one-half hours prior to the planned departure time unless weather, maintenance, or unique mission requirements dictate an earlier arrival. Early reporting shall be approved by the Division Chief, Mission Commander, or Aircraft Commander.

B. PERSONNEL ITEMS

Crewmembers shall carry the following items with them on flights: FAA Airman's Certificate, FAA Medical Certificate or equivalent, Official Passport (outside CONUS), Immunization Record (outside CONUS), Government Credit Cards, Travel Orders/Trip Authorization.

C. MISSION BRIEFING

At the request of the Aircraft Commander, the Mission Commander shall conduct a pre-mission briefing. In some cases the Mission Commander will request the lead scientist for the mission to brief the Aircraft Commander and any additional crewmembers deemed necessary of the requirements for the upcoming mission. The mission briefing shall be conducted far enough in advance to enable the aircrew to do a thorough and professional job of flight planning and mission preparation. Normally, the briefing should occur no later than one hour before scheduled blockout time. For missions requiring more than a 15 minute briefing, the preflight reporting time shall be adjusted to allow for necessary planning, staging and preflight.

D. WEATHER BRIEFING

Aircraft Commanders are responsible for reviewing and being familiar with weather conditions for the area in which the flight is planned. The Aircraft Commander shall obtain a briefing by a qualified meteorological forecaster, when available, or by the

Flight Director and/or ARTCC or Flight Service Station concerning current weather, trends, and forecasts for the departure point, proposed route, destination, and alternates.

E. SEAT BELT AND SAFETY BRIEFING

Aircraft Commanders shall ensure that all passengers and crewmembers have been briefed by a Flight Crewmember regarding safety of flight information including, use of seat belts, emergency exits and any other necessary cautions or directives regarding the flight.

F. FLIGHT PLANNING

A filed flight plan is required for all flights. Pilots shall enter the AOC emergency phone number, (813) 828-4361, in the remarks section of the flight plan for notification of home base in case of emergency.

Aircraft Commanders shall ensure the accuracy of the crew and passengers manifested on AOC aircraft. The Flight Log or attached manifest shall contain all occupants that fly on AOC aircraft. The crew and passenger manifest shall be filed as follows:

(1). Home Base

For flights departing MacDill AFB, a copy of the Daily Flight Log shall be delivered to the AOC Flight Branch.

(2). Other Bases

For flights departing military bases (other than MacDill AFB), a copy of the Daily Flight Log shall be attached to the DD 175 and filed with base operations, unless all crew and passengers are listed on the DD 175 itself. At bases other than military, a copy of the Daily Flight Log shall be filed with the appropriate clearing authorities.

Any late changes to the manifest after arrival at the aircraft may be forwarded via radio to base operations at MacDill AFB or to the appropriate clearing authorities when operating away from home base.

G. INSTRUMENT FLIGHT RULES

In order to decrease the probability of midair collisions, flights in AOC aircraft shall be conducted in accordance with Instrument Flight Rules (IFR) to the maximum extent practicable. This shall be construed to include all point-to-point and round-robin flights or portions thereof, such as flights to and from operational areas that may be amenable to IFR filing. All other portions of the flights shall be conducted under positive control to the maximum extent practicable.

H. STANDARD INSTRUMENT DEPARTURES (SID)/IFR DEPARTURE PROCEDURES

At those locations where SIDs are available, pilots are encouraged to utilize them for each IFR departure, provided no unacceptable flight delays ensue. Appropriate SID and IFR departure procedures should be reviewed and utilized for IFR departure to ensure separation from aircraft and obstacles during takeoff.

I. AIRCRAFT PERFORMANCE PLANNING

An effective takeoff plan shall be developed which allows a considered sequence of actions to be implemented without delay if an emergency arises. Performance charts can be used to compute aircraft response resulting from various types of engine failures, environmental conditions, aircraft loading, and other factors affecting aircraft performance upon takeoff. AOC aircraft must be capable of maintaining a minimum climb gradient of 200 feet per nautical mile at airports for which there are no published IFR departure procedures or nonstandard IFR takeoff minimums. The aircraft must also be capable of maintaining any climb gradient established in the SIDs or in published IFR takeoff procedures. With regard to fixed wing aircraft, takeoffs will be accomplished only when runway lengths are sufficient to provide for a balanced field condition.

J. WEIGHT AND BALANCE

The Aircraft Commander shall certify for each flight that the aircraft weight and center of gravity will be within safe limits at the time of takeoff and will remain so for the duration of the flight and that all equipment, gear, cargo, and personnel are properly secured for flight.

The Chief of the Aircraft Maintenance Branch shall ensure that a current and continuous record of changes in structures or equipment affecting aircraft weight and balance is maintained. This information shall be made a permanent part of the maintenance record of the aircraft and shall be made available to the Aircraft Commander for use in computing weight and balance.

K. FUEL PLANNING

Planning for mission fuel requirements should be based on efficiency and economy, but shall not compromise flight safety. Careful consideration must be given to the weather conditions at destination and alternates and to the distance to alternates. Icing conditions, turbulence, altitude assignments and routing by ATC can decrease range and therefore affect fuel planning.

Aircraft operations at AOC shall observe FAR Parts 91.151 and 91.167, respectively, for VFR and IFR flight minimum fuel requirements. Additional fuel planning information is available in the applicable Aircraft Flight Manuals.

The Aircraft Commander shall determine fuel load requirements. When operating from AOC, maintenance should ordinarily be notified of fuel requirements the day prior to departure, but no later than one and one-half hours prior to scheduled blockout time.

L. AIRCRAFT PREFLIGHT INSPECTION

The Aircraft Commander shall ensure that a pilot's preflight inspection of the aircraft is completed in accordance with the applicable Aircraft Flight Manual, regardless of whether maintenance personnel are performing similar functions. For light aircraft and helicopters, this will always include physically ensuring that fluid levels are correct and filler caps are secured prior to flight. He shall ensure that all requirements of Part 91 minimum equipment lists, where applicable, are met prior to flight. He shall also:

(1). Inspect the maintenance log for discrepancies which have been carried over.

(2). Check the aircraft log to ensure that discrepancies have been properly signed off.

(3). Not normally accept an aircraft which has been grounded for a mechanical or structural discrepancy until that discrepancy has been corrected.

(4). Ensure that the aircraft is properly fueled for the mission assigned.

(5). Ensure that the weight and balance has been computed for the aircraft as loaded.

(6). Ensure that each crewmember has completed his preflight duties.

(7). Ensure that each crewmember and passenger assigned is familiar with emergency procedures on the aircraft.

(8). Ensure that each crewmember and passenger is outfitted with proper flight and survival gear and is familiar with its use and storage.

2. WEATHER CRITERIA

A. FIXED-WING TAKEOFF MINIMUMS

AOC pilots holding an ATP certificate who are current Aircraft Commanders in the aircraft to be flown have no takeoff weather minimums. Otherwise-qualified Aircraft Commanders without an ATP certificate or type rating shall not take off when the departure point weather is less than the published precision approach minimums, or non-precision approach minimums if there is no precision approach, or 200 feet ceiling and one-half mile visibility, whichever is greater.

B. HELICOPTER TAKEOFF MINIMUMS

Single crewmember (pilot only) helicopter operations shall require takeoff weather minimums of 200 feet ceiling and one mile visibility. For helicopter operations offshore (extended over water or over pack ice) takeoff weather shall be at least 500 feet ceiling and three miles visibility. Helicopter Aircraft Commanders are authorized to depart under terms of a Special VFR clearance when takeoff weather is below these minimums when, in the judgment of the Aircraft Commander, such operations are necessary and can be safely accomplished. Dual-pilot helicopter operations may use Special VFR weather criteria without restriction.

C. ALTERNATE AIRPORT REQUIRED FOR DEPARTURE

When departing from an airfield that is below approach minimums, AOC aircrew shall comply with the following requirements for take off alternates in addition to the take off minimums cited above.

(1). Departure alternate shall not be more than fifteen minutes from the departure airport at normal cruising speed in still air with one engine inoperative.

(2). Weather conditions at the departure alternate must be at or above 600 feet ceiling and two miles visibility for precision approach and 800 feet ceiling and two miles visibility for non-precision approach. Where no approach procedure is published, weather reports and/or forecasts must allow descent from MEA, approach, and landing under basic VFR weather criteria. For nonstandard alternate minimums, refer to published instrument approach procedure tabulations.

D. DESTINATION WITH ALTERNATE

Missions may be cleared when prevailing ceiling and visibility at destination are forecast to be at or above published minimums for precision or non-precision approach at the estimated time of arrival if an appropriate alternate is named in the clearance.

E. DESTINATION WITH TWO ALTERNATES

Missions may be cleared to destination when prevailing ceiling and visibility are forecast to be below minimums for precision or non-precision approaches at the estimated time of arrival if two alternates are named in the clearance, and if the second alternate meets the appropriate criteria.

F. DESTINATION WITH NO ALTERNATE REQUIRED

No alternate airport is required if for at least one hour before and after the estimated time of arrival at the destination, the appropriate weather reports or forecasts, or any combination thereof, indicate that:

(1). The ceiling will be at least 2,000 feet above the airport elevation, and

(2). Visibility will be at least three miles.

G. DESTINATION WITH NO ALTERNATE AVAILABLE

The destination must meet the weather minimums stated in paragraph 2-H (1) and (2). This requirement is intended to address operations into remote, foreign, arctic or island destinations where an alternate does not exist or is beyond practical fuel range.

H. ALTERNATE WEATHER MINIMUMS

No person may include an alternate airport in an IFR flight plan unless current weather forecasts for that alternate indicate that, at the estimated time of arrival, plus or minus one hour, the ceiling and visibility will be at or above the following alternate airport weather minimums:

(1). Alternate With Published Instrument Approach Procedure

If an instrument approach procedure has been published in FAR Part 97 for that airport, the alternate airport minimums specified in that procedure shall apply. If no alternate minimums are specified, then the following minimums apply:

(a). Precision approach procedures: ceiling 600 feet and visibility two statute miles.

(b). Non-precision approach procedures: ceiling 800 feet and visibility two statute miles.

(2). Alternate With No Published Instrument Approach Procedure

If no instrument approach procedure has been published in FAR Part 97 for the alternate airport, the ceiling and visibility minimums are those which allow for descent from the MEA, approach, and landing under basic VFR weather criteria.

CHAPTER V FLIGHT OPERATIONS PROCEDURES

I. ALTERNATE AIRPORTS OUTSIDE CONUS

For an airfield to qualify as an alternate for destination outside CONUS, Aircraft Commanders shall use the worst prevailing weather forecast for the estimated time of arrival, plus or minus one hour, but in no case may an airfield be named as an alternate if the forecast weather is below published approach minimums.

3. CLEARANCE, FLIGHT RULES, AND TAKEOFF REQUIREMENTS

A. CLEARANCE AUTHORITY

The clearance authority to fly a mission is solely the responsibility of the Aircraft Commander. Aircraft Commanders are authorized to clear flights and missions to areas outside the United States and at foreign bases.

