



مكاملة  
Mukamalah

# OPERATIONS MANUAL - PART A (OMA)

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## 0. INTRODUCTION

### 0.1 PREFACE

This Manual is intended to ensure on-going effectiveness in achieving desired operational outcomes and ensure continuous improvement of processes and procedures. It also reflects management's commitment to quality, security, and safety as a fundamental guiding principle. The manual emphasizes the organization's commitment to a just culture, where human error is not punished, and communication channels are open to allow information to flow freely across the organization.



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## 0.2 MANAGEMENT APPROVAL

1. This manual is a part of the Company manual system and shall comply with provisions established in the Corporate Policy Manual, as applicable, for content, policy, writing standards and formatting.
2. Manual Owner: Director of Operations
3. Responsibility: Manual content and implementation.

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Prepared by:		Date:	
Title:			
Signature:			

Reviewed by:		Date:	
Title:			
Signature:			

Approved by:		Date:	
Title:			
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## 0.3 GACA APPROVAL

*GACA eBook Vol.4*

1. This official Mukamalah Aviation manual complies with stringent General Authority of Civil Aviation Regulations (GACAR). The General Authority solely approves its use within Mukamalah.
4. Should any discrepancies arise between this manual and GACAR requirements, prioritize the latter. In such cases, we will promptly update this manual, adhering to GACA eBook Vol.4, Ch.12, Sec. 4.
5. This manual's content is accurate as of Revision 0 of the List of Effective Pages (LEP), dated February 20, 2024.
6. This manual becomes “uncontrolled” when printed.



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## 0.5 DOCUMENT STRUCTURE AND HIERARCHY

### 0.5.1 Publications Hierarchy

All Mukamalah Aviation manuals fall in the documentation hierarchy below:

1. Level 1: Corporate and governance level policy documents.
2. Level 2: Division/department level policy, process, and procedure documents.
3. Level 3: Instructions, checklists, and forms.

Manuals at the top of the hierarchy set parameters that lower-level manuals must comply with.

The following flowchart sets out the types of information, their level in the documentation hierarchy.



*Figure 1 – MAC Publication Hierarchy*

### 0.5.2 Manual Owner

Refer to CPM section 2.4.6.1.1

### 0.5.3 Document Format and Style Guide

Refer to CPM section 2.6.2



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## 0.6 REVISION CONTROL

### 0.6.1 System of Amendment

Refer to CPM section 2.4.6.1.1

### 0.6.2 Revision Highlights

This table summarizes the major changes that are made to each revision and not all changes. Throughout each review cycle, subsequent entries may change, prior entries or proposed changes may be held, disregarded and/or made obsolete. This is a summary of input received throughout the duration. Changes throughout the manual are indicated by vertical revision bars.

*Note: The vertical bar (change bar) in the margin indicates a change, addition, or deletion in the adjacent text for the current revision of that page only.*

Issue	Rev	Rev Date	Summary Of Change (S)	Received Via
01	00	XX FEB. 2024	N/A – Initial Release	NA



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Sign & date:	
Stamp:	



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Doc Holder / Location	Type Of Format	Copy Number
Master Copy		
Director of Flight Operations		
Chief Pilot		

### *Note:*

#### *Electronic Notification to Staff:*

*Digital versions of all current Company and Technical documentation are published in DMS for easy access to employees.*

#### *Printed Copies:*

*Any printed copies of this document are uncontrolled documents and are to be marked "Uncontrolled When Printed". The only exception to this is for the Controlled, printed copies of this document that have been distributed in detail.*



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## 0.9 ABBREVIATIONS, ACRONYMS & DEFINITIONS

### 0.9.1 Abbreviations and Acronyms

A	
AMA	Area minimum altitude
AOSP	Airline Operator Security Program
ARP	Aerodrome Reference Point
B	
C	
CQMS	Corporate Quality Management System
CSMM	Corporate Safety Management Manual
D	
DGRM	Dangerous Goods Manual
E	
F	
G	
GSA	Ground Security Agency
H	



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HRSMS	High Risk Security Measures
	I
IMC	Instrument Meteorological Conditions
	J
	K
	L
	M
MORA	Minimum Off Route Altitude
MEA	Minimum Enroute Altitude
MOCA	Minimum Obstacle Clearance Altitude
MSA	Minimum Sector Altitude
	N
OCA	Obstacle Clearance Altitude
	O
	P



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	Q
	R
RTF	Radio Telephony
	S
	T
TSA	Transportation Safety Agency
	U
	V
	W
	X
	Y



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## 0.9.2 Definitions

A	
Area minimum altitude (AMA)	See also Minimum Off Route Altitude
C	
Consignment	One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.
D	
Dangerous goods	Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.
Dangerous goods accident	An occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.
Dangerous goods incident	An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft or its occupants is also deemed to constitute a dangerous goods incident.
E	
Exception	A provision in the section that excludes a specific item of dangerous goods from the requirements normally applicable to that item.
M	
Minimum Off Route Altitude (MORA)	The minimum altitude to be used under Instrument Meteorological Conditions (IMC), that provides a minimum obstacle clearance within a specified area, normally formed by parallels and meridians.
Minimum Enroute Altitude (MEA)	The altitude for an enroute segment that provides adequate reception of relevant navigation facilities and ATS communications, complies with the airspace structure and provides the required obstacle clearance.



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Minimum Obstacle Clearance Altitude (MOCA)	The minimum altitude for a defined segment of flight that provides the required obstacle clearance.
Minimum Sector Altitude (MSA)	The lowest altitude which may be used which will provide a minimum clearance of 300 m (1 000 ft) above all objects located in an area contained within a sector of a circle of 46 km (25 NM) radius centered on a significant point or the Aerodrome Reference Point (ARP).
Obstacle Clearance Altitude (OCA)	The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.
O	
Overpack	An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.
T	
Technical Instructions	The Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), approved and issued periodically in accordance with the procedure established by the ICAO Council.
U	
UN number	The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals to identify an article or substance or a particular group of articles or substances.



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## 0.10 USE OF PROCEDURAL WORDS

Refer to CPM section 2.3



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1.1	Organizational Structure

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## 1. ORGANIZATION AND RESPONSIBILITIES

### 1.1 ORGANIZATIONAL STRUCTURE

#### 1.1.1 Company Organization Structure

#### 1.1.2 Operations Organization Structure

### 1.2 NOMINATED MANAGEMENT PERSONNEL

*GACAR 121.45(f)(2)*

Individuals in management positions must be acceptable to the GACA President based on experience, competence, and knowledge. The competence may administer qualification testing.

#### 1.2.1 List of Nominated Post holders

TBD

#### 1.2.2 Notification of Personnel Changes

*GACAR 121.45(f)(3)*

Mukamalah Aviation shall notify the GACA President within 10 working days of any changes to Post Holder or Nominated Personnel assignments.

#### 1.2.3 Continuity of Supervision in the absence of Nominated Post holder

Nominated personnel and flight operations managers shall appoint deputies to ensure continuity of essential duties during scheduled/unscheduled absences.

The deputy shall assume responsibilities except for financial obligations. The deputization shall be clearly communicated, stating the principal's absence duration.

Out-of-office notifications shall detail the absence period and provide the deputy's contact information for internal and external correspondence.

This procedure ensures uninterrupted operations and continuous regulatory and policy compliance.



# OPERATIONS MANUAL - PART A (OMA)

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1.3	Responsibilities & Duties of Operations Management Personnel

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## 1.3 RESPONSIBILITIES & DUTIES OF OPERATIONS MANAGEMENT PERSONNEL

### 1.3.1 Responsibilities & Duties of Operations Management Personnel - Post Holders

### 1.3.2 Responsibilities & Duties of Operations Management Personnel – Others

### 1.3.3 Responsibilities & Duties of Flight Operations Personnel

## 1.4 AUTHORITY, DUTIES, AND RESPONSIBILITIES OF THE PILOT IN COMMAND

*GACAR 91, 121*

### 1.4.1 Pilot-in-Command (PIC)

#### 1.4.1.1 Duties and Responsibilities

The PIC holds final authority and responsibility for aircraft operation, safety, and security of all crew, passengers, and cargo.

The PIC shares operational control duties per OM-A 2.3.3 with the authorized dispatcher, including planning, load control, delay/diversion management, and flight termination.

The PIC ensures safety/security from takeover until handover to authorized personnel or the next crew. Handover includes briefing on aircraft status, flight issues, and pertinent details. If left unattended, the PIC shall secure the powered-down aircraft.

##### 1.4.1.1.1 General Responsibilities

The PIC shall:

1. Confirm crew qualification and documentation.
2. Exercise final authority for flight safety decisions.
3. Ensure no careless/reckless operation.
4. Ensure adherence to regulations and company policies/procedures.
5. Ensure security per regulations and company procedures.
6. Refuse flight if any crew member is unfit.
7. Refuse inappropriate passengers representing safety risks.
8. Confirm valid navigation database.
9. Confirm the required facilities are adequate for the flight.



# OPERATIONS MANUAL - PART A (OMA)

## 1 ORGANIZATION AND RESPONSIBILITIES

### 1.4 Authority, Duties, and Responsibilities of the Pilot In Command

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10. Execute aircraft security effectively.
11. Supervise crew compliance with standards.
12. Notify authorities of emergency violations as needed.
13. Restrict non-essential duties during critical phases.
14. Enforce rest/duty time limits against fatigue.
15. Keep flight recorders functioning.
16. Protect CVR data after a serious incident/accident.
17. Encourage safety reporting.
18. Contribute expertise to shape company policies.
19. Employ CRM techniques.
20. Exhibit professional conduct and prudent judgement.

#### 1.4.1.1.2 Pre-Flight Responsibilities

The PIC shall:

1. Conduct thorough flight planning and data review.
2. Confirm required facilities are available/adequate.
3. Verify loading, fuel, weight/balance compliance.
4. Ensure limitations can be safely complied with.
5. Review logs to confirm maintenance compliance and airworthiness.
6. Record known/suspected defects in logs.
7. Accept aircraft under MEL/CDL provisions.
8. Preclude flight with unprocessed defects per MEL/CDL.
9. Ensure MEL/CDL operating procedures are followed.
10. Confirm required documents and information onboard.
11. Verify functioning navigation/communication equipment.
12. Manage aeronautical information pertinent to the flight.
13. Conduct pre-flight crew briefings on roles and contingencies.
14. Verify completion of pre-flight inspections.
15. Ensure emergency equipment access.
16. Familiarize with all available flight details and brief crew.
17. Comply with all pertinent laws and regulations.



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1.4	Authority, Duties, and Responsibilities of the Pilot In Command

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## 1.4.1.1.3 Inflight Responsibilities

The PIC shall:

1. Continuously evaluate weather, aircraft performance, navigation.
2. Land at the nearest suitable airport in case of engine shutdown.
3. Ensure all briefings are performed.
4. Enforce sterile flight deck procedures below 20,000 ft.
5. Respond effectively to any emergencies or unusual situations.
6. Communicate/coordinate with ATC and company.
7. Report hazardous conditions to ATS.
8. Maintain accurate logs and records, noting deviations.
9. Ensure sufficient usable fuel for flight planned reserves.
10. Complete all checklists.
11. Maintain contact with cabin crew on issues.
12. Advise OCC of significant deviations.
13. Do not continue past nearest suitable airport if capacities are significantly impaired.
14. Do not continue toward intended landing if the flight cannot land safely.
15. Comply with noise abatement regulations provided safety is maintained.
16. Comply with all limitations.
17. Ensure full crew presence prior to top of descent during augmented operations.
18. Report poor braking action not as reported.