B. FLIGHT RULES

All AOC flights and missions shall be flown in accordance with the provisions of this manual and should be flown in accordance with FAA regulations and/or ICAO procedures. Flights shall operate under Instrument Flight Rules except for the following types of operations, which may operate under VFR/DVFR or Operational Due Regard flight rules:

(1). Terminal Areas

When weather and traffic conditions allow, VFR flight is authorized when departing to a nearby reporting point or canceling IFR a short distance from destination in order to expedite arrivals and departures. However, IFR flight plans shall not be canceled under the following conditions:

(a). Day IFR

IFR flight plans shall not be canceled during daylight when weather is unknown, reported as marginal, or when scud, haze, or other restrictions to visibility are known and present a marginal VFR situation. In these

cases, all available facilities shall be used to make an instrument approach up to the point of intended landing under IFR.

(b). Night IFR

IFR flight plans shall not be canceled during night operations until after an instrument approach has been initiated, and then only if the terminal airfield is in sight and VFR weather conditions are reported and verified by the pilot.

(2). Maintenance Test Flights

Prior to acceptance of an aircraft from a maintenance facility the Aircraft Commander shall insure that all paperwork including task numbers, invoices, log books and warranties are in order. The Aircraft Commander will review with the maintenance supervisor all work performed and discuss any outstanding discrepancies.

Maintenance runups and test flights will be required whenever the aircraft has received a major modification, major system repair, or was in maintenance for numerous discrepancies or inspections such as in a 100 hour inspection or a major phase inspection. All flight systems shall be tested during the flight check including hydraulic systems, electrical systems, engines, electronics, anti-ice/de-ice systems, and airframe and flight control items. The Aircraft Commander shall check with AOC Maintenance and the Science and Engineering Division when appropriate to receive any special instructions that may be necessary due to completed modifications or specific systems or items that may have been altered during the maintenance period.

An entry shall be made on both the AOC Flight Log and the AOC Maintenance Log stating that a maintenance flight was performed and any problems shall be noted on the maintenance log.

Maintenance test flights shall be conducted during daylight hours in Visual Meteorological Conditions.

(3). Mission Requirements

VFR flight plans are authorized when, in the judgment of the Aircraft Commander, mission requirements or other constraints make it impractical to file IFR and the mission can be safely accomplished under VFR. This provision shall not be used to initiate flights or missions under VFR flight rules when weather conditions or forecasts make the safe accomplishment of the flight or mission questionable.

C. OPERATIONAL EQUIPMENT TAKEOFF REQUIREMENTS

For all IFR flight, the weather minimums at the departure point and at the departure alternate must be predicated on the full operation of aircraft components and navigational aids associated with the instrument approach. For any aircraft components or navigational aids which are inoperative, weather minimums shall be adjusted accordingly.

D. BEFORE-START CHECKLIST

The Before-Start Checklist shall be completed prior to engine start, in accordance with the aircraft operating and standardization manuals.

E. TAKEOFF AND LANDING DATA (TOLD)

Takeoff and Landing Data (TOLD) shall be completed prior to each takeoff. The Copilot shall assist the Aircraft Commander in accomplishing the planned procedures and shall report to him any deviations from the plan. Assistance will include operating the radios, radar, and other position-fixing devices, and monitoring the progress of the aircraft in accordance with the briefing. The Copilot or Navigator, if aboard, shall use appropriate FLIP, SID, and charts to monitor departure. The Copilot or Flight Engineer, if aboard, shall monitor power management and aircraft components in accordance with the Aircraft Commander's briefing and subsequent instructions. The aircraft cockpit personnel shall remain silent except for required calls or to notify crew of emergencies throughout the departure.

F. DEPARTURE BRIEFING

Before taking the runway for takeoff, the Aircraft Commander shall brief the aircrew on the procedures he intends to follow during takeoff and climb, the cruising altitude, and instructions for returning to the airport. This briefing shall include headings, altitudes, anticipated maneuvers, hazardous terrain, and emergency instructions.

G. ATC CLEARANCE

Aircraft Commanders, Pilots or Copilots shall personally request and read back all voice ATC clearances. This will include all oral transmissions pertaining to ATC instructions involving departure, en route, and approach procedures.

H. AIRCRAFT CHECKLISTS

The pilot flying the aircraft normally calls for the appropriate checklist. These checklists shall be rigidly adhered to by crewmembers on all flights. The Copilot will normally be responsible for reading the checklist. Designated crewmembers shall respond accordingly. When reading out emergency checklists, the action to be performed and the expected response shall both be called out.

I. TAKEOFFS AND LANDINGS

The Aircraft Commander shall occupy either the left or right seat during all takeoffs and landings.

J. RADIO/ICS TRANSMISSIONS

Use of the aircraft radios and intercommunication systems shall be in accordance with the procedures and phraseology contained in the appropriate Flight Standards Manual, AIM, or appropriate operating manual. During ground operations, takeoff, approach and landing, or during any critical phase of flight, crewmembers and passengers shall limit transmissions to those which are essential for crew coordination. There will be no outside transmissions on any radio without the Aircraft Commander's permission.

K. OPERATIONS UNDER ADVERSE CONDITIONS

Adverse conditions include, but are not limited to, ceilings or visibility at or near minimums, marginal runway conditions, marginal approach aids, aircraft emergencies, severe turbulence, near-maximum crosswind, excessive icing, low altitude flight, terrain features which present an unusual hazard, and aircraft system malfunctions.

AOC aircraft shall not be operated into known or forecast weather conditions (icing included) which will exceed aircraft limitations, with all systems operating normally. When aircraft systems are inoperative or not functioning normally, flight into known or forecast adverse weather shall not be conducted if aircraft limitations, as established in the applicable Aircraft Flight Manual, would be exceeded.

Except for heavy aircraft, AOC aircraft shall not be operated into areas of known or forecast thunderstorms unless nose radar is installed and operational, or the weather forecast indicates that the flight can be conducted through the area visually and with adequate separation from thunderstorm activity. Thunderstorms should not be penetrated even when the aircraft is equipped with weather radar.

L. SEVERE WEATHER PENETRATIONS

Procedures for severe weather penetrations are contained in the applicable Aircraft Flight Manuals. In any case, severe weather penetrations are not authorized for single-engine aircraft except when a greater threat to flight safety would result from not performing the penetration.

M. ALTIMETERS

The field barometric setting shall be obtained from a control tower or appropriate ATC facility for setting in the index window of the aircraft altimeter. The altimeter altitude reading shall be compared with the known field elevation. The maximum allowable difference between these two figures is 75 feet. If the difference exceeds this limit, the altimeter is unsatisfactory for instrument flight. At altitude, altimeter error is not considered and no correction is applied. The local reported altimeter setting is to be set in the index window without correction.

N. PITOT-STATIC SYSTEM

Aircraft equipped with two pitot-static systems will abort mission and land if one pitot-static system becomes inoperative.

4. TAKEOFF AND CLIMB

A. TAKEOFF

Fixed-wing takeoffs should normally be initiated from the beginning of the approved useable portion of the runway. Intersection takeoffs can be made only after the Aircraft Commander has insured the aircraft performance and runway condition meet takeoff requirements.

B. AFTER TAKEOFF

Fixed-wing aircraft shall not make turns after takeoff below 500 feet AGL unless specifically directed by departure control or ATC.

The after-takeoff checklist should not be initiated or called for until reaching an altitude of 500 feet AGL. This will permit Flight Crewmembers to maintain a more thorough outside watch.

C. FLIGHT STATION ENTRY

Additional crewmembers will be permitted in the flight station during takeoff, climb, descent and landing only if seats not required by primary crewmembers or Flight Examiners/Instructors are available. Passengers may be permitted in the flight station under the same conditions and at the discretion of the Aircraft Commander.

D. USE OF AUTOPILOT

The autopilot shall be operated in accordance with the applicable Aircraft Flight Manuals. Use of the autopilot is encouraged and permits a more thorough outside lookout by the Flight Crewmembers. However, the autopilot shall not be used during takeoff, landing, or operations below 200 feet AGL.

CHAPTER V FLIGHT OPERATIONS PROCEDURES

5. EN ROUTE

A. NAVIGATIONAL AIDS

All available navigational aids shall be utilized from departure to landing to readily establish the geographical position of the aircraft.

TACAN course information should be cross-checked and verified in flight against other navigation systems to ensure that TACAN is functioning correctly. An improperly adjusted or malfunctioning component of the TACAN system may result in azimuth lock-on to a false bearing. The error will probably be plus or minus 40 degrees but may be any value which is a multiple of 40 degrees. When navigating with TACAN, the DME reading may be used without restriction, but course information shall be used as follows:

(1). In-flight, at or above the published minimum enroute altitude.

(2). Descent to initial approach altitude for published approaches

(3). Accomplish a SID or published instrument approach only when the aircraft position can be confirmed continuously by at least one other navigational aid or radar, e.g. ADF, VOR, or airborne radar.

B. WEATHER FORECASTS

The Aircraft Commander shall ensure that destination and alternate weather forecasts are obtained before reaching the equal time point (ETP) on over water missions. Weather forecasts will provide the Aircraft Commander with sufficient terminal and alternate weather information for diverting or continuing to destination. Detailed weather information may be received on METRO UHF frequencies, phone patch through USAF air/ground stations to weather reporting stations, FAA facilities, or by monitoring VOLMET, HIWAS, TWEB, or AWOS broadcasts. VOLMET weather broadcasts shall be monitored as often as possible to relieve HF frequency congestion.

C. TERRAIN CLEARANCE

The Aircraft Commander is responsible for terrain avoidance during all phases of flight. At night or under IMC weather conditions, when terrain clearance within 25 nautical miles of the intended course is less than 3000 feet of the flight altitude, the Copilot or Navigator, if aboard, shall monitor the flight path of the aircraft to assure proper terrain clearance, as determined from appropriate charts with maximum elevation figures published.

D. USE OF OXYGEN

Crewmembers and passengers shall use oxygen as specified in the appropriate Aircraft Flight Manuals, FAR Part 91.211, or as follows:

(1). During flight when the cabin pressure altitude is above 10,000 feet for longer than one hour, Flight Crewmembers shall use supplemental oxygen for the remainder of the flight if continued at or above 10,000 feet.

(2). Unpressurized flights from 18,000 feet to 25,000 feet MSL require preflight denitrogenation breathing for 10 minutes. All crewmembers shall breathe 100 percent oxygen from the start of prebreathing until the mission above 18,000 feet MSL has been completed and the aircraft has descended below 18,000 feet MSL.

(3). Unpressurized flights from 25,000 feet MSL to 30,000 feet MSL require preflight denitrogenation for 20 minutes. All crewmembers shall breathe 100 percent oxygen from the start of prebreathing until the mission above 25,000 feet MSL has been completed and the aircraft has descended below 18,000 feet MSL.

6. DESCENT AND APPROACH

A. INSTRUMENT APPROACH MINIMUMS

Instrument approach minimums shall be adhered to as published. However, if RVR or other instrument approach components or visual aids are inoperative, consult the Inoperative Components or Visual Aids Table in the Terminal Approach Publications for increased Decision Height, Minimum Descent Altitude, or visibility minimums.

B. APPROACH BRIEFING

Before commencing an approach, the Aircraft Commander shall brief his crew on the procedures he intends to follow during approach and landing, and missed approach intentions. This briefing shall be consistent with the aircraft's standardization/operating manual where applicable.

C. COCKPIT COORDINATION

There is no substitute for good communications between Flight Crewmembers in the execution of aircraft operations. Each must know what is expected of the other during all phases of flight. A misunderstanding or an erroneous assumption on the part of either can result in tragedy when operating near the ground in low visibility conditions or in other situations where the margin for error is small. As the result of assigning pilots with varying levels of experience and proficiency to a flight, it is an absolute necessity that each pilot respond to the other in the interest of safety and for the successful accomplishment of the mission.