## 1.4.1.1.4 Post-Flight Responsibilities

The PIC shall:

1. Secure aircraft after flight with systems down.
2. Complete all documentation and maintenance debriefs.
3. Log aircraft defects and utilization.
4. Report any irregularities or safety issues.
5. Submit mandatory state/GACA reports as required.
6. Participate in company analysis/investigations as needed.
7. Debrief and gather feedback from crew.



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1.4	Authority, Duties, and Responsibilities of the Pilot In Command

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## 1.4.1.1.5 Emergency Authority

*GACAR 121.1129, 91.3(b)(c)*

1. In an emergency, the PIC may deviate from procedures, minima, or regulations in the interest of safety, keeping ATC informed.
2. The PIC shall submit an ASR within 24 hours of exercising emergency authority.

## 1.4.1.1.6 Continuing Flight in Unsafe Conditions

*GACAR 121.1345, 91.3(d)(3), 91.17:*

1. After dispatch, the PIC shall follow QRH procedures for failures, consulting the MEL.
2. The PIC shall not continue toward any aerodrome if the flight cannot be completed safely.
3. When actual fuel onboard becomes less than required, the PIC shall conserve fuel and continue per inflight fuel management policy.



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1.5	Duties and Responsibilities of Other Crew Members

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## 1.5 DUTIES AND RESPONSIBILITIES OF OTHER CREW MEMBERS

### 1.5.1 First Officer

#### 1.5.1.1 Duties and Responsibilities

The First Officer assists the PIC in safe, efficient flight operations, ensuring compliance with regulations, policies, and safety. They perform PIC-assigned/delegated duties.

If the PIC is incapacitated, the First Officer assumes PIC authority and responsibility for the aircraft, crew, passengers, and cargo.

##### 1.5.1.1.1 General Responsibilities

The First Officer shall:

1. Ensure possession of required documentation including license, medical, CMC, etc.
2. Assist the PIC in safely operating the aircraft per plans, procedures, and regulations.
3. Support PIC decisions affecting flight safety like delays, cancellations, or deviations.
4. Maintain familiarity with aviation regulations, security, and company policies.
5. Advise the PIC of any incapacitated or impaired crew members.
6. Actively participate in flight/cabin crew supervision per standards and safety.

##### 1.5.1.1.2 Pre-Flight Responsibilities

The First Officer shall:

1. Assist in pre-flight planning by reviewing weather, NOTAMs, fuel, alternates, conditions, etc.
2. Contribute to ensuring proper aircraft loading, fueling, weight/balance.
3. Calculate takeoff performance data.
4. Review technical log and confirm airworthiness, reporting abnormalities.
5. Collaborate in briefings, communicating flight plan and procedures.
6. Check required navigation/radio equipment.
7. Verify correct fuel quantity.

##### 1.5.1.1.3 In-Flight Responsibilities

The First Officer shall:

1. Execute pilot monitoring or pilot flying duties as assigned by PIC.
2. Continuously monitor systems, navigation, performance to support PIC decision-making.
3. Perform checklists/sterile cockpit procedures as directed by PIC.
4. Respond to PIC instructions and communicate with ATC/company as required.





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5. Support PIC in managing emergencies collaboratively adhering to procedures.
6. Complete relevant checklists.
7. Raise any issues, abnormalities, concerns to PIC.

## 1.5.1.1.4 Post-Flight Responsibilities

The First Officer shall:

1. Assist in aircraft shut down, ensuring safe secured state.
2. Assist in documentation, reporting any flight irregularities or issues.
3. Participate in debriefs, contributing performance and safety perspectives.

## 1.5.1.1.5 Emergency Authority and Responsibilities

The First Officer shall:

1. Support the PIC in emergencies by adhering to SOPs.
2. Assist in documenting/reporting SOP deviations per regulations.

## 1.5.2 Safety Pilot

### 1.5.2.1 Duties and Responsibilities

The Safety Pilot shall:

1. Ensure safe flights for trainee pilot experience.
2. Monitor trainee performance, alerting trainer of threats like omitted items, procedures, etc.
3. Intervene if the flight's safety may be compromised.



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## 1.5.3 In-Flight Relief Pilot

### 1.5.3.1 Duties and Responsibilities

The in-flight relief pilot (IRP) enables extended flight duties by providing rest for the operating crew. The IRP actively participates in all stages, maintaining high situational awareness to assume aircraft control or assist as needed.

The IRP shall:

#### Pre-Flight:

1. Engage in planning for route/weather/NOTAM familiarity and anticipated concerns.
2. Participate in briefings to discuss flight details, roles, challenges, contingencies.
3. Review flight plan, systems, and requirements for readiness to assume control or assist.

#### Flight Deck Presence:

1. Occupy jump seat during critical phases from departure to top of climb and top of descent through landing.
2. Maintain an alert, ready presence to assume control in PIC incapacitation or assist as needed.

#### In-Flight:

1. Continuously monitor flight path, systems, and performance with high situational awareness.
2. Stay attuned to environment, weather, ATC, and potential threats/emergencies.
3. Promptly alert PIC of any deviations, abnormalities, or non-normal situations.
4. Perform PIC-delegated duties like flight management, communication, monitoring, documentation.
5. Assist the PIC in ensuring a safe, efficient, professional cockpit.

#### Post-Flight:

1. Participate in debriefs to review performance and discuss flight issues and improvement.
2. Assist in completing accurate post-flight documentation and reporting.



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## 1.5.4 Augmented Crew

### 1.5.4.1 Duties and Responsibilities

Augmented crews enable long flights by extending duties and managing fatigue. Each crew member has defined responsibilities for continuous oversight and operational excellence.

Augmented crew shall:

#### Pre-flight:

1. Participate in planning for flight familiarity and operational duties/rest schedules.
2. Engage in briefings to ensure understanding of individual and collective roles.
3. Assist the PIC in managing rest for duty time/rest requirement compliance to mitigate fatigue.

#### In-Flight:

1. Perform additional PIC-assigned duties like monitoring systems, documentation, cockpit management.
2. Maintain flight deck presence with at least 1 qualified Captain during assigned duty periods.
3. Ensure proper handover briefings when operating crew takes rest.
4. Monitor systems, manage navigation, communicate with ATC while on duty.
5. Remain vigilant for potential threats, deviations, or non-normal situations.

#### Rest Periods:

Rest as scheduled in facilities to ensure alertness when resuming active duty.

#### Post-Flight:

Participate in debriefings, providing flight feedback and identifying improvements.



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## 1.5.5 Cabin Crew

### 1.5.5.1 Purser

Refer to OM-E for duties and responsibilities.

### 1.5.5.2 Cabin Crew

Refer to OM-E for duties and responsibilities.

## 1.6 SURRENDER OF INTERNATIONAL CREW CERTIFICATES

*GACAR Part 121.21*

International crew certificate holders issued by GACA, or the operator shall surrender their certificate to GACA upon termination of employment.



## 2. OPERATIONAL CONTROL, SUPERVISION AND ACCESS

### 2.1 OPERATION SUPERVISION

#### 2.1.1 Means of Flight Operations Supervision

In Mukamalah Aviation operational structure, the director of operations holds the overarching responsibility for the system of operational control and supervision. This role is pivotal in ensuring that flight operations adhere to the highest standards of safety, regulatory compliance, and efficiency. The director of operations oversees the development and implementation of operational policies and procedures, the training and evaluation programs, and ensures compliance with aviation regulations.

Additionally, operations management personnel play a critical role in this supervisory framework. They are responsible for overseeing the execution of operations within their specific areas of responsibility. This involves ensuring that day-to-day activities align with Mukamalah Aviation operational standards and policies. Their oversight extends to ensuring that their teams are well-trained, that operational practices meet regulatory requirements, and that safety and efficiency are always upheld.

Together, the director of operations and the flight operations management personnel form a comprehensive supervision system by:

**Defining Policies and Procedures:**

Developing and documenting comprehensive policies and procedures in the Operations Manual to guarantee adherence to the AOC and Operator Specifications.

Overseeing the development and implementation of SOPs for ground and in-flight operations, emphasizing efficiency, safety, and compliance with regulatory standards.

Regularly reviewing and updating manuals and procedures to reflect changes in regulations, technology, and operational practices.

**Compliance Monitoring:**

Conducting regular audits and inspections to evaluate adherence to operational procedures and regulatory requirements.

Establishing a reporting system for any deviations or non-compliance issues.

Analyzing data from flight operations to identify trends that might indicate potential compliance issues.

**Compliance with AFM and Certificate of Airworthiness:**

Ensuring strict adherence to the guidelines specified in the AFM for each aircraft.



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In consultation with the director of maintenance, ensure regular inspections and maintenance activities are conducted to ensure continuous airworthiness of the fleet.

#### **Training and Evaluation:**

Providing ongoing training for all operational personnel to keep them updated with the latest regulatory changes, technological advancements, and best practices.

Ensuring regular competency assessments to gauge the effectiveness of the training and the proficiency of the personnel.

#### **Checklist System Based on OEM and Human Factors Principles:**

Overseeing the creation of checklists in alignment with Original Equipment Manufacturer (OEM) guidelines.

Monitoring the integration of human factors principles to enhance usability and effectiveness.

#### **Monitoring Flight Crew Licenses and Competency:**

Systematic tracking and verification of flight crew licenses.

Continuous assessment of crew competency through training and evaluations.

#### **Management of Flight and Duty Times:**

Monitoring and recording of flight and duty times to prevent fatigue and ensure compliance with regulatory limits.

#### **Publication of Operational Notices:**

Timely dissemination of operational notices or other forms of communication to inform personnel of important updates, changes, or alerts.

Establishing and Maintaining an Operational Control Centre:

Maintaining a dedicated operational control center for real-time monitoring and management of flight operations, equipped with advanced communication, and tracking systems.

#### **Performing Risk Assessments:**

Performing regular risk assessments to identify and mitigate safety and security risks affecting flight operations.

Monitoring the implementation of risk management strategies to enhance overall operational safety.

### **2.1.2 Flight Operations Communications**

Effective communication is a cornerstone of efficient flight operations management at Mukamalah Aviation. Regular meetings play a vital role in maintaining this communication, ensuring continual supervision, and



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facilitating decision-making processes. The following meetings in the below Table are integral to our flight operations management oversight responsibilities.

#### 2.1.3 License and Qualification Validity

Mukamalah Aviation scheduling process is structured to ensure compliance with the General Authority of Civil Aviation Regulations (GACARs). This involves a systematic verification of all required qualifications for crew members and dispatchers, including but not limited to training and checking documentation, medical certificates, ratings, and licenses. The specifics of these qualifications and the process for maintaining them are detailed in Chapter 5 Qualification Requirements, and Operations Manual-Part D (OM-D).