D. PRACTICE APPROACHES

To maintain the required degree of proficiency in instrument flying skills, pilots are strongly encouraged to make PAR, ASR, ILS, and non-precision approaches under VFR conditions, consistent with the requirement to have a qualified safety observer in the cockpit. Aircraft Commanders will ensure that flight hours are used efficiently in order to provide adequate training for all Flight and Air Crewmembers.

7. POSTFLIGHT

A. POSTFLIGHT CHECK LISTS

Aircraft postflight checklists shall be accomplished in accordance with the appropriate Aircraft Flight Manual.

B. CUSTOMS, IMMIGRATION, AGRICULTURE AND HEALTH INSPECTIONS

At those arrival points where federal or local inspections are required, crewmembers and passengers shall proceed directly from the aircraft to Customs, Immigration, or Agricultural inspectors for processing. The Aircraft Commander shall have the necessary clearance forms completed before reporting to inspectors. For arrivals from foreign countries:

(1). Customs

Customs inspection is required at all U.S. entry airports except MacDill AFB due to a special agreement. However, the Aircraft Commander shall file with the District Director of Customs, within 48 hours after arrival, a General Declaration for the aircraft and Individual Declarations for each person aboard specifying the number and description of the pieces of baggage brought into the United States.

(2). Agriculture and Health

Agriculture and Health entry requirements shall be complied with by the appropriate foreign or domestic clearance guides. AOC aircraft must be inspected whenever arriving from a foreign country. An inspector will inspect the aircraft on the AOC ramp if the Agriculture Department is notified by telephone at least one hour in advance. Garbage must be bagged for removal and incineration. The aircraft must be attended until the inspection is completed and the aircraft is released; however, the crew may be allowed to depart. At MacDill only, all garbage may be taken to Base Operations for disposal if the agriculture agent fails to meet the aircraft.

C. MISSION DEBRIEFING

The Aircraft Commander and any other designated crewmember shall make themselves available for post-mission debriefing. This debriefing will be conducted at the request of the Mission Commander.

D. DAILY FLIGHT LOG AND MAINTENANCE LOG

The Aircraft Commander and Flight Engineer or Crew Chief shall complete all flight time entries and maintenance write-ups in the Daily Flight Log and the Aircraft Maintenance Log, respectively. The Aircraft Commander shall sign both logs upon completion. As soon as possible after arrival, the Aircraft Commander, Flight Engineer or Crew Chief, and other crewmembers as needed should debrief maintenance personnel.

E. PILOT IN COMMAND (PIC) TIME

An Aircraft Commander on an AOC aircraft which requires more than one pilot may log all his flight time as PIC. An Aircraft Commander on an AOC aircraft that does not require more than one pilot may log as PIC time only that flight time during which he is the sole manipulator of the controls, unless the Aircraft Commander holds an ATP certificate, in which case he may log all his flight time as PIC.

On all AOC aircraft requiring more than one pilot, the designated Aircraft Commander logs all his flight time as PIC, and the Copilot logs PIC time during the time he manipulates the controls. Therefore, it is possible for the total PIC time on a flight to exceed the total flight time.

F. INSTRUMENT TIME

A pilot may log as instrument time only that time during which he operates the aircraft solely by reference to instruments. Therefore, a pilot may not log instrument time while he is acting as second in command (SIC), whether or not that pilot is the designated Aircraft Commander. To log instrument time, the pilot must be the sole manipulator of the controls; therefore he is acting as PIC. Instrument flight time cannot exceed PIC time.

Simulated instrument time in the aircraft should be logged as Hood time; simulated instrument time in a simulator (for which a Daily Flight Log must be submitted) should be logged as Simulated time.

G. LOGGING OF CREW AND PASSENGERS

Aircraft Commanders shall ensure each occupant who flies on AOC aircraft is logged on the AOC Flight Log or a supplemental manifest of the Flight Log. Without exception, all occupants who fly on AOC aircraft must be logged on the official Flight Record maintained by the AOC Operations Division.

H. DISPOSITION OF LOGS

A Daily Flight Log shall be completed for each day's flights. The original copies shall be mailed to the Flight Branch of the Operations Division on a weekly basis. At the end of the month, remaining logs shall be sent via overnight mail in order to reach AOC not later than the fifth day of the next month. The Aircraft Commander is responsible for the mailing of these logs to AOC when the aircraft is deployed.

I. DAILY STATUS REPORT

Aircraft Commanders shall ensure that a Daily Status Report is made to the Operations Division. If the Mission Commander transmits the daily status information to AOC with a copy to the Operation Division’s Flight Branch, this requirement is fulfilled. The information shall include: aircraft identification, aircraft status, flight hours for the day, project hours to date, total aircraft hours, crew location (city, lodging, telephone number), FBO or military base location and telephone number, estimated time of departure, destination, schedule changes, problems or remarks.

Daily Status Reports may be transmitted by electronic mail, telephone, or facsimile machine.

J. PROJECT/MONTHLY REPORT

This report summarizes mission accomplishment, project costs, and ancillary information such as field maintenance facilities, fueling vendors, lodging, etc. The Mission Commander shall submit this report at the end of the project or on a monthly basis, whichever occurs first, through the completion of the project. The report must be forwarded in time to arrive at AOC by the fifth day of the next month.

K. AIRCRAFT DAILY LOG

The Aircraft Commander shall ensure that an Aircraft Daily Log is completed at the end of each month for his aircraft and submitted in time to arrive at AOC by the fifth day of the next month.

L. PERSONNEL DAILY LOG

AOC personnel shall ensure that a Personnel Daily Log is completed at the end of each month and is submitted in time to arrive at AOC by the fifth day of the next month.

M. OTHER REPORTING REQUIREMENTS

In addition to the above reports, the Mission Commander shall ensure that the following documents are forwarded to AOC in time to arrive by the fifth day of the next month:

(1). Travel vouchers for all AOC personnel assigned to the mission.

(2). Fuel receipts, marked with the project task number, date and flight number.

(3). All IMPAC card receipts.

(4). CD 81 and time and attendance sheets signed by the Mission Commander.

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CHAPTER VI FLIGHT DUTY LIMITATIONS

1. CREW DUTY

A. GENERAL

The following times are considered to be the AOC standard which will provide an acceptable level of physical and mental performance for flight operations. The Mission Commander shall operate within these requirements and shall ensure that crewmembers properly utilize the authorized crew rest periods to alleviate the cumulative effects of fatigue.

B. CREW DUTY TIME

Crew duty time begins when a Flight or Air Crewmember reports to a designated place to begin the preparation for a scheduled flight. In the case of an unscheduled flight, crew duty time begins when the first Flight or Air Crewmember reports for their workday. At a minimum, crew duty time will start one hour prior to scheduled takeoff time. Crew duty time ends one hour after block-in time or upon completion of aircraft post-flight duties, whichever is later.

Maximum crew duty time for multi-piloted aircraft is 16 hours. Maximum crew duty time for an aircraft with an inoperative autopilot, an aircraft not equipped with an autopilot, or a single-piloted aircraft is 12 hours.

C. CREW REST

Flight and Air Crewmembers shall be given a 12 hour crew rest period prior to reporting for flights. This policy is not intended to prevent crewmembers from arriving at work until it is time to begin preparation for flight, but rather to ensure crewmembers have had sufficient time for uninterrupted rest plus time for meals, transportation, etc., prior to or between crew duty time(s). Mission Commanders should dictate a “no earlier than” reporting time if they are concerned crew duty time could be impacted by a crewmember reporting early for work.

For non-mission, single leg flights of less than 4 hours duration, Aircraft Commanders may use their discretion in determining an appropriate crew rest period of less than 12 hours. This deviation from the standard crew rest period should allow Aircraft

Commanders some flexibility for flights such as, but not limited to, ferry flights, adverse weather repositioning and short notice transits to a maintenance facility.

While deployed, AOC personnel shall be relieved from their normal duties for at least one day (down day) during any seven consecutive work and/or standby days. However, short meetings for mission planning and briefings may be scheduled if they do not interfere with the 12 hour crew rest period.

D. STANDBY DUTY

Standby duty when deployed will be defined by the Mission Commander in the project instructions as approved by the Director, AOC. Normally standby duty will require crewmembers to be at a specific location at a specified time.

E. MAXIMUM FLYING TIME

Flight and Air Crewmembers shall not exceed the following block time limits:

Period (Days)	Single-Pilot Operations	Multi-Pilot Operations
1	8	12
7	30	60
30	100	120
90	160	320
365	600	1200

In addition to these limits, pilots assigned to single-pilot operations away from their permanent duty station shall not be scheduled for deployment periods exceeding 60 consecutive days.

F. TIME ZONE CHANGES

Changing time zones disrupts circadian rhythms and can cause a marked decrease in performance. This condition, called “jet lag”, is compounded by fatigue and is resolved

only by accommodation to the new local time zone. Mission Commanders should take time zone changes into account and lengthen crew rest periods as necessary.

2. PHYSIOLOGICAL RESTRICTIONS

Crewmembers shall not be scheduled for flight duty if any of the following categories occur:

A. ALCOHOL, DRUGS, NARCOTICS

Within 12 hours of having consumed alcoholic beverages, narcotic or flight grounding drugs, crewmembers are prohibited from performing their duties. Crewmembers shall not consume alcoholic beverages during the 12 hour period prior to scheduled takeoff time. Any crewmember or passenger who, in the opinion of the Aircraft Commander, is under the influence of alcohol, drugs, or narcotics, will not be permitted aboard the aircraft.

B. IMMUNIZATION

Within 24 hours of receiving immunization, other than smallpox or oral poliomyelitis vaccines, or after receiving anesthetics for dental or surgical procedures.

C. BLOOD LOSS

Within 72 hours of losing or donating blood in an amount of 200 c.c. or more.

D. MEDICATION

When taking oral or injected medication, unless a waiver has been granted by an FAA medical examiner or military flight surgeon. Mild analgesics such as aspirin and similar non-aspirin types of medication may be used during flight duty if prescribed by an FAA medical examiner or military flight surgeon and if the underlying ailment is not cause for grounding.

E. PHYSIOLOGICAL TRAINING

Within 24 hours of having attended a pressure chamber.

F. SCUBA DIVING

Within 48 hours of engaging in diving activity using SCUBA where controlled ascent (decompression) is required. For diving activity using SCUBA, but not requiring decompression stops, crewmembers shall not be scheduled within 24 hours.

G. PREGNANCY

Flight restrictions during pregnancy will be handled on a case-by-case basis. Following pregnancy and recovery, clearance to return to flight status shall be granted by the Director, AOC, upon medical certification of fitness for flight duty.

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CHAPTER VII FLIGHT SAFETY AND SURVIVAL

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CHAPTER VII FLIGHT SAFETY AND SURVIVAL

1. FLIGHT SAFETY

A. CONDUCT OF FLIGHT

Aircraft Commanders shall conduct their flights in such a manner as to avoid unjustified hazards. Flight Crewmembers must exercise prudent judgment and take proper action when dictated by emergencies that endanger life or property. No person may serve as a crewmember on AOC aircraft if his physical or psychological condition could impair the safe conduct of flight operations.