*Note: No person shall perform a flight duty unless their license, rating, medical certificate, recency, and any other required qualification required for a flight is valid for the entire duration of the flight.*

#### 2.1.4 Competence of Operations Personnel

The Operational Management at Mukamalah Aviation outlined in Chapter 1, is responsible for making sure that both ground and flight operations teams have the right knowledge, skills, and attitudes to perform their jobs well. This is key to keeping our operational safety and efficiency at the highest level.

Our ground staff receive training and evaluations as described in Ground Operations Manual, or the relevant Section Manual, depending on their role. These manuals provide a solid plan for training our ground teams, making sure they have the skills and knowledge necessary for their roles.

Furthermore, the qualifications needed for all flight operations positions are clearly listed in 0







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QUALIFICATION REQUIREMENTS. This chapter outlines the minimum standards we expect from our operations team, ensuring everyone understands the skills needed across the company.

## 2.1.5 Control and Storage of Records, Flight Documents and Data

*GACAR 121.1565 / GACAR 121.1567*

Effective record management, including the handling of flight documents and data, is essential for operational efficiency and meeting regulatory standards. Mukamalah Aviation employs an electronic storage system sanctioned by GACA for both short-term and long-term recordkeeping.

This section highlights the main features of Mukamalah Aviation certified system for managing and storing electronic records.

### Electronic Record-Keeping System:

\*Details to be provided\*

### Backup and Data Loss Prevention:

\*Details to be provided\*



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#### 2.1.5.1 Document Retention

Records are retained for the applicable period as defined by *GACAR 121.1565* Document Retention.

Crew Member and Dispatcher Records	Duration
Basic indoctrination training	Retain for entire period of employment plus 6 months
Aircraft qualification (initial, upgrade, and transition) <ul style="list-style-type: none"><li>1. GACA CPL certificate(s)</li><li>2. ELP Endorsement/record</li><li>3. GACA ATP</li><li>4. Crew Member Certificate (CMC)</li><li>5. Aircraft Type Rating qualification</li><li>6. Specific qualifications (RVSM, ETOPS)</li><li>7. Airport and route competence (including special airports)</li><li>8. Equipment qualifications (TCAS/ACAS, GPWS/EGPWS)</li><li>9. Right seat qualification</li><li>10. Recency-of-experience</li><li>11. Results of successful and unsuccessful flight crew evaluations</li></ul>	Retain for entire period of employment plus 6 months
Flight and duty time	18 months
Proficiency and route checks	3 years
Aircrew Program Designee (APD) designation	Retain for current aircraft or 3 years, whichever is longer
Check pilot training and authorization	Retain for current aircraft and previous aircraft or 3 years, whichever is longer
Instructor training	Retain for current aircraft and previous aircraft or 3 years, whichever is longer
Requalification training	Retain for current aircraft or 3 years, whichever is longer



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Cabin crew member or dispatcher supervisor designation	Retain for entire period of employment plus 6 months
Operating experience	Retain for current aircraft and previous aircraft or 3 years, whichever is longer
Route qualification	3 years
All other training	3 years
Required medical examinations	15 months
Dangerous Goods Training	36 months from the most recent training completion date
<b>Employee Records</b>	<b>Duration</b>
Each action taken in release from employment	6 months
Each action taken in release for medical disqualification	6 months
Each action taken in release for medical disqualification	6 months
<b>Operational Records</b>	<b>Duration</b>
Completed Load Manifest	3 months
Dispatch Release	3 months
Fuel and Oil Records	3 months
Airworthiness Release	2 months
En-route company radio contact with pilots	30 days
Flight Logbook Records	3 months
<b>Maintenance &amp; Preventative Maintenance Personnel Records</b>	<b>Duration</b>
Training	2 years



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## 2.2 DISTRIBUTION OF SUPPLEMENTARY OPERATIONAL INFORMATION

GACAR 121.1305

### 2.2.1 Operational Notices

Each department within Mukamalah Aviation bears the responsibility of promptly informing their respective operations personnel about any updates in equipment and procedures. This includes informing staff about changes to navigation aids, aerodromes, air traffic control (ATC) procedures and regulations, local aerodrome traffic rules, and any hazards to flight that may arise, such as adverse weather conditions or discrepancies in ground and navigation facilities.

Operational notices that complement the Operations Manual (OM) without altering its content are issued in the formats described below. These notices provide crucial updates in various operational domains such as Flight Operations, Training, Ground Operations, Continuing Airworthiness, Safety, and Security. The creation and issuance of an operational notice, when necessary, fall under the purview of the director of flight operations, who must ensure its timely and accurate publication in one of the designated formats.

#### 2.2.1.1 Crew Notice

Crew Notices serve as a fundamental tool for communication within Mukamalah Aviation crafted to deliver crucial, temporary information to crew members across a range of operational areas. To ensure clarity and ease of access, these notices are methodically organized into distinct categories:

##### 2.2.1.1.1 Operational Notice

Operational Notices are designed to quickly communicate new information, serve as reminders, or offer clarifications regarding operational procedures.

##### 2.2.1.1.2 Administrative Notice

Administrative Notices are issued to convey important updates concerning administrative matters. This encompasses modifications to crew scheduling, alterations in company policies, or any other pertinent administrative processes that affect the crew.

##### 2.2.1.1.3 Technical Notice

Technical Notices inform on the latest technical changes and instructions. This includes updates on aircraft systems, maintenance procedures, or the introduction of new technology within our fleet.



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## 2.2.1.1.4 Training Notice

Training Notices disseminate new or updated information relevant to crew training. They detail the introduction of new training programs, revisions to current training modules, or adjustments to the requirements of such programs. Crew members seeking a thorough explanation of Training Notices should consult OM Part D, which provides a detailed structure and context for these notices within the broader scope of training and operations.

## 2.2.1.2 Original Equipment Manufacturer (OEM) Bulletins

OEM Bulletins are critical communications issued by aircraft manufacturers, providing essential instructions that must be followed under certain conditions to ensure the safety and efficiency of our operations.

## 2.2.1.3 Company Notices to Airmen (CONOTAMs)

CONOTAMs are crafted for the specific attention of flight crews and form a part of the dispatch documentation package. They deliver important operational information that has a direct influence on the conduct of flight operations.

## 2.2.1.4 Special Crew Briefings

For information that is not captured within standard documentation, Special Crew Briefings are produced. These briefings are targeted at enhancing crew awareness of temporary issues or situations that may affect flight operations.

## 2.2.1.5 Operations Control Centre Notices

Operations Control Centre Notices are disseminated on a regular basis to update dispatch and Operations Control Centre (OCC) staff on any changes to aircraft dispatch or crew control processes. These notices are vital to maintain a seamless information flow and ensure that everyone involved, from dispatchers to crew controllers, is fully informed of current and upcoming operational procedures.



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## 2.3 OPERATIONAL CONTROL

### 2.3.1 General

Operational control at Mukamalah Aviation encompasses the authority to dispatch, initiate, proceed with, divert, or terminate flights, prioritizing the criteria of safety and security. Both the Pilot in Command (PIC) and Aircraft Dispatcher are empowered with the operational control for a specific flight. Mukamalah Aviation maintains overarching authority and responsibility for its entire operation, guaranteeing compliance with the Air Operator Certificate and relevant regulations.

The roles and responsibilities of personnel involved in operational control are precisely delineated and recorded and are disseminated within the organization through the Operations Manual.

### 2.3.2 Operational Control Management Structure

In line with company policy, the director of operations at Mukamalah Aviation holds operational control over all company aircraft, which is then assigned to the PIC and Dispatcher for individual flights. The company's management hierarchy is designed to comply with GACA standards, ensuring proficient oversight and control of operations. This is supported by strategically allocated resources, encompassing workforce, financial investment, infrastructure, and equipment, all vital to the operational efficacy and regulatory adherence.

Mukamalah Aviation is dedicated to upholding a superior level of operational control and oversight as mandated by GACA's regulatory framework, notably 121 Subpart P. This commitment includes the establishment of operational control systems for unscheduled flights, and adherence to the GACA-approved dispatch and flight release systems. Mukamalah Aviation OCC procedures and systems guarantee the timely notification of operations personnel regarding changes in equipment, procedures, and known hazards, such as meteorological conditions and anomalies in ground and navigation facilities.

The dispatch release system, integral to operational control, requires that flights receive authorization from a qualified aircraft flight dispatcher and the PIC, who share the responsibility for pre-flight planning and dispatch release. Mukamalah Aviation ensures that all aircraft flight dispatchers fulfil the stipulations of *GACAR 121 Subpart M*, with the safety of flights as a central concern, including vigilant monitoring and the power to cancel or redirect flights if necessary.

Flight dispatch and releases are conducted under strict procedures, with the PIC responsible for reviewing and acknowledging the flight preparation forms prior to flight initiation. This process includes compliance with fuel and oil supply regulations to ensure adequate reserves for the planned flight, plus any unforeseen events. Flight monitoring duties are jointly held by the aircraft dispatcher and the PIC, who also have the authority to cancel, reroute, or delay flights due to safety concerns.

The operational control system further encompasses the responsibility of ensuring that flight crew and dispatch personnel are well-informed about anticipated and predicted weather conditions, the airworthiness of the aircraft, and the availability of communication and navigation facilities.



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#### 2.3.3 Responsibility for The Operational Control of Each Flight

The director of operations at Mukamalah Aviation through the Operations Control Centre (OCC), asserts full operational control over all flight operations. The management and oversight of daily operational events are diligently conducted by dedicated managers in ground, flight operations, and maintenance sectors, focusing on safety, adherence to regulatory standards, and operational efficiency.

Mukamalah Aviation entrusts the initiation, continuation, diversion, or termination of each flight to competent individuals. This is accomplished through a collaborative system where operational control is equally distributed between the pilot-in-command (PIC) and an aircraft dispatcher.

Both the aircraft dispatcher and the PIC carry joint responsibility for ensuring the safety and security of all flight operations. This includes managing critical aspects of operational control such as pre-flight planning, load planning, weight and balance, as well as addressing delays, diversions, flight terminations, and dispatch releases, all in strict conformity with GACA regulations, the company's Operations Specifications, and Mukamalah Aviation Operations Manuals.

In this framework, the aircraft dispatcher assumes a shared responsibility for operational control with the PIC and provides essential support, briefings, and assistance to the PIC to uphold the safety of each flight.

The PIC, during the time the aircraft is in flight, maintains command over the aircraft and its crew, bearing ultimate responsibility for the safety of passengers, crewmembers, cargo, and the aircraft itself.

The PIC exercises complete and unrestricted control and authority over the operation of the aircraft and any crewmember duties during flight time, irrespective of the crewmembers' possession of valid certificates to perform said duties.



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## 2.4 DISPATCH RELEASE SYSTEM

GACA121.1309 / 121.1313 / 121.1321 / 121.1125 / 1357

All flights operated by Mukamalah Aviation will be dispatched in accordance with the Dispatch Release System.

### 2.4.1 Pre-Flight

Operational staff provide support to the aircraft dispatcher in gathering the most current operational data for the unscheduled flight, which includes weather reports, NOTAMS, and security updates. The aircraft dispatcher will analyse this information and make the decision to either authorize or cancel the flight.