B. MINIMUM CREW RESTRICTION

When an AOC aircraft is engaged in flight operations such as a pilot checkout, night familiarization, functional check flight, evaluation check flight, or reduced operating engines or systems, personnel authorized onboard shall be limited to the minimum crew required to accomplish the assigned mission. At the discretion of the Aircraft Commander, minimum crew may include Flight Crewmembers or appropriate maintenance personnel onboard to observe the evolution, Flight or Air Crewmembers onboard for training purposes, or Mission Crewmembers onboard for evaluation of scientific equipment.

C. SIMULATED EMERGENCIES RESTRICTION

Simulated emergencies that may affect the controllability of the aircraft or that may alarm crewmembers should be performed on training flights only.

D. LOADING AND OFF-LOADING

When fixed-wing aircraft are engaged in the loading or off-loading of personnel or cargo, the engine(s) on the side of the aircraft where loading or off-loading is taking place shall be shut down if the turning engine(s) or their exhaust pose a threat to personnel or property in the area.

When helicopters are loading or off-loading personnel or cargo, the Aircraft Commander shall ensure that personnel and equipment approach and depart from the front of the aircraft. Special attention should be given to possible hazards due to sloping terrain.

E. STERILE COCKPIT

Sterile cockpit procedures shall be in effect during critical phases of flight. Critical phases of flight are defined as all operations involving engine start, taxi, takeoff, and landing, as well as flight operations conducted below 500 feet AGL or in severe weather. No crewmember may engage in, or any Aircraft Commander permit, any activity during a critical phase of flight which could distract any Flight Crewmember from the performance of their duties or which could interfere in any way with the proper conduct of those duties. Prohibited activities include: nonessential communications between the cabin and the cockpit, nonessential conversation between Flight Crewmembers, and reading publications not related to the conduct of the flight. Conversations relative to training/check flights are considered essential.

F. SMOKING RESTRICTIONS

Smoking is prohibited at all times aboard AOC aircraft. Smoking is also prohibited within 50 feet of aircraft on the ground, or within 100 feet of aircraft on the ground during fueling operations.

G. ENGINE START AUTHORIZED PERSONNEL

Aircraft engines shall not be started without a qualified pilot, flight engineer, or mechanic in the pilot's seat. These personnel shall be authorized, in writing, by the Chief, Operations Division.

H. STARTING PROCEDURES

Before starting an engine, the parking brake shall be set and the Flight Crewmember in the cockpit shall ascertain that the area around the engine to be started is clear. Whenever an engine is started, personnel with adequate fire extinguishing equipment, if available, shall be stationed in the immediate vicinity of the engine but safely clear of propellers or rotors and must remain in visual contact with one of the Flight Crewmembers monitoring the start.

When starting an aircraft engine, all challenges and signals between the ground attendant and the person at the engine controls shall be clearly understood and so indicated by

repetition before action is taken by either person. When the engine is started entirely from the cockpit, the person at the engine controls shall exchange signals with a person observing the engine from outside the aircraft or an aft observer if no outside observer is available. If available, radio contact should be made with the ground crew prior to starting any engine.

Hearing protection shall be worn by all ramp personnel during engine or auxiliary power unit operations.

I. TAXIING AND TOWING

Aircraft should not be taxied or towed at speeds faster than a brisk walk. When taxiing in close proximity to obstructions or other aircraft, a qualified taxi director shall attend the taxiing aircraft along with other ground personnel as necessary to ensure safe taxiing or towing.

Taxi training will only be conducted by designated personnel. When conducting training, the designated instructor shall be in a position to assume control of the aircraft at all times. Seat belts shall be worn when conducting taxi training.

J. SAFETY BELTS

Aircraft Commanders shall ensure that passengers and crewmembers have safety belts securely fastened prior to and during all takeoffs and landings, when turbulence is encountered or anticipated, and while flying through areas of forecast clear air turbulence. During helicopter operations, each person's safety belt shall be worn from takeoff until after landing, except when the Aircraft Commander approves temporary removal for necessary activities.

K. OBSTACLE CLEARANCE

Multi-engine aircraft must be capable of clearing, with one engine inoperable after refusal speed, all obstacles along the flight path or maintaining visual separation of at least 300 feet from any obstacle higher than the climb out flight path. Aircraft must also be capable of vertically clearing all obstacles within the IFR climb out area. The climb out area is defined in the DOD criteria for standard instrument departures. When

applicable, all FAR Part 25 performance requirements must be met. Takeoff gross weights shall be adjusted to conform to these requirements:

(1). All Engines Operating

(a). Permit a minimum climb gradient of 150 feet per nautical mile where no climb rate is specified by the SID/IFR departure.

(b). Permit the aircraft to be at the required height over the controlling obstacle when an obstacle height and/or climb gradient is specified on the SID.

(2). One Engine Inoperative

(a). Provide minimum terrain/obstruction clearance for a distance of at least five nautical miles from the end of the runway.

(b). Permit the aircraft to clear the controlling obstacle.

L. OPERATIONS AT OR BELOW 500 FEET AGL (FIXED-WING AIRCRAFT)

When mission requirements call for flight altitudes at or below 500 feet AGL, crewmembers must be extremely alert and monitor their instruments closely. Flight Crewmembers must familiarize themselves with terrain and obstruction clearance requirements for the flight prior to conducting the mission. The following policies shall apply:

(1). The Director must approve flights below 200 feet AGL.

(2). Radar Altimeter

A fully functional pilot's radar altimeter is required for all flights below 500 feet AGL.

(3). Day VFR Turns

(a). No turns shall be made below 300 feet AGL in heavy aircraft.

(b). No turns shall be made below 200 feet AGL in light aircraft.

(c). Turns shall be limited to standard rate below 500 feet AGL.

(4). Night VFR/IFR Turns

(a). No turns shall be made below 500 feet AGL (1000 feet AGL without an operating radar altimeter.)

(b). Turns shall be limited to standard rate below 1000 feet AGL.

M. OVER WATER OPERATIONS

Over water operations shall be conducted within power off glide distance to shore with the following exceptions:

(1). Helicopters may operate off shore when equipped with floats and over water survival gear.

(2). Multi-engine fixed wing aircraft may operate off shore when equipped with a life raft and over water survival gear.

(3). Single engine aircraft may operate beyond glide distance to shore when equipped with appropriate over water survival gear. In addition, they must be in constant positive radio contact and have a rescue source available and near by.

N. MANEUVERS RESTRICTIONS

The following restrictions apply when performing nonstandard maneuvers:

(1). Simulated engine loss

No engine shall be feathered or shut down below 3000 feet AGL. For training purposes, a simulated single engine-out approach to a touch and go landing is permitted as long as all engines are used for the touchdown and for the takeoff.

V1 cuts are to be performed as a simulated power loss. Instructor Pilots shall simulate engine loss by retarding the power lever to zero thrust.

(2). No flap landing

No flap landings shall be made to a full stop unless the operating handbook approves no flap takeoffs.

(3). Stalls

All stalls and approaches to stalls shall be accomplished in VMC and at a minimum of 3000 feet AGL for 2 engine aircraft and 5000 feet AGL for 4 engine aircraft. Steep turns may be used for the FAR-required clearing turn before stall practice.

(4). Multiple Emergencies

Instructor Pilots shall not compound emergencies in the aircraft unless one simulated emergency logically leads to another (e.g., low oil pressure logically leads to power loss while an engine loss does not logically lead to a gear malfunction). Multiple emergencies may be accomplished in the aircraft simulator.

2. SURVIVAL

A. GENERAL

The items of safety and survival equipment specified in this section are the minimum required for safe operations. Additions and changes to these requirements may be necessitated by such considerations as aircraft configuration, type and duration of missions, area of operations, and availability of search and rescue facilities. Additional information on specific aircraft and missions may be found in the applicable Aircraft Flight Manual. Individual survival gear shall be placed near the crewmembers utilizing the equipment so as to be readily accessible in an emergency.

B. PERSONAL PROTECTIVE CLOTHING

Nomex flight suits shall be worn by each AOC crewmember for all missions on which they fly. Flight suits shall be worn from prior to engine start until after engine shutdown.

Due to a lack of cooling air in the Lake Aircraft which could lead to early fatigue or exhaustion, Nomex flight suits may be replaced with an alternative attire as prescribed by the Director, AOC.

C. EMERGENCY LOCATOR TRANSMITTER (ELT)

All NOAA aircraft shall be equipped with an operable ELT.

D. EMERGENCY RADIO

At least one portable emergency radio transceiver capable of communication on 121.5 MHZ or 243.0 MHZ, and not dependent on the aircraft power supply, shall be carried whenever a single engine aircraft is operated beyond power-off gliding distance from land, or whenever a multi engine aircraft is operated on an extended over water flight. The device shall be packed in a self-buoyant, water-resistant container.

E. LIFE RAFTS

Life rafts of sufficient capacity to accommodate the passengers and crew shall be provided on AOC aircraft when operating over water. Each raft shall be equipped with an attached approved survivor locator light. Survival kits shall be furnished with the life rafts which contain at least a raft repair kit, a hand pump, a first aid kit, desalting kits, a signaling mirror, emergency rations, a tarpaulin, a fishing kit, a raft knife, a compass, sunburn ointment, lip balm, oars, emergency water containers, flares, a radar reflector, a bailing bucket or sponge, a retaining line, dye marker, a flashlight, and survival manual.

F. LIFE PRESERVERS

One approved, inflatable, dual compartment life preserver equipped with an approved survivor locator light and whistle shall be carried for each person on over water flights in AOC aircraft. Life preservers shall be worn by all occupants of the aircraft on all over water flights operating below 500 feet absolute altitude, or at any other time the Aircraft Commander so directs.

G. ANTI-EXPOSURE SUITS

An anti-exposure suit, either continuous-wear or quick-donning, shall be provided for each occupant of AOC aircraft operated over water when the following ambient conditions prevail:

(1). The water temperature is 59 degrees Fahrenheit or below, or

(2). The outside air temperature is 32 degrees Fahrenheit or below.

The final determination on wearing anti-exposure suits shall be made by the Aircraft Commander based on all pertinent factors, such as type and duration of mission, ambient outside temperatures and proximity and capability of search and rescue facilities.

H. LIFE SUPPORT AND CLOTHING EQUIPMENT

Individual life support equipment and clothing allowances are established by the AOC Safety Staff. Additions to the standard list may be authorized depending upon the nature of the mission or location of operations.

I. WEAPONS ISSUE

On certain AOC missions, such as operating in an arctic environment, there exists a need or requirement to carry a weapon onboard the aircraft. En route supplements for the area concerned should be reviewed to determine whether a weapon should be carried. Aircraft Commanders shall determine for themselves, based on the mission and areas to be overflown, whether a weapon and additional survival gear is necessary.

AOC maintains weapons for issue to Flight Crewmembers. Weapons will be assigned by the AOC Weapons Manager upon receipt of request by the assigned Aircraft Commander. Weapon and ammunition issue is accomplished by AOC supply personnel. At least one box of ammunition should be onboard the aircraft for use in a survival situation. If handguns are carried as personal survival weapons they will be drawn from AOC Supply. Individuals shall receive qualification on the issued weapons (NC Instruction 8370). This qualification shall be good for two years. The Aircraft Commander will ensure the safe operation, cleanliness, storage and security of each weapon carried. Upon completion of the mission, weapons will be returned to Supply in a clean condition and the Weapons Manager shall be notified of their return.

Personal weapons may be authorized on AOC aircraft only by the Director, AOC.

J. PHYSIOLOGICAL TRAINING REQUIREMENTS

Physiological training instructs crewmembers on how the human body is effected in flight and how to recognize and avoid those factors which are detrimental to the safe operation of aircraft. All pressurized aircraft Flight and Air Crewmembers shall complete an AOC approved course in physiological training as soon as practicable during the first year of an aviation assignment. The course shall consist of a pressure chamber ascent (Type I for aircraft that operate above 25,000 ft, Type II for below 25,000 feet) and classroom instruction that should, at a minimum, include: anatomical effects of trapped gases and their treatment, hypoxia, use of aircraft oxygen systems, hyperventilation, disorientation, decompression phenomena, effects of explosive decompression, vertigo, flying while on medication, flying after scuba diving, night flying, and the effects of smoking.

This qualification shall be good for five years for Flight Crewmembers. Air Crewmembers have no requirement for recurrence but may request additional training.

K. WATER SURVIVAL TRAINING REQUIREMENTS

Water survival training instructs crewmembers on how to survive a ditching at sea and the proper use of emergency survival equipment. All Flight and Air Crewmembers shall complete an AOC approved course in water survival training for qualification on AOC aircraft as soon as practicable during the first year of an aviation assignment. The course

should include, at a minimum, classroom instruction covering: swim techniques, drown-proofing, utilization of standard survival equipment (including life preservers, rafts, flares, signal mirrors, dye markers, and survival radios), rescue devices, and basic instruction on how to survive a ditching at sea.

This qualification shall be good for five years.

L. ARCTIC SURVIVAL TRAINING REQUIREMENTS

All Light Aircraft and Rotary Wing Aircraft Flight Crewmembers involved in flights into or within arctic areas shall attend and successfully complete an arctic survival course as soon as practicable during the first year of such assignment. The course in arctic survival shall be completed at an AOC approved military or civilian facility.

This school is an initial requirement only. No recurrence is required, however, Flight Crewmembers may request additional training.

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CHAPTER VIII AEROMEDICAL POLICY

1. PHYSICAL REQUIREMENTS

A. GENERAL

The Office of NOAA Corps Operations (NC) has the responsibility to provide operational medical support, to safeguard the health of personnel embarked on NOAA aircraft, to provide a place of employment that is free from recognized hazards that are causing or likely to cause death or serious harm to employees (29 CFR 1903.1), and to ensure the accomplishment of its mission by reducing medically related disruptions of operations to a minimum.

B. RESPONSIBILITIES

The Director, NC (with advice from the NC health staff), and the Director, AOC, establish the physical standards for personnel aboard NOAA aircraft. The Director, NC, shall ensure that these standards comply with the policies of NOAA, the Office of Personnel Management (OPM), the U.S. Coast Guard (USCG), the Federal Aviation Administration (FAA), and other appropriate Federal agencies.

NC shall ensure that AOC conducts medical examinations and tests to determine the initial and continuing fitness for duty of all AOC personnel assigned to aviation duty.

The AOC medical staff shall monitor physical examinations and tests as may be necessary to ensure the health of aviation personnel who are exposed to chemical, physical, or biological agents that could adversely affect their health, or who perform duties such that physical impairment would affect performance of duty or present undue risk directly or indirectly to the employee or to other embarked employees.

C. PHYSICAL EXAMINATION STANDARDS AND REQUIREMENTS

The standards for Government Service and Wage Grade employees will, generally, be similar to those for licensing or certification of airmen by the FAA, but may require modification to reflect operational requirements peculiar to NOAA, such as service in isolated areas, severe climatic conditions, specific hazards peculiar to operation of research aircraft, and lack of access to supporting medical facilities.

Commissioned Officer standards and physical examination requirements are established by the Director, NC. Standards for Commissioned Officer aviation personnel are contained in the NOAA Corps Regulations and the USCG Medical Manual.

Air Crewmembers must satisfy certain other requirements presented in this chapter before embarkation.

Physical examinations shall be performed by a currently certified FAA examiner or a Uniformed Service flight surgeon.

D. FLIGHT CREWMEMBER CERTIFICATION

All Flight Crewmembers who are required to maintain FAA certification will comply with the minimum medical standard of medical fitness required to maintain the respective certificate. Aircraft Commanders on heavy aircraft are required to possess a valid Class I FAA medical certificate. All other Flight Crewmembers are required to possess a valid Class 2 FAA medical certificate.

E. AIR CREWMEMBER CERTIFICATION

Individuals possessing a valid Class 3 FAA medical certificate are deemed to have met the NOAA medical standards for aviation duty as Air Crewmembers for the time period that the certificate is in effect, provided no disqualifying change in medical condition occurs.

Air Crewmembers not possessing a valid Class 3 FAA medical certificate shall comply with the following requirements:

(1). Vision and Eyes

(a). Distant visual acuity of 20/50 or better in each eye separately, without correction; or at least 20/50 in each eye separately corrected to 20/30 or better with corrective lenses (contact lenses or glasses), in which case the applicant will be qualified only on the condition that he wear those corrective lenses while in the performance of duties involving aerial flight.

(b). No pathology of the eye.

(c). Ability to distinguish aviation signal red, aviation signal green, and white.

(2). Ear, Nose, Mouth, Throat, and Equilibrium

(a). Personnel must demonstrate a threshold of hearing in each ear consistent with the following American National Standards Institute (ANSI) 1969 standards:

500Hz	1000Hz	2000Hz	3000Hz	4000Hz	5000Hz
30db	30db	30db	50db	50db	50db

(b). No acute or chronic disease of the internal ear.

(c). No disease or malformation of the nose or throat that might interfere with or be aggravated by flying.

(d). No disturbance in equilibrium.

(3). Mental

(a). There shall be no established medical history or clinical diagnosis of the following:

[1]. Personality disorder that is severe enough to have repeatedly manifested itself by overt acts.

[2]. Psychosis.

[3]. Alcoholism unless there is established evidence, satisfactory to the examiner, of recovery, including sustained abstinence from alcohol for not less than the preceding 2 years. As used in this section, alcoholism means a condition in which a person's intake of alcohol is great enough to damage physical health or social functioning, or when alcohol has become a prerequisite to normal functioning.

[4]. Acute or chronic medication requirements of a nature that the medication taken results in an alteration of perception, judgment, or behavior.

[5]. Drug dependence. As used in this section, drug dependence means a condition in which the person is addicted to drugs or dependent on drugs other than alcohol, tobacco, or ordinary caffeine containing beverages as evidenced by a habitual or clear sense of need for the drugs.

(b). There shall be no other personality disorder, neurosis, or mental condition that the examiner finds that:

[1]. Makes the applicant unable to perform duties involving aerial flight.

[2]. May reasonably be expected within 2 years after the finding, to make the applicant unable to perform those duties, and the findings are based on case history, and appropriate, qualified, medical judgment relating to the condition involved.

(4). Neurologic

(a). There shall be no established medical history or clinical diagnosis of the following:

[1]. Epilepsy

[2]. A disturbance of consciousness without a satisfactory medical explanation of the cause.

(b). There shall be no other convulsive disorder, disturbance of consciousness that the examiner finds that:

[1]. Makes the individual unable to perform the duties involving aerial flight.

[2]. May reasonably be expected within 2 years after the finding, to make the applicant unable to perform those duties, and the findings are based on case history, and appropriate qualified, medical judgment relating to the condition involved.

(5). Cardiovascular

(a). There shall be no established medical history or clinical diagnosis of the following:

[1]. Myocardial infarction.

[2]. Angina pectoris.

[3]. Coronary artery disease that has required treatment, or if untreated, that has become symptomatic or clinically significant.

(6). General Medical Condition

(a). There shall be no organic, functional or structural disease, defect, or limitation that the examiner finds that:

[1]. Makes the individual unable to safely perform the duties involving aerial flight.

[2]. May reasonably be expected within 2 years after the finding, to make the applicant unable to perform those duties, and the findings are based on the case history, and appropriate, qualified medical judgment relating to the condition involved.

F. MISSION CREWMEMBER CERTIFICATION

Mission Crewmembers who fly aboard NOAA aircraft shall read and sign the AOC crewmember/passenger guidelines and information document, and return the completed sign-off sheet to the Mission Commander prior to the first departure. Individuals

performing mission duties on NOAA aircraft shall inform the Aircraft Commander of any significant medical problems prior to departure.

2. PHYSICAL DEFECTS AND WAIVERS

A. GENERAL

The term "physical defects" is intended to include all defects, disorders, disabilities, or conditions that may be of significance in determining an examinee's physical, mental, or emotional fitness to perform the duties of the specific position required in the ordinary course of events or that might reasonably be expected in emergency situations. Unless otherwise specified, the terms "physical defect" and "physically fit" include mental and emotional factors.

B. CATEGORIES OF PHYSICAL DEFECTS AND WAIVER REQUIREMENTS

When applicants or employees are found physically fit for employment or duty, all physical defects that have been found shall be recorded. Each defect shall be recorded in sufficient detail to show clearly its character, degree, and category, so the description may serve as a baseline against which subsequent suspected changes may be assessed.

When examinees are considered not fit for employment or duty, the defects should be described in context with duties to assist nonmedical personnel in understanding why they are considered disqualifying. The reasons for the decision should be recorded so as to support the finding in the event of review by appropriate authority. Symptoms should not be listed as defects.

Employees shall notify their immediate supervisor of any change in physical condition that may affect or limit continued performance of duties involving aerial flight. The immediate supervisor will arrange for examination or consultation with medical authority for disposition of any condition.

The following are categories of physical defects and waivers:

(1). Category I - Physical Defect (Waiver not required)

When the defect is considered unlikely to interfere with performance of duties of the specific position and, therefore, not disqualifying, it should be recorded and described on the report of medical examination, SF-88, or other appropriate form, together with a notation such as: Category I, not considered disqualifying.

(2). Category II - Physical Defect (Waiver recommended)

When the defect would not preclude satisfactory performance of the duties of a specific position, a waiver should be recommended.

(3). Category III - Physical Defect (Waiver not recommended)

When the defect would preclude satisfactory performance of the duties of a specific position, or would cause unacceptable risk to the life, health, or safety of the examinee or other persons, or would be likely to jeopardize the mission of the organization to which the examinee is or would be assigned, the examinee should be considered unfit for flight duty, and an entry should be made on the form used to record the examination (or other appropriate form) that the defect is considered disqualifying and that a waiver is not recommended.

(4). Category IV - Physical Defect (Conditional waiver involving restrictions)

When the defect would not preclude performance of duties of the specific position only under certain specified conditions, a conditional waiver should be recommended, such as recommending that a waiver be granted for defective vision on condition that the examinee wear appropriate corrective lenses while on duty.

(5). Category V - Physical Defect (Considered fit for modified duty pending correction)

When the defect would interfere with performance of duties of a position but is of a temporary or correctable nature, the review officer should consult with the Director, AOC. The Director, AOC will then decide whether to hire the applicant or continue the employee in a modified flight-duty status pending improvement or correction of the defect. The reviewer should advise the command concerning the

anticipated duration of modified duty status, of a specified period of time, or following action to correct the defect.

(6). Category VI - Physical Defect (Defect considered temporary or correctable)

Considered unfit for flight duty in the specific position pending improvement or correction. When the examinee is unfit for flight duty in the specific position pending improvement or correction, the Director, AOC must be notified that the examinee is considered unfit for flight duty, but that the disqualifying defect is considered to be temporary or correctable. With the concurrence of the Director, AOC, the decision as to physical fitness may be held in abeyance and arrangements may be made for the examinee to return for reevaluation either at a specified time or following action taken to correct the defect.