The aircraft dispatcher is tasked with creating the operational flight plan (OFP) and the Air Traffic Service (ATS) flight plan, taking into consideration all pertinent elements. They also consult with and inform the pilot-in-command (PIC) about any factors that may impact the flight, aircraft, or crew. The specific responsibilities of the aircraft dispatcher include:

1. Preparing the dispatch release;
2. Tracking the flight's progress;
3. Providing essential instructions and information to ensure flight safety;
4. Cancelling or re-dispatching a flight if they or the PIC judge that it cannot be operated or continue to operate safely as planned or released.

In this operational control system, both the aircraft dispatcher and the PIC utilize a standardized set of flight documents for each flight. The dispatch release for each flight between designated points is compiled for the PIC based on details furnished by the certified aircraft dispatcher. The dispatch release must be signed by the aircraft dispatcher before it is forwarded to the PIC, and this only occurs if the dispatcher is confident of the flight's safe operation.

**Note:** While the aircraft dispatcher can delegate the task of signing a dispatch release for a specific flight, they cannot delegate the overall responsibility for dispatching the flight.

The PIC and the aircraft dispatcher share joint responsibility for pre-flight preparation, managing delays, and the dispatch release of a flight, ensuring compliance with the relevant GACARs, operational specifications, and Mukamalah Aviation operations manuals.

The PIC is required to review and approve the dispatch release and load manifest by signing or otherwise accepting the dispatch release, but only if they are satisfied that the flight can proceed safely.

**Note:** When an aircraft has touched down at an intermediate stop listed in the original dispatch release and remains on the ground for more than one hour, it must be re-dispatched by an aircraft dispatcher. Furthermore, if an aircraft has been on the ground for over six hours at an intermediate stop, a new dispatch release is mandatory.





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#### 2.4.1.1 Restriction or Suspension of Operations

If a dispatcher or pilot-in-command (PIC) becomes aware of any conditions that may compromise safety, such as adverse aerodrome or runway conditions, they are required to impose restrictions or suspend operations. These conditions must be addressed and ameliorated to a satisfactory degree that ensures the safe commencement of flight before operations can resume.

#### 2.4.1.2 Aircraft Equipment.

An aircraft must only be dispatched if it meets all the criteria for airworthiness.

Both the pilot-in-command (PIC) and the aircraft dispatcher are responsible for verifying and confirming the status of the aircraft's Minimum Equipment List (MEL) and Configuration Deviation List (CDL). This check is essential before dispatching an aircraft that has inoperative equipment to ensure that the aircraft can still operate safely within the prescribed limitations.

#### 2.4.1.3 Facilities and Services

As part of the pre-flight duties, the aircraft dispatcher is responsible for ensuring the pilot-in-command (PIC) is fully informed about any factors that could impact flight safety. The following are key responsibilities of the aircraft dispatcher:

1. Aerodrome and Navigation Facilities Information:
2. The dispatcher must provide the PIC with all current reports or relevant information regarding conditions at the aerodromes, including any irregularities or malfunctions in navigation aids that could affect flight safety.
3. Weather Reports and Forecasts:
4. The dispatcher is obliged to supply the PIC with comprehensive and current weather information before flight commencement. This includes forecasts and warnings of adverse weather phenomena that could affect the safety of the flight, such as severe turbulence, icing conditions, convective weather, and other significant meteorological events for each intended route and destination or alternate aerodromes.
5. Communication and Navigation Facilities:
6. The dispatcher must ensure that communication and navigation facilities required for the planned route or segment of the flight are operational and in satisfactory condition. The flight should not be dispatched if these facilities are not working properly or if their reliability cannot be assured.

By fulfilling these responsibilities, the aircraft dispatcher helps to ensure that the PIC can make informed decisions about flight safety and operations. The collaboration between the aircraft dispatcher and the PIC is critical for the safe and efficient conduct of the flight.



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#### 2.4.2 Initiation of The Flight

Operational control authority for the initiation of the flight is shared between the Aircraft Dispatcher and the PIC.

#### 2.4.3 Inflight

The PIC is during flight time, in command of the aircraft and crew and is responsible for the safety of the passengers, crew members, cargo, and aircraft. The PIC has full control and authority in the operation of the aircraft, without limitation, over other crew members and their duties during flight time, whether they hold valid certificates authorizing them to perform the duties of those crew members.

In tandem, the aircraft dispatcher must provide the PIC any additional available information of meteorological conditions (including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude windshear), and irregularities of facilities and services that may affect the safety of the flight. The aircraft dispatcher is responsible for updating the PIC of significant changes to weather or flight plan and recommending flight plan alternates, such as changing course, altitude, and, if required, enroute landings in the interest of safety and economy.

Additional aircraft dispatcher responsibilities include:

Monitoring the progress of each flight including the last recorded position and time, fuel state, flight time remaining, destination and alternate aerodrome weather trends, en-route winds and weather, and aerodrome and navigation facility status

Issuing necessary instructions and information for the safety of the flight; and

Cancelling or re-dispatching a flight if, in the aircraft dispatcher's opinion or the opinion of the PIC, the flight cannot operate or continue to operate safely as planned or released.

Coordinating with the PIC the safest course of action if any item of equipment required for the operation becomes inoperative or unserviceable en-route.

When changing an Air Traffic Service (ATS) flight plan, the aircraft dispatcher will try to coordinate operational instructions with the appropriate ATS unit before notifying the PIC.

*Note: All enroute amendments to the OFP must be coordinated and verified through a signature (approved electronic method) by the aircraft dispatcher and a recorded agreement of the PIC.*



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#### 2.4.4 During Emergencies

*GACAR Part § 121.1129*

In an emergency situation requiring immediate decision and action, the PIC may take any action he considers necessary under the circumstances. In such a case, the PIC may deviate from prescribed operations procedures, methods, weather minimums, and the GACAR to the extent required in the interest of safety.

In an emergency arising during a flight requiring immediate decision and action by aircraft dispatcher, the aircraft dispatcher must advise the PIC of the emergency, ascertain the decision of the PIC, and have the decision recorded in the daily log.

If the aircraft dispatcher cannot communicate with the pilot, the dispatcher must declare an emergency and take any action necessary under the circumstances. The declaration of an emergency internally is described in the Emergency Response Plan.

Whenever a PIC or aircraft dispatcher exercises emergency authority, that person must keep the appropriate ATC facility where possible and the OCC members fully informed of the progress of the flight. The person declaring the emergency must send a written report of any deviation, through Mukamalah Aviation Safety department to the GACA.

An aircraft dispatcher must send his report within 10 days after the date of the emergency, and a PIC must send a report within 10 days after returning to his home base.

For unscheduled operations, the person declaring the emergency must send his report within 10 days after the flight is completed or, in the case of operations outside the Kingdom of Saudi Arabia, upon return to the home base.

#### 2.4.5 Post Flight

The PIC will provide a report to OCC and, if necessary, the flight safety department on any operational procedural deviation or any other information relevant to optimizing future flight operations.



## 2.5 FLIGHT PREPARATION FORMS

Before commencing a flight, the Pilot-in-Command (PIC) must review and accept several critical flight preparation documents. Two of the most important forms include:

1. The Dispatch Release:

The dispatch release is a document that confirms the aircraft is safe for flight, as determined by the Aircraft Dispatcher. It includes information such as the flight plan, weather information, NOTAMs, MEL/CDL items, fuel requirements, and other details pertinent to the safety and legality of the flight. The PIC must review this document to ensure it meets all requirements as outlined in the Operations Manual (OM) Part A, section 2.5.1. The dispatch release signifies that both the Aircraft Dispatcher and the PIC agree on the planned flight and that all necessary checks have been made.

2. The Load Manifest:

The load manifest includes details about the distribution and weight of passengers, baggage, cargo, and fuel. It ensures that the aircraft is loaded within its weight and balance limits and that the centre of gravity is within the allowable range for safe operation. The PIC must review the load manifest to confirm it complies with the requirements specified in the Operations Manual (OM) Part A, section 2.5.2. Proper load management is crucial for the aircraft's handling characteristics and overall flight safety.

Acceptance of these documents by the PIC is a formal acknowledgment that they have been reviewed, and the PIC is satisfied that the flight can be conducted safely as planned. The PIC's acceptance usually requires a signature or a digital acknowledgment, which then becomes part of the flight's official record.

### 2.5.1 Dispatch Release Forms

A Dispatch Release Form shall be duly prepared by a certified Aircraft Dispatcher for every flight undertaken by Mukamalah Aviation. Prior to the form being forwarded to the Pilot-in-Command (PIC), it is incumbent upon the Aircraft Dispatcher to affix their signature to the document. The signature on the Dispatch Release Form serves as a testament to the Aircraft Dispatcher's confidence in the flight's ability to proceed safely. Under no circumstances shall the form be signed if any doubts concerning the flight's safety exist.

#### 2.5.1.1 Dispatch Release Content

*GACAR Part § 121.1509*

The Dispatch Release for Mukamalah Aviation encompasses the following critical details:

1. The full roster of crew members assigned to the flight,
2. The designated Air Traffic Control (ATC) flight plan,
3. The contents of the Operational Flight Plan (OFP),
4. The stipulated minimum fuel quantity necessary prior to each take-off,



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5. The most recent Notices to Airmen (NOTAMs), along with weather reports and forecasts for the points of departure, intended destination, and any alternate airports,
6. Any enroute information such as Significant Weather Charts, as well as supplementary weather reports or forecasts deemed relevant or beneficial by the Pilot-in-Command (PIC) or Aircraft Dispatcher,
7. The identification of both the Aircraft Dispatcher and the PIC.

The Aircraft Dispatcher, charged with operational control of the flight, is required to sign the Dispatch Release, and log the time in Coordinated Universal Time (UTC). The PIC is similarly obligated to sign and timestamp the document in UTC, affirming the following declaration:

*"I hereby certify that I have reviewed and approved all pertinent operational data. The aircraft is confirmed to be airworthy, holding all necessary certificates, and is equipped with the appropriate instruments and equipment for the anticipated flight conditions. All Aircraft Flight Manual (AFM) limitations have been adhered to, the maintenance status is up to date, the mass and balance of the aircraft fall within safe operational limits, the cargo is properly loaded and secured, and there is an adequate supply of fuel and oil for the entirety of the flight."*

**Note:** The presence of the dispatcher's name on the Dispatch Release is regarded as a binding signature.

#### 2.5.2 Load Manifest Form

The Load Manifest Form is required to be meticulously prepared and duly signed by the Load Controller for every flight operated by Mukamalah Aviation the Load Controller bears the responsibility for overseeing the loading of the aircraft and for the accurate preparation of the Load Manifest Forms, ensuring all details are thoroughly checked and in compliance with safety regulations.

##### 2.5.2.1 Load Manifest Form Contents

*GACAR Part § 121.1517*

Mukamalah Aviation Load Manifest Form (Digital Load Sheet) comprises the subsequent data:

8. Date of the flight.
9. Version number of the form.
10. Aircraft's registration mark and corresponding flight number.
11. Total count of both crew members and passengers aboard.
12. Precise aircraft weight metrics, expressed in kilograms, inclusive of structural and operational constraints for Zero Fuel Weight (ZFW), Maximum Take-off Weight (MTOW), Maximum Landing Weight (MLW), as well as the ZFW and take-off Mean Aerodynamic Chord (MAC).
13. Limitations associated with ZFW, MTOW, and MLW.
14. Detailed fuel calculations, accounting for ramp fuel, taxi fuel, trip fuel, as well as fuel quantities at take-off and landing.