C. PROCEDURES FOR RECOMMENDING WAIVERS

A request for waiver of physical disability may be initiated by the examinee, the examinee's supervisor or potential supervisor, the Aircraft Commander, the Director AOC, or the flight surgeon. The request must be submitted by memorandum to the Director, NC, via the employee's supervisor and the Director, AOC. The Director, AOC should provide a recommendation. **The Director, NC shall grant or deny the waiver**. Waivers shall be granted in increments of 1 year, or for a shorter period, as recommended by the examiner, and approved or extended by the Director, NC.

D. REASONABLE ACCOMMODATION

In all waiver review processes and decisions regarding qualified handicapped employees or applicants, the employer will examine options for reasonable accommodation, in accordance with the Rehabilitation Act of 1973, as amended (Public Law 93-112, 29 CFR 1613.704).

The Director, AOC is responsible for examining options for reasonable accommodation, determining if reasonable accommodation is possible, and making Permanently Not Fit For Duty/Not Fit For Duty (PNFFD/NFFD) determinations. Applicants or employees may appeal determinations on reasonable accommodation or PNFFD/NFFD to the Director, NC in the same manner as in the waiver process.

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3. HEALTH AND SAFETY

A. HEALTH SERVICES STAFF

The NOAA Health Services Staff is composed of USPHS officers on assignment to NOAA and designated NOAA Corps officers or civilian personnel assigned by the Director, NC. Medical duties of health services staff personnel are described in billet and position descriptions or in additional duty memoranda. AOC personnel, when serving in health services-related collateral duties, are considered health services staff.

The Director of Health Services is a USPHS medical doctor assigned to NOAA, and is responsible for development and implementation of the AOC health care program. As such, he is the principal medical advisor to the Director, AOC, and reports to the Director. This individual serves on the AOC Mishap Board and the NOAA Aviation Advisory Board.

The AOC Safety Staff shall provide for all health and safety related inspections of NOAA aircraft and ground servicing areas.

B. OCCUPATIONAL HEALTH AND PREVENTIVE MEDICINE

AOC personnel shall ensure that standards of sanitation, industrial hygiene, radiation health, and environmental protection aboard NOAA aircraft and in NOAA-controlled ground servicing areas are maintained in accordance with AOC guidelines and directives, as set forth by the AOC Safety and NOAA Health Services staff. Additionally, crewmembers shall be alert for any threat of disease or potential health hazard which may affect embarked personnel. Information of such possibilities shall be passed to the NOAA Director of Health Services who shall provide appropriate medical advice regarding disease and injury prevention.

C. MEDICAL TREATMENT

The Director, AOC, Division Chiefs, Project Managers and Aircraft Commanders shall provide for necessary care and treatment of all personnel embarked aboard NOAA aircraft. Mission Commanders shall be responsible for consulting with the NOAA

Medical Staff and other appropriate services to obtain the necessary care and treatment for personnel at deployment sites.

D. USE OF MEDICAL CARE FACILITIES

Commissioned Officers requiring treatment shall be referred to a Military Treatment Facility (MTF) or a Uniformed Services Treatment Facility (USTF) whenever practical. Where this is not practical, and for civilian employees and embarked persons, referral may be made to any appropriate medical/dental facility.

E. PAYMENT FOR MEDICAL CARE

Payment for care of Commissioned Officers will be made by USPHS, but the PHS Beneficiary Medical Program office must be notified within 72 hours of emergency care (800-368-2777 or 301-443-1943 in Alaska, Hawaii, and Maryland). Payment for care of civilian personnel shall be through their personal medical insurance program or in accordance with OPM and OWCP regulations, as appropriate.

F. MEDICAL RECORDS

All medical records and memoranda, letters, etc., related to personal medical matters contain confidential information and, as such, are regulated by the Privacy Act. Such information shall not be divulged to anyone without the written consent of the individual. The only exceptions to this rule are the NOAA Health Services staff, consulting/referring providers, the Director and Deputy Director, AOC and the Director, NC. Fitness or non-fitness for duty and projected date of return to duty may be given to appropriate line supervisors, but without other identifying medical information.

G. POINT OF CONTACT

The first point of contact for medical or health issues is the NOAA Medical Staff. If he is unavailable for any reason, another USPHS medical officer assigned to NOAA may be consulted. There is one USPHS medical officer based at each of NOAA's Marine Centers. In the event no NOAA/USPHS Flight Surgeon is available, an appropriate FAA medical examiner, DOD flight surgeon, or USCG/USPHS shall be consulted. In remote or foreign areas where none of the above contacts are possible, the supervisor

shall consult the best available source of medical expertise and advise the NOAA Medical USPHS Medical Officer when able. Points of contact for various services are listed below.

NOAA USPHS HEALTH SERVICES OFFICERS

CDR Bruce W. Topey, (813) 828-3310 ext. 3102, Tampa, FL (PRIMARY CONTACT)

CAPT Michael Vitch, (301) 713-3440 ext186,m Silver Spring, MD (SECONDARY CONTACT)

REGIONAL FAA FLIGHT SURGEONS

FAA/Alaskan Region AAL-300 (AK)
COMM: (907) 271-5431
COMM: (907) 271-5435
222 West 7th Avenue
Anchorage, AK 99513

FAA/Central Region ACE-300 (KS, MO, NE, IA)
COMM: (816) 426-5096
COMM: (816) 426-5097
Federal Building
601 East 12th Street
Kansas City, MO 64106

FAA/Eastern Region AEA-300 (NY, PA, VA, WV, MD, DE, NJ, DC)
COMM: (718) 917-1152
COMM: (718) 917-1994
Federal Building
JFK International Airport
Jamaica, NY 11430

FAA/Great Lakes Region AGL-300 (ND, SD, MN, WI, MI, IL, IN, OH)
COMM: (312) 694-7491
COMM: (312) 694-7712

2300 East Devon Avenue
Des Plaines, IL 60018

FAA/New England Region ANE-300 (ME, VT, NH, MA, RI, CT)
COMM: (617) 270-2421
COMM: (617) 273-7282
12 New England Executive Park
Burlington, MA 01803

FAA/Northwest Mountain Region ANM-300 (WA, OR, ID, MT, WY, UT, CO)
COMM: (206) 392-2304
17900 Pacific Highway, South
Seattle, WA 98168

FAA/Southern Region ASO-300 (NC, SC, GA, FL, KY, TN, AL, MS, PR)
COMM: (404) 763-7251
COMM: (404) 763-7335
3400 Norman Berry Drive
East Point, GA 30344

FAA/Southwest Region ASW-300 (TX, OK, LA, NM, AR)
COMM: (817) 624-5300
COMM: (817) 624-5314
4400 Blue Mound Road
Ft Worth, TX 76193

FAA/Western-Pacific Region AWP-300 (CA, NV, AZ, HI)
COMM: (213) 297-1300
COMM: (213) 297-1301
15000 Aviation Boulevard
Hawthorne, CA 9026
FAA Medical Certificate

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CHAPTER IX EMERGENCY PROCEDURES

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CHAPTER IX EMERGENCY PROCEDURES

1. GENERAL

A. RESPONSIBILITY

When an Aircraft Commander experiences an in-flight difficulty or emergency, or believes a situation exists that will create an emergency, he must take action to ensure the safety of flight. The Aircraft Commander is encouraged to use all personnel on the aircraft in a judicious manner to assist in responding to the emergency. The proper operating and emergency procedures for each aircraft are contained in the applicable Aircraft Flight Manuals. The Aircraft Commander may deviate from approved procedures when a greater emergency would result from following approved procedures.

B. EMERGENCY DRILLS

Aircraft Commanders shall hold emergency drills to maintain crew proficiency in emergency procedures. Drills should be realistic and participation by all crewmembers is mandatory. Ditching drills shall be conducted while airborne to train all personnel in donning their survival equipment expeditiously. Drills shall be held at times which will not interfere with the conduct of the assigned mission. Emergency drills shall be logged in the remarks section of the AOC daily flight log.

2. IN-FLIGHT EMERGENCY PROCEDURES

A.. EMERGENCY COMMUNICATIONS

As soon as practicable after completing the aircraft emergency action checklist, the Aircraft Commander shall furnish the controlling agency with a description and assessment of the difficulty, assistance required, intentions, and any information on other causes which may endanger the mission. Time permitting, the Aircraft Commander should request that this information be relayed to AOC.

If the primary radio is VHF, the UHF radio (if installed) shall be tuned to 243.0 MHZ. The secondary VHF radio shall be tuned to 121.5 MHZ. The HF radio (if installed) shall be tuned to 2182 kHz unless communications have already been established on another frequency.

(1). Urgency phase

The Aircraft Commander experiencing an in-flight difficulty requiring timely but not immediate assistance, not an emergency, shall transmit a message prefaced with "PAN-PAN-PAN".

NOTE

An urgency condition exists anytime the Pilot becomes doubtful about position, fuel endurance, weather, or any other condition that could adversely affect flight safety.

(2). Distress phase

The Aircraft Commander encountering an in-flight condition that poses serious and imminent danger to the aircraft requiring immediate assistance shall transmit a message prefaced with "MAYDAY-MAYDAY-MAYDAY". Controlling agencies and search and rescue forces are required to provide every assistance possible, including intercept and escort, during this phase.

The transponder shall be set to squawk Mode 3/A, Code 7700 and Mode C altitude reporting.

(3). Turnaround procedures

When a turnaround becomes necessary in order to return to base or proceed to landing due to an emergency, the Aircraft Commander shall maintain VFR if possible, reverse course, and request ATC clearance. If unable to maintain VFR and an amended ATC clearance has not been received to reverse course, climb, if possible, for improved communications and radar detection, and reverse course if necessary. The Aircraft Commander must not execute an unauthorized climb or descent under IFR conditions within controlled airspace, except when compelled to do so in the event of an emergency.

(4). Termination of emergency

Upon termination of the emergency or when the condition of the aircraft improves so no further special assistance is required, the Aircraft Commander shall notify the appropriate controlling agencies.

B. ENGINE INOPERATIVE, HEAVY TURBOPROP AIRCRAFT

(1). Single Engine Failure

In the event of a single engine failure, or whenever not more than one engine is stopped as a precaution on a four-engine aircraft, the Aircraft Commander may proceed to a destination that he selects if he determines that proceeding to that destination is as safe as landing at the nearest suitable airport. In making this decision, the Aircraft Commander shall consider the following:

(a). The nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued.

(b). The altitude, weight, and useable fuel at the time of engine stoppage.

(c). The terrain and weather conditions en route and suitable landing points.

(d). Possible air traffic congestion at suitable landing points.

(e). Pilot familiarity with the airport to be used.

(f). Availability of adequate repair facilities.

(g). Availability of adequate emergency equipment.

(2). Dual Engine Failure

In the event that two engines fail or are shut down as a precaution, the Aircraft Commander shall land at the nearest suitable airport, in point of time, at which a safe landing can be made.

C. ENGINE INOPERATIVE, TWIN-ENGINE AIRCRAFT

Whenever an engine of a twin-engine aircraft fails or whenever the rotation of an engine is stopped as a precaution, the Aircraft Commander shall land the aircraft at the nearest suitable airport, in point of time, at which a safe landing can be made.