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15. Documentation of any Last-Minute Changes (LMC), along with any pertinent LMC restrictions.

16. Identification, along with the Load Controller and Pilot-in-Command (PIC) signatures.

Upon the finalization of the aircraft's loading process, it is incumbent upon the Load Controller to affirm the following declaration with their signature:

*"I hereby attest that the Load Manifest has been filled out with precision, and that the distribution and securing of the load are in strict adherence to the sanctioned procedures."*



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### 2.6 OPERATIONAL CONTROL PERSONNEL

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## 2.6 OPERATIONAL CONTROL PERSONNEL

### 2.6.1 Director Of Operations

Refer to **chapter 1**

### 2.6.2 Pilot in Command

Refer to **chapter 1 -AUTHORITY, DUTIES, AND RESPONSIBILITIES OF THE PILOT IN COMMAND.**

### 2.6.3 Aircraft Dispatcher

#### 2.6.3.1 Authority, Duties, Role, and Responsibilities

Within the cooperative framework of operational control at Mukamalah Aviation the Flight Dispatcher is tasked with the following obligations:

Pre-flight Responsibilities:

1. The Flight Dispatcher shall provide the Pilot in Command (PIC) with comprehensive assistance during flight preparation, supplying all requisite information.
2. The Dispatcher is responsible for aiding the PIC in the development of both operational and Air Traffic Services (ATS) flight plans.
3. It is incumbent upon the Dispatcher to thoroughly analyze meteorological data to identify any potential risks to flight safety and to select the most advantageous and cost-effective flight path.
4. The Dispatcher must calculate the fuel necessary for the flight's safe completion, considering factors such as aircraft type, journey distance, maintenance constraints, prevailing weather conditions, and the minimum fuel requirements set forth by the Operations Manual (OM) and the General Authority of Civil Aviation (GACA) regulations.
5. The Dispatcher will prepare detailed flight plans, which must include maximum permissible take-off and landing weights, weather forecasts, airfield conditions, Notices to Airmen (NOTAMs), and other critical information for the flight's secure execution.
6. The Dispatcher is charged with preparing and endorsing the dispatch release, which serves as formal authorization for a flight's departure.
7. The Dispatcher holds authority to postpone or cancel flights when conditions pose a risk to the safety and security of the aircraft or its passengers.

In-flight Duties:

1. The Flight Dispatcher must continuously monitor the flight's progress, which encompasses observing weather conditions, tracking aircraft position reports, and reviewing aeronautical navigation charts.



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2. The Dispatcher is responsible for providing the PIC with timely updates on significant meteorological changes or alterations to the flight plan and for suggesting alternative flight plans to ensure safety and operational efficiency.
3. Should the Dispatcher, or the PIC, deem that a flight cannot safely proceed as planned or previously authorized, the Dispatcher may cancel or re-dispatch the flight.

## Emergency Procedures:

4. In scenarios where the aircraft's position cannot be ascertained through tracking systems and communication efforts fail, the Dispatcher shall promptly notify the appropriate ATS unit.
21. In the case of an emergency, the Dispatcher must initiate the procedures detailed in the Dispatch (DSP) Manual.





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## 2.6.4 Operational Control Personnel Duties, Roles, and Responsibilities

Operational Control Personnel			
Operational Control	Authority	Responsibilities, Including the Assignment of Functions, Duties or Tasks.	Training and Qualification
Pilot in Command (PIC)	Shared: Has final authority to ensure the safe operation of the aircraft. Shares authority and responsibility for operational control with the aircraft dispatcher.	Responsible for safe conduct of the flight. Collects, provides, filters, evaluates, and applies operational documents or data relevant to operational control.	Subject to GACA and Mukamalah Aviation training and qualification requirements.
Aircraft Dispatcher	Shared: Shares operational control authority and responsibility with the PIC. Authorized to make recommendations and/ or decisions.	Shares operational control responsibility with the PIC. Supports, briefs, and/or assists the PIC. Collects, provides, filters, evaluates, and applies operational documents or data relevant to all elements of operational control. Makes recommendations and/ or decisions.	Subject to initial and continuing qualification in accordance with relevant GACA regulations and Mukamalah Aviation standards.

Table 1: Operational control duties



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## 2.7 POWERS OF THE AUTHORITY

### 2.7.1 Inspections

*GACAR Part § 121.1153, § 121.1157*

Mukamalah Aviation will ensure continuous and unrestricted access to all facilities, aircraft, documents, records, data, procedures, and related materials pertinent to its operations, subject to necessary approvals and operating specifications as mandated by GACAR.

Upon request, the Pilot in Command (PIC) must:

1. Present all documentation mandated for carriage on board the aircraft.
2. Accommodate GACA inspectors by offering an observer's seat on Mukamalah Aviation aircraft, ensuring unobstructed monitoring of the flight crew's actions and communications.



## 3. SAFETY AND QUALITY MANAGEMENT SYSTEMS

### 3.1 SAFETY MANAGEMENT SYSTEM

The Safety Management System Framework at Mukamalah Aviation is thoughtfully crafted to ensure the careful management and oversight of our diverse operational activities. Our Corporate Safety Management System is central to this framework, highlighting our dedication to consistently upholding safety and quality at the highest levels throughout the company. The Corporate Safety Management Manual (CSMM) contains all the necessary information about our SMS, including Mukamalah Aviation Safety and Quality policy and the corresponding guidance and procedures.

We encourage all employees to familiarize themselves with the CSMM to fully understand the scope of the SMS and their individual roles within it. This knowledge is crucial for engaging with our safety processes effectively. The core elements of our SMS are outlined in the sections that follow.

#### 3.1.1 Safety Policy and Objectives

Refer to CSMM section 1.1.

#### 3.1.2 Safety Management Responsibilities

At **Mukamalah Aviation** the foundation of the SMS is rooted in a steadfast commitment from management, which flows from the highest levels of leadership right through to every layer of the company. This dedication is made tangible through the proactive distribution of resources, a hands-on approach to safety practices, and the setting of clear safety goals and policies.

In addition to designated SMS responsibilities for post holders, the duties of Flight Operations Management at Mukamalah Aviation include:

1. Developing and upholding a thorough understanding of SMS, as well as GACA regulations and international safety standards, within their scope of influence.
22. Ensuring all operational personnel are well-trained and capable of performing their tasks in line with the SMS requirements.
23. Encouraging a consistent exchange of safety-related information across their department to aid in making well-informed decisions.
24. Assessing the effectiveness of existing safety measures and practices within their department and initiating enhancements where needed.
25. Fostering a forward-thinking safety culture that actively supports the identification and communication of safety hazards.
26. Weaving SMS goals into both strategic and everyday business planning and decision-making.
27. Continually evaluating and recommending modifications to the SMS to accommodate changes in operational practices, emerging technologies, and evolving regulatory mandates.
28. Performing regular flight assessments to ensure ongoing compliance and safety standards are met.



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3.1 SAFETY MANAGEMENT SYSTEM

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**Note:** For a detailed description of the SMS responsibilities for each management role, refer to the corresponding job description.

## 3.1.3 Safety Risk Management

Safety Risk Management is the systematic approach used by Mukamalah Aviation to identify potential safety hazards, evaluate the risks linked with these hazards, and put into action appropriate measures to reduce them. This process embodies a perpetual cycle of forecasting, monitoring, and amending, which is vital to proactively overseeing safety risks.

Refer to CSMM chapter 2.

## 3.1.4 Safety Assurance

Mukamalah Aviation Flight Operations Quality Assurance is reinforced by our extensive Flight Data Analysis (FDA) program. This program plays a pivotal role in our safety risk management (SRM) strategies, which are predictive, proactive, and reactive in nature, guaranteeing that our commitment to safety and quality in flight operations is consistently met and improved upon.

Our FDA program entails the methodical collection and examination of flight data with the goal of bolstering the safety performance of our operations. By analysing a broad spectrum of parameters, including airspeed, altitude, engine performance, and deviations in flight paths, we obtain crucial insights into how our flights are conducted operationally.

For detailed instructions on the FDA program, please consult the Flight Data Analysis Program Manual.

Along with the FDAP, the Emergency Response Manual (ERM) is a vital component of the Safety Management System (SMS) at Mukamalah Aviation ensuring readiness and effective management in the event of unexpected situations. Our Emergency Response Plan (ERP) consists of thorough protocols aimed at minimizing the effects of emergencies and protecting our passengers, crew, and resources.

Stakeholders seeking an in-depth understanding of Mukamalah Aviation ERP processes and procedures should consult the relevant sections of the Emergency Response Manual (ERM).

## 3.1.5 Safety Promotion

Safety Promotion is a cornerstone of the Safety Management System (SMS) at Mukamalah Aviation vital for ensuring that every member of our team is actively engaged, well-informed, and deeply committed to safety, in line with GACAR guidelines. Through ongoing education, clear communication, and the nurturing of a 'just' safety culture, we aim to uphold and advance our safety standards within all aspects of our operations.

Mukamalah Aviation promotes a non-punitive stance on safety reporting to foster an atmosphere of shared trust, which underscores our dedication to collective safety management and incident prevention. Employees seeking more information on this approach can refer to the Corporate Safety Management Manual (CSMM).



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## 3 SAFETY AND QUALITY MANAGEMENT SYSTEMS

### 3.1 SAFETY MANAGEMENT SYSTEM

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The core of a 'just culture' at Mukamalah Aviation is to establish a trusted environment where employees feel valued and encouraged to contribute to safety. This culture clearly demarcates the line between acceptable and unacceptable behavior, ensuring everyone understands their role in maintaining a secure operational environment.

#### 3.1.6 Fatigue Risk Management System

Mukamalah Aviation is deeply committed to the well-being, safety, and performance of our flight crews, and that's why we've implemented a robust Fatigue Risk Management System (FRMS) that meets GACA's stringent requirements. Our FRMS is purpose-built to proactively address the risks related to fatigue, ensuring that each member of our crew is vigilant, adequately rested, and fully able to carry out their responsibilities with utmost safety in mind.

For a detailed account of Mukamalah Aviation FRMS and its associated policies, processes, and procedures, crew members should refer to the FRMS Manual.

#### 3.1.7 Documentation and Record Keeping

The Corporate Safety Management Manual (CSMM) Documentation and Record Keeping system is a key component that outlines Mukamalah Aviation systematic method for preserving and managing safety-related documentation and records. Our approach adheres strictly to GACAR, ICAO, and other relevant regulations in addition to IATA best practices, making certain that all our SMS documentation is consistent with global safety benchmarks.

For more information, please consult the CSMM.

#### 3.1.8 Emergency Response Planning

Mukamalah Aviation (MAC), is fully equipped to handle an aviation accident or incident involving its aircraft, whether it occurs domestically or internationally. The Emergency Response Plan (ERP) is crafted to guide MAC personnel through the appropriate response to such incidents.

The manual lays out the organizational structure for accident or incident response, the overarching strategy for managing such events, and offers specific instructions on the initial actions required to mobilize company resources in line with this strategy.