D. FAILURE TO LAND AT NEAREST SUITABLE AIRPORT

If the Aircraft Commander lands at an airfield other than the nearest suitable airfield, in point of time, he shall report to the Director, AOC, stating his reasons for determining that his selection of an airfield other than the nearest airfield was as safe a course of action as landing at the nearest suitable airfield.

E. DITCHING

When an aircraft must be crash landed on either land or water, the sudden shifting of cargo, equipment, and other heavy items may cause injury or loss of life. All personnel shall arrange and secure this equipment in their aircraft to guard against such dangers. Emergency gear such as life rafts should be placed for ready access. The responsibility for proper security of cargo and equipment lies with the Aircraft Commander of each aircraft. The responsibility for proper storage of personal and mission essential equipment or tools lies with the Flight Director on Heavy Aircraft.

It is essential that each crewmember be thoroughly familiar with the ditching procedures, his duties, and the duties of all other crewmembers, so that in case of injury to one member, his duties may be assigned to or assumed by another. Responsibility for each piece of equipment to be removed from the aircraft is assigned to the specific crew position.

NOTE

In the event of an emergency situation or drill, each person is responsible for carrying out the duties of his assigned ditching station. In the event of an immediate ditching, each person shall take the nearest ditching station and perform the duties assigned during the pre-takeoff brief for that duty station.

(1). Ditching Procedures

Ditching procedures shall be prominently displayed in all appropriate AOC aircraft. Ditching signals shall be accompanied by simultaneous announcements on the intercommunication or public address system whenever practicable.

(2). Ditching Checklist

Ditching checklists shall be used and the applicable Aircraft Flight Manual emergency procedures followed.

NOAA aircraft that do not have an established and approved ditching procedure shall be operated in accordance with the following checklist in the event of a ditch:

1-announce intention to ditch and time to impact	complete
2-ELT	as required
3-transponder	7700
4-MAYDAY report	complete
5-pressurization	dump
6-life vests	don
7-seat belts/shoulder harness	fastened
8-baro/radar altimeter	set
9-ditch heading	parallel swells
10-ditch speed/descent rate	checked
11-flaps	as required
12-landing gear	up

Ditch speed should be determined using the following criteria: 1.3-1.35 Vso for the approach then slow to 1.15 Vso for the touch down. Rate of descent should be no more than 100'/min for the touch down. Multi-engine aircraft should be cautious of flap settings when asymmetrical thrust is a factor.

F. HIJACKING

Hijackings are delicate situations where the actions of the crew must be carefully executed in a manner that does not further jeopardize crewmember or aircraft safety.

Safety of flight is essential. The demands of the hijacker shall be complied with and no attempt to capture or disarm the hijacker should be made by a crewmember unless in the Aircraft Commander's opinion it can be accomplished without endangering other persons.

It is impossible to specify in detail the conduct and procedures for a crew which is being hijacked; their best judgement must prevail. It is suggested, however, that a landing be made as soon as practicable at a suitable airport. The first consideration is for the safety of passengers, crew and aircraft. Pilot personnel should remain familiar with existing procedures so that proper precautionary and corrective measures can be taken as soon as possible.

Experience shows that hijackers normally allow pilots to advise that they are being hijacked, especially as fueling stops become necessary. However, if a situation should arise where pilots must advise ground stations of the predicament without being allowed to state that they are being hijacked, the FAA has designated the word "Trip" as the official hijacking code word. The word "Trip" can be used in any manner the pilot desires. The word "Trip" should be used when in radio contact with any FAA air traffic control facility. The trip number used should correspond to the N number of the aircraft.

Hijacking threats may be received by other than Flight Crewmembers and must be evaluated by responsible personnel. The Aircraft Commander must be notified, then will be instructed and guided further by ATC (if in flight), or by the FBI (if on the ground).

(1). FAA standard hijacking signals.

Pilot Signals	Pilot Message
Set transponder to Mode 3/A Code 7500, or orally transmit (Call Sign), "N (Trip Number) Transponder "Seven Five Zero Zero".	Am being hijacked/subjected to interference (when unable to change transponder or when not under radar service).
Transponder Code 7500 followed by Code 7700 (or transmit orally).	Situation grave; imminent danger anticipated; require immediate assistance.
Leave full flaps down after landing, or lower full flaps while on the ground.	Situation still grave. Want armed intervention and aircraft immobilized.
Retract flaps after landing.	Leave alone - do not intervene.

(2). Use of transponder codes.

Controllers shall acknowledge receipt of Code 7500 (or Code 7700) by transmitting the following:"(Call Sign), this is (Name of Facility). Verifying squawking 7500. Is this intentional? An affirmative reply from the pilot indicates confirmation and proper authorities will be notified.

Pilots who decide to change from Code 7500 to Code 7700 should remain on Code 7500 until three minutes have elapsed, or until an acknowledgment of Code 7500 has been received from the controller (as above), whichever is sooner.

Pilots who retract flaps after having squawked Code 7700 should return to Code 7500 and remain on Code 7500 for the next leg of the hijacked flight, unless the situation changes, or orally transmit "Seven Five Zero Zero".

Aircraft squawking Code 7700 and not in radio contact with the ground will be considered by ATC to have an inflight emergency (in addition to hijacking), and the emergency procedures in appropriate ATC Handbooks will be followed.

Transponder Code 7500 is assigned for the specific purpose of alerting ATC facilities that the aircraft is being hijacked.

Whenever a normally assigned beacon code disappears, radar controllers shall check for the hijack code responses. Should the aircraft be on the hijack code, control personnel shall not question the pilot, but be responsive to his requests.

The aircraft shall be flight followed with normal hand-off procedures used. The receiving facility shall be advised of the actions that have been taken to safeguard the hijacked aircraft; e.g., escort aircraft, search-and-rescue facilities, etc.

If aircraft are dispatched to intercept and escort the hijacked aircraft, all possible assistance should be provided the intercepting aircraft to aid in placing them in a position behind the hijacked aircraft.

An aircraft operating VFR observed on the hijack code shall be afforded the same control service prescribed above to the extent possible.

(3). Considerations during a hijacking.

All crewmembers should understand the entire situation with which they are confronted. There should be as much coordination among crewmembers as the situation permits.

Each crewmember should see that information that could affect the security of safety of the flight is brought to the attention of the Aircraft Commander.

The actions of the crew in coping with an act of aerial piracy is determined largely by the degree of risk or potential risk created by the hijacker.

Every effort should be made to keep the pirate out of the cockpit. This not only reduces the immediate danger to the crew, but also permits fuller communications with the ground stations.

An attempt should be made to confirm the pirate's resources. He may have bogus weapons or explosives, or he may be heavily armed with real weapons.

As much information as possible, including pertinent conversation, should be transmitted to the ground stations. These stations have been advised to limit response to such transmissions as much as possible. From this information and information from other sources, national security agents can evaluate the threats.

Each Flight Crewmember is urged to be cautious but to make every reasonable attempt to thwart the act of aerial piracy by taking advantage of opportunities as they are presented. Any possible action should be considered in light of everyone's overall exposure to danger.

(4). Volatile fuels in passenger cabin.

Air carrier hijackers have involved the use of containers filled with volatile mixtures such as gasoline. There exists a threat of a flash ignition and explosion of a gasoline vapor/air mixture causing possible structural or system failure, as well as personnel casualties. In order to reduce or eliminate the threat of such as occurrence, the following emergency procedures should be adhered to:

(a). Keep the cockpit door/curtain closed to provide some protection to the cockpit from the effects of a flash fire, and to reduce the chance of gasoline vapors getting into the cockpit where many sources of ignition are present.

(b). Institute maximum air flow in the cockpit and cabin to remove as much of the gasoline vapors as possible.

(c). In the event a fire has already started, air flow should be kept to a minimum to starve the fire as much as possible for oxygen.

(d). Lower the aircraft's cabin temperature as much as possible to lessen vapor emissions from the volatile liquid, thus reducing the chance of ignition.

(e). Alert all crewmembers to have fire extinguishers ready so they can combat a fire problem early enough to keep it under control.

G. SABOTAGE OR BOMB THREAT

(1). Situations and procedures

Every sabotage or bomb threat will be treated as though the possibility is real. If the threat is received while on the ground, depart the aircraft as quickly as possible. If taxiing, proceed to the nearest safe area clear of other aircraft or buildings and deplane.

If a sabotage threat is received in flight, the Aircraft Commander shall:

(a). Prepare for landing at the nearest suitable airport. When possible, advise ATC of estimated time of arrival.

(b). Declare an emergency - transponder code 7700. Request emergency equipment at the intended airport to stand by.

(c). Request that ATC notify the FBI and local authorities at the intended airport.

(d). Notify the tower of intentions and request them to keep vehicles away from aircraft doors.

(e). Brief the crewmembers to the effect that "We have received a message that a sabotage threat has been made against one of our aircraft. We intend to take all possible precautions, and therefore, we will be landing at ___ airport in approximately __ minutes. After landing, we will evacuate the aircraft. Please follow the flight crew's instructions".

(f). Brief the passengers on the planned emergency landing.

(g). About 250 feet, make PA: "Please assume the braced position".

(h). After landing, proceed to designated or nearest safe area for evacuation.

If a bomb threat is received in flight, the Aircraft Commander shall:

(a). Prepare for landing at the nearest suitable airport.

(b). Declare an emergency - transponder code 7700.

(c). Notify ATC - "Bomb on board". Request ATC to contact FAA bomb expert.

(d). Brief the passengers.

(e). Seat Belt Signs - ON.

(f). Airspeed - decrease. To lessen stresses on aircraft.

(g). Landing gear - lower. Reduces possibility of damage.

(h). Cabin Pressure Altitude - Maintain at existing cabin altitude. Minimizes possibility of detonating an altitude-sensitive device.

(i). Descend to same altitude as cabin. Maintain cabin altitude while decreasing aircraft altitude to establish zero differential. This will minimize blast effect.

(j). After landing, proceed to designated or nearest area for evacuation.

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CHAPTER X ACCIDENT, INCIDENT PROCEDURE

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CHAPTER X ACCIDENT, INCIDENT PROCEDURE

1. SAFETY AND MISHAPS

A. GENERAL

The highest priority in the operation of AOC aircraft is to operate them safely. Aircraft performance characteristics and human limitations, combined with the many variables and hazards inherent in AOC flight operations, tends to complicate the task of managing aviation resources effectively and efficiently. If hazards are not recognized and either eliminated or mitigated to a satisfactory level, mishap potential will remain high, and the operational effectiveness of the organization will be diminished. A strong program for identifying, reporting, and resolving hazards will enhance the conservation and utilization of manpower, equipment, and funds, through a reduction in mishap potential.

2. HAZARD REPORTS

A. GENERAL

A hazard is a potential cause of damage or injury. The purpose of the Hazard Report is to identify and eliminate (or to reduce to an acceptable level) hazards before they cause mishaps. Hazard detection may be accomplished by analysis of data, observation of near mishaps, safety surveys, and reviews of plans, policies, procedures and instructions. Hazards are most often identified by individuals within each Division who have first-hand knowledge of shop practices and aircraft operations. A part of the hazard detection process is to assess the severity of potential damage and injury and to estimate the probability of occurrence.

B. PURPOSE

A Hazard Report (HAZREP) is initiated to:

(1). Report a hazard and the remedial action taken so that others may take similar action.

(2). Report a hazard and recommend corrective action to be taken by others at AOC.