All actions taken in response to an accident or incident will adhere to the following corporate priorities:

1. Support for Company Personnel and Families: Our first and foremost responsibility is towards our employees and their loved ones.
2. Collaboration with Authorities for Life Safety: We are committed to working closely with relevant authorities to ensure the safety and well-being of all involved.
3. Proactive Resource Allocation: Our response will be swift, deploying ample resources to provide professional support to all affected parties.



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4. Asset Management and Protection: We will manage and safeguard company assets with utmost professionalism during the response.
5. Investigative and Recovery Efforts: A thorough investigation will be conducted to understand the sequence of events and implement measures to prevent future occurrences.

For complete details regarding the response organization, strategy, and procedures, MAC personnel should refer to the Emergency Response Plan (ERP) document.



## 3.2 QUALITY MANAGEMENT SYSTEM

### 3.2.1 Quality Management System Description

Mukamalah Aviation's Corporate Quality Management System (CQMS) encompasses a comprehensive framework spanning Safety, Quality, and Security Assurance functions across the entire organization. This dynamic system drives continuous improvement in all operational areas, ensuring consistently high standards for both quality and safety.

The Quality and Safety Assurance Program (QSAP), an integral part of the CQMS, serves as the organization's internal evaluation mechanism. Developed in strict compliance with GACA's Safety Management System (SMS) requirements, the QSAP fosters a culture of proactive risk management and ongoing performance enhancement.

The CQMS scope diligently covers all critical operational departments, including:

1. Flight Operations: Guaranteeing the highest standards of safety and efficiency in every aspect of air travel.
29. Cabin Operations: Delivering exceptional passenger care and onboard experience.
30. Ground Operations: Streamlining ground handling procedures while prioritizing safety and passenger comfort.
31. Engineering and Maintenance: Implementing rigorous maintenance programs and upholding airworthiness standards.
32. Security: Safeguarding against potential threats and ensuring a secure travel environment.

Refer to QMM section 1.2.

### 3.2.2 Quality Assurance Program

To achieve the quality assurance objectives, Mukamalah Aviation employs a diverse range of audit types. Additionally, ongoing monitoring processes are implemented whenever necessary to provide deeper insights into specific areas.

Audits include internal, external and third-party audits following a comprehensive audit plan and ensuring post audit actions are aligned with the objectives.

Refer to QMM chapter 3.

### 3.2.3 Quality Assurance Management Review

Assurance review by Mukamalah Aviation Management aims at providing continual improvement and align with industry benchmarks.

Key Review Objectives includes:

1. Continual Monitoring and Assessment: To ensure ongoing evaluation of operational safety and security outcomes.
33. Implementation of Corrective or Preventive Actions: To verify the implementation and effectiveness of appropriate actions addressing compliance issues.



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34. Continual Improvement: To foster a culture of continuous improvement in operational safety and security performance.

Refer to QMM chapter 8.

## 3.2.4 Quality Assurance for Contractors

Refer to QMM chapter 4.

## 3.2.5 Deficiencies Reported by an Inspecting Authority

As outlined in the QMM chapter 3, following a quality finding, Mukamalah Aviation quality assurance team classifies findings according to their severity and sets a timeframe for implementing the corrective action.

Refer to QMM section 3.6.





## 4. CREW COMPOSITION

### 4.1 FLIGHT CREW

#### 4.1.1 Composition of Flight Crew

The requisite flight crew composition consists of at least two pilots, with one appointed as the Flight Commander, or Pilot-in-Command, as delineated in the B737 AFM-Required Crew. This baseline crew requirement may be expanded based on operational needs or flight duration.

In structuring its flight crew, Mukamalah Aviation meticulously considers the individual qualifications, recent flight experience, and technical evaluations of each pilot. It is a standard policy that two junior pilots will not be paired for a flight assignment. Refer to 4.1.3.

#### 4.1.2 Designation Of Pilot-in-Command

The selection of the Pilot in Command (PIC) at Mukamalah Aviation (MAC) is a critical element of our flight operations, enforcing the highest standards of safety and efficiency. The appointed PIC must hold the rank of Captain and fulfil all qualification prerequisites as detailed in section 5.2. These prerequisites cover various qualifications and certifications that are crucial for the PIC role, ensuring every flight is commanded by a pilot who is proficient, extensively trained, and meets the stringent criteria established by MAC and the GACA.

Ordinarily, the PIC is to be seated in the left seat of the cockpit. However, this standard seating arrangement can be altered under certain conditions. When a Check Airman or a Training Captain is acting as the designated PIC, they may be situated in the right seat. This exception is designed to provide versatility in the context of training and assessment flights while preserving a definitive command hierarchy.

#### 4.1.3 Inexperienced Flight Crew Member

An inexperienced flight crew member at Mukamalah Aviation is defined as a pilot who has not yet completed a minimum of 150 flight hours on the applicable aircraft type after their final line check.

Mukamalah Aviation rigorously enforces a policy that disallows the assignment of two inexperienced flight crew members to the same cockpit. To uphold our commitment to safety and operational excellence, Mukamalah Aviation mandates that every flight crew includes at least one pilot whose experience meets or exceeds the prescribed threshold of 150 flight hours on the specific aircraft type. This policy is designed to maintain an ideal equilibrium of expertise and mentorship on the flight deck, thereby ensuring an environment that is both secure for flight operations and favorable for ongoing education and professional development.

### 4.2 CABIN CREW

The objective of this section is to define the minimum cabin crew complement for Mukamalah Aviation flights, in strict accordance with the regulations set forth by the GACA (Ref. GACAR 121.753).



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## 4 CREW COMPOSITION

### 4.3 General Crew Requirements

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This policy is applicable to all flight operations conducted by Mukamalah Aviation and specifies the minimum number of cabin crew required to satisfy legal obligations, safety protocols, and service quality benchmarks for the Entire fleet. The requisite number of cabin crew for Mukamalah Aviation flights, which is essential during passenger boarding, deplaning, and at intermediate stops where passengers remain on board, is detailed:

Aircraft Type	Minimum Cabin Crew
B737	4

#### 4.2.1 Designation of Senior Cabin Crew

Mukamalah Aviation mandates the appointment of a lead cabin crew member for every flight, commonly referred to as the lead cabin crew. The lead cabin crew reports to the Pilot in Command (PIC) and bears responsibility for passenger safety, cabin security, and the provision of customer service. Assignment to this role is governed by company policy, contingent upon the individual's prior cabin crew experience and successful completion of Senior Cabin Crew Member (SCCM) training, as delineated in the Operations Manual Documentation (OMD).

The lead cabin crew has authority over the cabin crew team, orchestrating both routine and emergency procedures, and also undertakes a range of supervisory duties.

#### 4.2.2 Supernumerary Crew

A person in addition to the flight crew that is not a cabin crew member but is on board either a cargo or passenger aircraft during commercial or non-commercial operations and is not classified as a passenger by the operator or the Authority. Such person is typically any of the following:

1. Assigned to the flight by the operator as necessary for the safety of operations and has certain (operator required) knowledge and abilities gained through selection and mandatory training (e.g. dangerous goods handler, cargo attendant, security guard, cabin smoke watch/firefighting personnel).
2. An inspector, auditor or observer authorized by the operator and the State to be on board the aircraft in the performance of his or her duties (e.g. CAA flight operations inspector).
3. Assigned to a passenger flight by the operator to conduct certain customer service activities (e.g. serving beverages, conducting customer relations, selling tickets) in the cabin; not designated to perform any safety duties.

Mukamalah aviation shall not use supernumeraries in safety related duties.

## 4.3 GENERAL CREW REQUIREMENTS

### 4.3.1 Flight Crew Incapacitation

In the event that the Commander or any member of the minimum required flight crew becomes incapacitated and unable to perform their duties, such a situation is to be considered an emergency.



Under these circumstances, the remaining crew members are authorized to seek help from any individual on board the aircraft whom they believe is capable, including off-duty crew members (deadheading), to assist with duties on the flight deck as necessary.

It is imperative that any incapacitation of a crew member is promptly communicated to Air Traffic Control (ATC). This communication is crucial to ensure the flight receives appropriate priority and that ATC can take the necessary steps to manage the situation.

In the case of the Commander's incapacitation, the leadership of the aircraft and responsibility for all persons on board, until the standard chain of command is reinstated, falls in the order of succession as follows:

### Flight Crew Composed of Two Pilots

The first officer assumes command over all persons on board until the established chain of command can be restored.

### Flight Crew Composed of More Than Two Pilots

The first officer assumes command over all persons on board until a more qualified pilot (based on seniority), should one be present, can take over. This transfer of authority occurs after the more qualified pilot has been briefed by the co-pilot on the overall situation and has acknowledged their assumption of command, pending the restoration of the normal chain of command.

Should the original Commander be unable to resume their duties, the aircraft will not proceed from the airport where it has landed, or if the incapacitation occurs mid-flight, from the next airport where it lands, unless there is another Captain qualified on that specific aircraft type among the crew.

## 4.3.2 Succession Of Command

The authority and responsibility for the operation and safety of the aircraft rest unequivocally with the Pilot-in-Command (PIC). In the event that the PIC is rendered incapable of performing their duties due to unforeseen circumstances, the mantle of command is immediately transferred to the designated secondary pilot. In the configuration of a two-pilot flight, this role is typically assumed by the First Officer.

When dealing with flights operated by an augmented crew, which includes additional flight deck crew members to allow for crew rest periods on longer flights, a clear chain of command is established. Should the Pilot-in-Command become incapacitated, the alternate captain, who is qualified and authorized to operate the aircraft, will assume command. This ensures that there is always a qualified individual at the helm, capable of ensuring the continued safe operation of the flight. It is essential that the protocols for the transfer of command be well-understood and meticulously followed by all members of the flight crew to maintain the highest standards of flight safety.

## 4.3.3 In-Flight Relief and Augmented Crew Operations

The Pilot in Command (PIC) may only be relieved by a pilot who possesses the necessary qualifications and credentials to serve in this capacity. During the period of relief, this pilot assumes all roles and responsibilities traditionally associated with the PIC. However, it is important to note that despite undertaking the duties of the PIC, the in-flight relief pilot retains the official designation of Second in Command (SIC) throughout the flight. This designation is maintained to ensure adherence to the established chain of command protocols.



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4.3 General Crew Requirements

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## 5. QUALIFICATION REQUIREMENTS

### 5.1 LICENSE / QUALIFICATION / COMPETENCY

#### 5.1.1 Responsibility for Documents, Qualifications, and Certifications

Mukamalah Aviation crew members will be trained in accordance with approved Operations Manual Part D (Training) and GACAR Part 121 Subpart L.

The company shall ensure candidates are screened prior to flight crew employment to determine possession of required certifications, skills, competencies, and attributes. Screening shall include procedures to review/assess:

1. Technical and non-technical competencies and skills, including interpersonal skills.
35. Aviation experience.
36. Credentials and licenses.
37. Medical fitness.
38. Security background.
39. Common language fluency.

While Mukamalah Aviation facilitates qualification and document renewals, each crew member is personally responsible for ensuring possession of applicable documents, qualifications, and certifications required for any assigned duties.

Strict adherence to qualification and certification requirements is mandatory for all Mukamalah Aviation flight crew. Personal accountability for current credentials ensures regulatory compliance and supports safe operations.

#### 5.1.2 Common Language

English is the mandated common language for all Mukamalah Aviation operations and documentation, including the Operations Manual.

All crew members and operations personnel must demonstrate ability to read and comprehend sections of the Operations Manual relevant to their duties.

All communications between flight crew and cabin crew shall be conducted in English.

The establishment of English as the common language ensures standardized procedures and effective communication between Mukamalah Aviation crew members. Fluency is essential for safe and efficient operations.



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5 QUALIFICATION REQUIREMENTS  
5.1 License / Qualification / Competency

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## 5.1.2.1 Language Proficiency

All persons required to use radio telephony in Mukamalah Aviation aircraft must demonstrate English proficiency for radiotelephony communications per ICAO Annex 1 standards.

The minimum acceptable English proficiency level for Mukamalah Aviation flight crew is Level 4 Operational.

Flight crew demonstrating less than Expert Level 6 proficiency shall undergo recurrent formal evaluations:

1. Those at Level 4 Operational proficiency shall be evaluated every 3 years.
40. Those at Level 5 Extended proficiency shall be evaluated every 6 years.

English proficiency level and applicable expiry date shall be endorsed on the license.

Maintaining English language proficiency is imperative for effective radiotelephony communications. Mukamalah Aviation flight crew must meet mandated minimum levels and undergo recurrent evaluations as required. Strict adherence to language requirements enhances aviation safety.



## 5.2 FLIGHT CREW

### 5.2.1 Qualification Requirements

*GACAR Part 121.741, Part 121.765*

Before acting as Mukamalah Aviation flight crew, members must possess:

1. A valid GACA airmen certificate for assigned crew position.
2. A valid instrument rating.
3. A valid Class 1 GACA Medical Certificate.
4. A valid GACA aircraft type rating.
5. Minimum GACA English proficiency Level 4.

Strict adherence to qualification requirements is mandatory for flight crew to ensure full regulatory compliance.

Except when gaining operating experience under GACAR § 121.789, any pilot serving as Second-in-Command in Mukamalah Aviation operations requiring three or more pilots must be fully qualified to act as Pilot-in-Command.

This requirement ensures pilots serving in relief or augmented crews possess requisite PIC qualifications to maintain operational safety and adhere to regulations. Strict compliance is mandatory.

### 5.2.2 Pilot-in-Command Qualifications

In addition to 5.2.1 qualifications, the Pilot-in-Command must hold:

1. A valid GACA ATP certificate with aircraft type endorsement.
2. Minimum **xxxx** hours total jet flight time in multi crew and multi engine aircraft.

### 5.2.3 Second-in-Command Qualifications

In addition to 5.2.1 qualifications, the Second-in-Command must hold a valid GACA Commercial Pilot or higher certificate with aircraft type endorsement.

### 5.2.4 In-Flight Relief

To extend flight duty periods, flight crew may be relieved in-flight by equally qualified crew per sections 5.2.2 or 5.2.3. Relief must occur during enroute cruise only.

Mukamalah Aviation flight crew must meet all qualification requirements for assigned crew positions. Strict compliance ensures the highest levels of safety and regulatory adherence.



## 5.2.5 Pilot Under Supervision

Before commencing supervised line flying, pilots must successfully complete the proficiency check, emergency/safety equipment training per OM-D, and hold the appropriate license.

## 5.2.6 Safety Pilot

In addition to 5.2.1 qualifications, Safety Pilots must hold:

3. A valid GACA Commercial or higher certificate with aircraft type endorsement.
4. Minimum xxxx hours total jet flight time in multi crew/multi engine aircraft.

## 5.2.7 Qualification to Operate from Either Seat

Pilots required to operate from either seat must complete additional training and checking per OM Part D.

*Note: Only Check Airmen and Line Training Captains may perform as Pilot Flying from the right seat.*





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5 QUALIFICATION REQUIREMENTS  
5.2 FLIGHT CREW

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## 5.2.8 Consolidation of Knowledge and Skills

*GACAR 121.789 (g)*

1. The Pilot-in-Command and Second-in-Command must each complete 100 hours of line operating flight time in the aircraft type within 120 days after satisfactory completion of aircraft Type Rating or Proficiency Check, whichever is later, to consolidate knowledge and skills.
2. If 100 hours are not completed within 120 days, Mukamalah Aviation may extend the period to 150 days maximum if:
  - a. The pilot maintains all other qualifications.
  - b. The pilot completes refresher training on or before 120 days.
3. Pilots with SIC line operating time in the aircraft type need not repeat it prior to serving as PIC in the same aircraft type.

Compliance with pilot experience requirements before unsupervised flying or operating from either seat is mandatory. Strict adherence enhances aviation safety.



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5.3	ROUTE/AREA AND AERODROME COMPETENCE QUALIFICATION

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## 5.3 ROUTE/AREA AND AERODROME COMPETENCE QUALIFICATION

### 5.3.1 Route/Area Definition

Mukamalah Aviation defines the following geographical regions for route/area knowledge:

1. Africa-Indian Ocean (AFI)
2. Asia (ASIA)
3. Pacific (PAC)
4. European (EUR)
5. Middle East (MID)
6. North American (NAM)/North Atlantic (NAT)/Caribbean (CAR)
7. South American (SAM)

### 5.3.2 Route/Area Competence Qualification

Before operating in any defined area, Flight Crew shall familiarize themselves with:

1. Terrain and minimum safe altitudes
2. Seasonal meteorological conditions
3. Meteorological, communication, and air traffic facilities, services, and procedures
4. Search and rescue procedures where available.
5. Navigational facilities including OM-C, Airway Manual, eLearning, and other approved documentation.

### 5.3.3 Aerodrome Competence Qualification

Before operating at any aerodrome, Flight Crew shall familiarize themselves with:

1. Obstructions
2. Physical layout
3. Lighting
4. Approach aids.
5. Arrival, departure, holding, and instrument approach procedures.
6. Applicable operating minima
7. Ground movement considerations.



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5	QUALIFICATION REQUIREMENTS
5.3	ROUTE/AREA AND AERODROME COMPETENCE QUALIFICATION

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## 5.3.4 PIC Qualifications

*GACAR Part 121.773*

The OCC provides PICs current route information to ensure adequate route knowledge and ability to use the information per GACAR 121.773, including:

1. Weather characteristics, navigation facilities, communication procedures, terrain, minimum flight levels, arrival/departure/holding/instrument approach procedures, aerodrome layouts, NOTAMs, and search and rescue procedures.
2. PICs must complete an actual approach into each aerodrome unless specific conditions are met per GACAR.
3. Crew qualifications are recorded to satisfy GACA.
4. Within 12 months, PICs must operate within the area/route or requalify under GACAR conditions.
5. If 12 months lapse without area/route operation, PICs must requalify before serving in that area or route again.

Adhering to qualification requirements ensures PICs maintain route, area, and aerodrome competence for safe operations.



## 5.4 SPECIAL AREAS AND AERODROMES

*GACAR §121.777*

### 5.4.1 SPECIAL AIRPORTS QUALIFICATION

Certain aerodromes require special qualification due to terrain, weather, obstructions, or complex procedures.

Within 12 months, PICs must complete an actual approach into special aerodromes accompanied by a qualified pilot, unless:

1. The PIC qualifies using an approved level D simulator with the aerodrome fully modelled.
2. The PIC qualifies using pictorial means acceptable to the GACA.

These restrictions do not apply if the aerodrome ceiling is at least 1000 ft above the lowest MEA/MOCA/initial approach altitude, with at least 5 km visibility.

Per GACAR, between terminals on routes/areas needing special navigation qualification, PICs must demonstrate qualification within 12 months by:

1. Flying the applicable navigation system on a representative flight as PIC.
2. Flying under supervision of a check pilot using the applicable system.

Validity and revalidation periods are ensured through the Crew Planning System.

### 5.4.2 Designated Special Airports

Refer to OM-C XX for designated special airports.

Adherence to special qualification requirements for areas, routes and aerodromes ensures PICs maintain competence for safe operations. Mukamalah Aviation mandates compliance with all specified initial and recurrent training.



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5.5	OPERATIONAL EXPERIENCE RESTRICTIONS

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## 5.5 OPERATIONAL EXPERIENCE RESTRICTIONS

### 5.5.1 Increased IFR Landing Minimums

*GACAR Part 91.193*

1. If a PIC has less than 100 hours in the aircraft type, the MDA/DA/DH and visibility minimums are increased by 100 ft and 800 m (or RVR equivalent), not exceeding alternate aerodrome minimums or below 300 ft ceiling and 1500 m visibility.
2. The 100-hour requirement may be reduced by up to 50% by substituting one landing per hour in the same aircraft category/class if the PIC has at least 100 hours in another type.
3. CAT II minimums do not apply until the PIC meets the 100-hour requirement.

### 5.5.2 Restricted First Officer

*GACAR §121.785(a)*

First Officers with less than 100 hours as SIC in the aircraft type cannot conduct take-offs/landings at special aerodromes or with the following conditions, unless the PIC is a Check Pilot:

1. Visibility  $\leq$  1200 m or RVR  $\leq$  1200 m
2. Runway contamination
3. Braking action less than "good"
4. Crosswind  $>$  15 kts
5. Reported windshear.
6. Other prudent conditions as determined by PIC.

Compliance with operational experience requirements and restrictions ensures flight safety is maintained.

*Note: - The above restrictions do not apply if the PIC is a qualified check pilot on the type of aircraft being flown.*



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5.6	FLIGHT CREW RECENT EXPERIENCE

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## 5.6 FLIGHT CREW RECENT EXPERIENCE

*GACAR Part 121.769*

1. Pilots must complete at least 3 takeoffs and landings in type within the preceding 90 days. Simulator takeoffs/landings qualify if Level C/D qualified and GACA approved.
2. Pilots not meeting the requirements may reestablish recency by completing at least 3 takeoffs/landings under supervision of an authorized check pilot:
  - a. 1 takeoff with critical powerplant failure.
  - b. 1 ILS approach to lowest authorized minimums.
  - c. 1 full-stop landing.
3. For pilots completing the maneuvers in a qualified Level C/D simulator:
  - a. Must have previously logged 100 hours in type.
  - b. First 2 landings must be observed by an authorized check pilot acting as PIC.
  - c. Landings must occur within 45 days after simulator testing.
4. The observing check pilot must certify the pilot's proficiency to perform duties and may require additional maneuvers as necessary.

Adherence to recent experience requirements ensures pilots maintain proficiency for flight duties. Mukamalah Aviation mandates compliance with all specified recency of experience qualifications.



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5	QUALIFICATION REQUIREMENTS
5.7	OPERATIONS ON MORE THAN ONE TYPE OR VARIANT OF AIRCRAFT

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### 5.7 OPERATIONS ON MORE THAN ONE TYPE OR VARIANT OF AIRCRAFT

Not applicable



## 5.8 CABIN CREW

### 5.8.1 Senior Cabin Crew

Senior Cabin Crew requirements:

1. At least 1 year experience as operating cabin crew.
41. Successful completion of Senior Cabin Crew training per OM-D.

### 5.8.2 Cabin Crew

*GACAR 121.891 and 121.754*

cabin crew:

1. Must communicate in and understand English.
2. Must hold a valid GACA Class 3 medical certificate.
3. Must complete initial training and checking per OM-D. Applies to supernumerary crew and those on non-required flights.
4. Must complete additional training:
  - a. Aircraft type familiarization per OM-D.
  - b. Recurrent training and checking per aircraft type and OM-D.