(3). Report a hazard so that some other organization may determine appropriate corrective action.

C. FORMAT

The Hazard Report should include as much of the following information as is applicable. Form CD351 should be completed and filed as soon as possible.

(1). Initial Statement, "This is an AOC Hazard Report".

(2). Risk Assessment. An analysis of the severity of the damage or injury and its probability of occurrence.

(3). Type of Equipment. The aircraft type and side number, or description of equipment and parts.

(4). Environment. The date, time (day or night), location, weather, altitude, and any other pertinent information.

(5). Hazard Description. Include how the hazard could result in damage or injury.

(6). Corrective Action. What has been done, what should be done by someone else, or who should determine what should be done.

(7). Other comments.

D. DISPOSITION

(1). Hazard Reports for hazards which apply only to the Division writing the report and for which no remedial action from other organizations is required should be filed with the Division Safety Representative.

(2). Hazard Reports for hazards which affect more than one Division or which require remedial action from another Division or organization should be addressed to the AOC Safety Officer.

(3). Hazard Reports for all hazards involving AOC aircraft in flight should be sent by the Aircraft Commander through the Chief, Operations Division to the Director, AOC. A telephone message or telex including all the applicable information in the format shown above is sufficient.

3. MISHAP REPORTS

A. GENERAL

An AOC Mishap Report shall be sent to the Director, AOC, by the most expeditious means. During non-duty hours the report shall first be sent by telephone to the AOC emergency phone number listed in section V-1-F, and then to the AOC Safety Division voice mail. When time permits, the report (CD-137) should be faxed to AOC, attention Director and all Division Chiefs. The intent is to inform as many people as possible at AOC that a mishap has occurred. Leaving a message on either voice or E-mail will not suffice. You should make positive contact with a responsible person who will contact others at AOC. The Division Chief of the person in charge of the deployed aircraft involved in the mishap is responsible for transmission of the AOC Mishap Report to the Director. The Mishap Report is not to be used for reporting hazards, hazard cause factors, or hazard elimination recommendations.

B. PURPOSE

A Mishap Report is initiated to:

(1). Notify the Director, AOC, that a NOAA aircraft has been involved in a mishap.

(2). Activate the Mishap Contingency Plan.

C. CRITERIA

The Mishap Report shall be sent immediately in the event of any of the following situations:

(1). An aircraft mishap. An AOC aircraft mishap is defined as any personal injury or aircraft damage which exceeds $100 in cost to repair or replace.

(2). Flight control system malfunction or failure.

(3). Inability of any required Flight Crewmember to perform normal flight duties as a result of an injury or illness.

(4). Failure of structural components of a turbine engine excluding compressor and turbine blades and vanes.

(5). In-flight fire.

(6). Aircraft in-flight collision.

(7). An overdue aircraft believed to have been involved in a mishap.

(8). A work-related fatality.

(9). An impact of any aircraft or vehicle with any object which is not considered to be part of normal or planned operations. If damage incurred as a result of the impact is considered to be "within limits", the impact is still reportable as a mishap.

(10). Any property damage sustained as a result of NOAA aircraft flight or ground operations.

(11). Any deviation from established AOC policy or procedures.

D. FORMAT

This format must be used. If the information required by this format is not applicable to the mishap, the report must so state. In addition, form CD137, Report of Accident/Illness shall be filed if applicable.

(1). Statement, "This is an AOC Mishap Report".

(2). Summary. Summarize the content of the report in two lines or less including a brief description of the mishap, such as "aircraft collided with ground, fuel truck exploded next to NOAA supply building", etc.

(3). Equipment. List aircraft or vehicle type, registration number, and other equipment involved in mishap.

(4). Pilot In Command for aircraft mishaps, or work supervisor for other mishaps.

(5). Environment.

(a). Date and time of mishap.

(b). Location of the aircraft or other equipment with reference to some easily defined geographical point. If the mishap occurred aboard a ship or on an airfield, provide the name of the ship or airfield and the location on the ship or airfield.

(c). Altitude of the mishap above mean sea level.

(d). Weather at the location and time of mishap.

(6). Circumstances.

(a). Aircraft origin.

(b). Aircraft mission and evolution or activity of organization involved in mishap.

(c). Aircraft destination.

(d). Extent of damage so far as is known.

(e). Number of persons aboard, number killed, and number seriously injured.

(f). List crewmembers by crew position and name, and whether killed, seriously injured, slightly injured, or not injured.

(7). Point of contact. List name and telephone number of individual sending the report.

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CHAPTER XI HAZARDOUS MATERIALS

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CHAPTER XI HAZARDOUS MATERIALS

1. GENERAL

A. DEFINITION

Hazardous Material (HM) means a substance or material which has been determined by the U.S. Secretary or Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated in CFR Title 49 Parts 100-177.

Hazardous Material shall not be carried aboard NOAA aircraft unless there is a mission requirement for it and it is a material accepted and transported in accordance with CFR Title 49 175.10, NC Instruction 6280 B, and NOAA AOC Hazardous Materials Manual Section 11.

B. RESPONSIBILITIES

(1). The Aircraft Commander is responsible for ensuring that no unauthorized HM is aboard the aircraft prior to take off.

(2). The Chief of Resource Management is responsible for insuring that a current copy of CFR Title 49, Parts 100-177 is maintained in AOC supply.

(3). The Safety Officer is responsible for ensuring that each Flight and Air Crewmember completes an annual HM training program.

2. HAZARDOUS MATERIALS CLASSIFICATIONS AND HANDLING

A. HAZARDOUS MATERIALS CLASSIFICATIONS

For the purposes of this manual, Hazardous Materials shall include any item classified as hazardous materials (HM) or hazardous substances, dangerous materials or goods, regulated materials, or restricted articles.

B. HAZARDOUS MATERIAL COMMON ITEMS

Common items which are in the HM category include but are not limited to gasoline, paints, lighter fluid, lighters with flammable liquid reservoirs, fireworks, tear gas/mace, celluloid film, or compressed gas.

C. HAZARDOUS MATERIAL HANDLING

The Aircraft Commander or designated crewmember shall inspect each carton, box, drum, or other container placed aboard the aircraft, and determine the type of material in the container through actual observation of the contents or appropriate shipping or identification documents.

If it is determined to be inappropriate to open a sealed container when doing so is necessary to determine its contents, the Aircraft Commander or designated crewmember shall contact the office of origin of the container and obtain verbal verification of the contents from a manager or other responsible person.

When there is any doubt as to whether a substance or material in a container to be placed on the aircraft is an HM, the material or substance shall be considered an HM and shall not be carried aboard the aircraft.

Crewmembers must be briefed by the Aircraft Commander or designated crewmember concerning the prohibition against the carriage of HM.

3. REQUIRED REPORTS

A. DISCREPANCIES

A discrepancy is an occurrence involving hazardous materials which are improperly described, certified, labeled, marked or packaged including the following:

(1). Baggage, cargo or packages found to contain HM after being accepted as a non-hazardous shipment.

(2). Shipments which contain HM other than described or certified, in quantities exceeding authorization, in unauthorized containers or with improper closures, in inside containers which are not oriented in accordance with outer markings, or with insufficient or improper absorption materials, when required.

Any person who discovers a discrepancy as listed above shall, as soon as practicable, notify the AOC Safety Staff.

B. INCIDENTS

An incident is an event, including accident, discharge, or spillage, which occurs as a direct result of transporting (including loading, unloading or temporarily storing) hazardous materials which:

(1). Results in a death.

(2). Causes injuries requiring hospitalization.

(3). Causes over $50,000 estimated property damage.

(4). Causes an evacuation of the general public lasting one or more hours.

(5). Causes one or more major transportation arteries or facilities to close or shut down for one hour or more.

(6). Requires an aircraft to alter it's operational flight pattern or routine.

(7). Results in fire, spillage or breakage.

(8). Generates suspected contamination from a shipment of radioactive material or etiologic agents.

(9). In the judgement of the person at the scene, a situation of such a nature exists that it should be reported even though it doesn't meet the criteria listed above.

Any person who has knowledge of an incident as listed above shall, as soon as practicable, notify the AOC Safety Staff providing the following information:

(1). Name and telephone number of the person reporting the incident.

(2). Date, time and location of the incident.

(3). The extent of injuries, if any.

(4). The classification, name and quantity of hazardous material involved in the incident, if such information is available.

(5). Type of incident and nature of HM involvement.

(6). Whether or not a continuing danger to life exists at the scene, if such can be reasonably ascertained.

The Safety Staff, when notified, makes additional reports to the FAA, NTSB, Department of Commerce, and other agencies as required.

4. HAZARDOUS MATERIALS LABELS AND PLACARDS

A. GENERAL

Hazardous materials markings, labels, placards and shipping papers serve to communicate the hazards posed by materials in transportation. Hazard communication is the key to effective emergency response, and is also used to alert transportation workers and the general public to the presence of hazardous materials, insure that non-compatible materials are not loaded together in the same transportation vehicle, and provide the necessary information for reporting hazardous materials incidents.

Marking regulations (49 CFR section 172.300) require information specific to the hazardous material to be marked on the outside of the package. Examples of the information required to be marked on the package are the proper shipping name, identification number and consigner’s name.

The labeling of a package of hazardous material is specific to the hazard class of the material. The hazardous material tables identify the proper label(s) for the materials listed.

B. IDENTIFICATION OF HAZARDOUS MATERIALS

CFR Title 49, parts 100-177 govern identification of hazardous materials. There are 8 classes of hazardous materials that require placarding. Examples of placard requirements are found in the color chart included at the end of this chapter. Components of each class are:

(1).	Class 1	Class A explosives, Class B explosives, blasting agents
(2).	Class 2	Poison gas, flammable gas, nonflammable gas, oxygen, chlorine gas
(3).	Class 3	Flammable liquids, combustible liquids
(4).	Class 4	Flammable solids, spontaneously combustible solids
(5).	Class 5	Oxidizers, organic peroxides
(6).	Class 6	Poisonous materials
(7).	Class 7	Radioactive materials
(8).	Class 8	Corrosives
	DANGEROUS	Other materials or a combination of two or more of the above

C. INFORMATION SOURCES

The supplier of the hazardous material is required to provide a Material safety Data Sheet (MSDS) with each hazardous item offered. Consult the MSDS for information concerning DOT class and labeling requirements. A phone number is included with each MSDS to provide additional information.

CHAPTER XI HAZARDOUS MATERIALS

AOC's primary source for HAZMAT labeling and handling requirements is Supply at phone number 813-828-3310 ext. 3084/3085. AOC Supply is the custodian of the applicable regulations including lists and tables covering transportation of HAZMAT.

Outside normal duty hours, information can be obtained from the MacDill AFB fire dispatch office at 813-828-3630. The Fire Department and the hazmat response team maintain a comprehensive guide to hazardous materials including spill response.

NOAA Hazmat in Seattle, 206-525-6317, can provide information including emergency spill response information on hazardous materials and waste.

Chemtrec, 800-494-9300, is an association of chemical manufacturing companies that provides technical information relative to the evaluation and analysis of approximately 18,000 chemicals, substance, and other trade products (including possible effects on the environment and suggested methods of control and/or containment in the event of an accident). Chemtrec also maintains a directory of experts and industry cooperatives that can be contacted to provide additional advice. Calls to Chemtrec should be limited to emergencies.

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HAZARDOUS MATERIALS WARNING LABEL AND PLACARD HERE

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