*Note: Qualifying cabin crew receiving experience must wear company uniform for passenger identification.*

Adherence to cabin crew qualification and training requirements is mandatory for flight assignments per GACAR and Mukamalah Aviation standards. This ensures cabin safety and service delivery.





## 5.9 CREW MEMBER REQUIREMENTS

### 5.9.1 Limitations on Use of Services

*GACAR 121.741*

1. Mukamalah Aviation shall not use any person as a crew member, nor may any person serve, unless they:
  - a. Hold an appropriate current GACA-issued or accepted airman certificate.
  - b. Have required current airman and medical certificates in their possession when engaged in operations.
  - c. Are otherwise qualified for the operation.
2. Airmen shall present certificates for GACA inspection upon request.
3. No pilot may serve in Mukamalah Aviation operations if they have reached their 65th birthday.

Compliance with crew qualification requirements is mandatory. Mukamalah Aviation ensures adherence through qualification verification and limitations on use of services. This upholds operational safety.





## 6. CREW HEALTH PRECAUTION

### 6.1 GENERAL HEALTH REQUIREMENTS

Mukamalah Aviation considers crew member health and well-being crucial for safe and efficient operations. Crew must maintain exemplary physical and mental fitness to effectively execute duties.

Crew shall routinely self-evaluate health readiness for duty. Due to the demanding aviation environment, vigilance is required to prevent illness, physical constraints, or mental health issues from causing impairment and impacting safety or performance. Strict adherence to health standards is mandatory, including promptly reporting health concerns, complying with medical advisories and regulations, and rigorously managing overall fitness and wellness.

Mukamalah Aviation enforces a zero-tolerance policy on substance abuse due to its detrimental effects on cognition and performance. This supports a culture of health and safety vital for crew and passengers.

This section provides clear guidelines on health precautions, emphasizing their pivotal role in duties and responsibilities of Mukamalah Aviation and all crew members. Meeting health standards is a professional requirement and upholds airline safety. This commitment to health exceeds compliance, reflecting dedication to a supportive work environment that prioritizes staff well-being and enhances operational effectiveness and passenger safety.

#### 6.1.1 Mukamalah Aviation Responsibility

Mukamalah Aviation upholds responsibilities to ensure flight and cabin crew well-being and safety as fundamental to successful operations. Duties include:

1. **Scheduling for Adequate Rest:** Assignments are prioritized to ensure sufficient rest periods through rigorous FRMS standards preventing fatigue. Adequate recovery time between flights is provided, acknowledging the importance of rest in maintaining alertness and performance.
2. **Recovery Time for Reported Fatigue:** When fatigue is reported, necessary time off for full recovery is provided. This addresses immediate concerns and contributes to long-term well-being by reducing cumulative fatigue risk.
3. **Responsiveness to Health Concerns:** When sickness or unwellness is reported, the crew member is immediately released from duty as part of the commitment to safety by ensuring only fully fit crew operate flights.
4. **Access to Medical Services:** Comprehensive medical insurance services are facilitated for regular health checkups, mental health support, and immediate medical attention when required to maintain ongoing crew health and fitness.
5. **Additional Support Measures:** Beyond fundamental duties, additional measures to support crew are continuously evaluated and implemented, including a non-punitive sickness reporting approach, direct management access, and ongoing health and safety training.



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6.1	GENERAL HEALTH REQUIREMENTS

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In summary, Mukamalah Aviation dedication to flight and cabin crew extends beyond time in air through comprehensive policies and practices ensuring they are well-rested, healthy, and supported.

## 6.1.2 Crew Member Responsibility

At Mukamalah Aviation, flight and cabin crew are responsible for ensuring fitness for duty, which is crucial for safety and operations. A non-punitive approach means crew reporting illness or conditions potentially affecting performance, like fatigue, will not face disciplinary action. This encourages openly communicating health issues, upholding integrity, and safety.

Before each duty, crews must thoroughly self-assess physical health, mental alertness, and emotional stability to confirm full readiness for all operational demands. The dynamic aviation environment requires mental preparedness in addition to physical well-being.

Crews must adhere to rest guidelines and maintain a work-life balance supporting health and duty readiness. While Mukamalah Aviation scheduling follows regulations and a robust FRMS, crews must utilize provided rest opportunities. Adequate rest is essential for each duty period and cumulative fatigue mitigation.

If unfit for any reason, crew must immediately notify dispatch/supervisors, provide details on the condition, and remove themselves from duty. This fulfills the vital safety role of ensuring only fully fit crews operate aircraft. Strict compliance is mandatory.

Crew readiness and open communication about health is an individual and shared responsibility, upholding Mukamalah Aviation's safety culture.

Mukamalah Aviation maintains a strict no-tolerance policy towards substance abuse due to the detrimental impacts on flight and cabin crew cognitive and physical performance given their high-responsibility roles vital to safety standards. Crew are expected to abstain from any substance negatively affecting performance.

In summary, Mukamalah Aviation crew member fitness for work is paramount. A transparent, supportive, and non-punitive environment enables prioritizing health, which is fundamental to the safety, efficiency, and excellence of airline operations. Strict adherence to health and reporting responsibilities is mandatory for all crew members.



## 6.2 GACA MEDICAL CERTIFICATE REQUIREMENTS

### 6.2.1 Flight Crew

*GACAR 61.9(b)*

Mukamalah Aviation aligns flight crew medical standards with General Authority of Civil Aviation (GACA) requirements, which are essential to ensure medical fitness for duties. All flight crew must obtain a GACA medical certificate issued by an Approved Medical Examiner (AME) relevant to their role. The required certificate class and validity period for Mukamalah Aviation flight crew performing multi-crew operations is:

1. Pilot-in-Command: Valid Class 1 certificate, renewable every 12 months for age 40 and below, every 6 months for age 41-59, every 3 months at age 60 and above.
2. Co-Pilot and Cruise Relief Pilot: Valid Class 1 certificate, renewable every 12 months.
3. Safety Pilot: Valid Class 1 certificate, renewable every 12 months.

Strict compliance with GACA medical certification standards is mandatory for all Mukamalah Aviation flight crew. Maintaining an appropriate, valid medical certificate is a crew member responsibility and essential for flight safety.

Class	Age Group	Operation Type	Validity period
1	Underage 60	Operations requiring an ATP certificate	12th month after the month of the date of examination shown on the medical certificate.

*Table 2: Medical Certificate Requirement for Flight Crew*

*Note: Mukamalah Aviation flight crew must ensure their medical certificate is physically possessed or readily accessible on the aircraft when exercising pilot privileges. This is a crew member responsibility for regulatory compliance. Strict adherence is mandatory.*

#### 6.2.1.1 Revalidation and Renewal

Medical certificate revalidation requires completing a medical examination before current expiry. Expired certificates require ceasing operational duties until renewal.

*Note: While Mukamalah Aviation monitors expiry dates, it is the crew member's responsibility to ensure no flights are operated without a valid medical certificate.*

#### 6.2.1.2 Additional Examinations

Additional medical examinations may be required under certain circumstances including new medical conditions, health-impacting accidents/incidents, or declining health signs during operations. GACA may also require specific age-related or aviation-relevant assessments.



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6.2	GACA MEDICAL CERTIFICATE REQUIREMENTS

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Mukamalah Aviation flight crew must ensure medical certificates are revalidated before expiry through required examinations. Crews are individually responsible for maintaining valid certificates. Additional assessments may be necessary for emerging conditions or upon GACA request. Strict compliance supports operational safety.

## 6.2.2 Cabin Crew

While not regulatory, Mukamalah Aviation institutes a comprehensive policy ensuring cabin crew fitness for duty. This involves regular health assessments tailored to cabin duties, evaluating physical and mental health to confirm full capability to handle responsibilities and stresses.

### 6.2.2.1 Fitness for Duty Requirements - Cabin Crew

Mukamalah Aviation established specific cabin crew fitness requirements aligned with our safety and efficiency commitment. These ensure physical and mental preparedness to effectively fulfill duties. Under these guidelines, no cabin crew may perform duties if they:

1. Are Aware of Disqualifying Medical Conditions: Any condition preventing meeting health and fitness standards prohibits engagement in duties.
2. Are Under Impairing Medication or Treatment: Any treatment impairing ability to meet standards prohibits serving in the capacity.
3. Have a Physical Deficiency or Worsening: Any deficiencies potentially impeding ability to meet standards necessitate abstaining from duty until resolved/managed.
4. Are Impaired by Alcohol or Psychoactive Substances.

Mukamalah Aviation prioritizes cabin crew health/safety and passenger well-being. Cabin crew must self-assess health and fitness per these guidelines. Compliance ensures the highest service and safety standards are maintained, upholding Mukamalah Aviation's reputation as a trusted, responsible airline.



## 6.3 HEALTH REPORTING

Strict adherence to mandatory reporting procedures for injuries, pregnancy, and illness is imperative to uphold Mukamalah Aviation flight operation safety, integrity, and efficiency.

### 6.3.1 Injury Reporting

Crew must immediately report any injury upon occurrence or recognition, including those affecting mobility, cognitive functions, sensory capabilities, or other conditions potentially impeding safety. A report must be submitted describing the injury, required time off, and a medical assessment of impact on duties.

### 6.3.2 Pregnancy Reporting

Female crew must report pregnancy at the earliest opportunity for ensuring health/safety of the member and fetus through timely work condition adjustments. In response, Mukamalah Aviation will evaluate and modify duties per medical advice and safety considerations, including adjustments to hours, assignments, and accommodations.

### 6.3.3 Illness Reporting

Crew must report any illness potentially impairing cognitive abilities, motor functions, or alertness, including acute and chronic conditions. Details should be provided on the nature, severity, treatments, medications, and duty impact assessment. Flight crew must additionally inform an AME about medications prior to the next flight for individual fitness assessments.

### 6.3.4 Reporting Procedure

Injuries, pregnancy, or illnesses are to be reported directly to the immediate supervisor or through the designated health and safety channel.

Compliance with reporting standards is a crew responsibility, ensuring Mukamalah Aviation can take appropriate actions to maintain safety and support health.

Reports must be submitted as soon as the condition is known or diagnosed, and no later than 3 hours before the next scheduled duty.

Non-compliance with reporting is a serious breach of safety regulations with potential disciplinary action. Crews are encouraged to prioritize health/safety and err on the side of caution when reporting performance-affecting conditions. Crew well-being is essential to passenger safety and flight operations. Strict adherence to reporting standards is mandatory for all Mukamalah Aviation crew members.



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## 6.3.5 Notification of Suspected Communicable Diseases, or Other Public Health Risk, on Board an Aircraft.

*GACAR § 91.253*

Each PIC of an enroute aircraft must, upon identifying a suspected case(s) of communicable disease or other public health risk on board the aircraft, promptly notify the Air Traffic Service unit with which the pilot is communicating, the information listed below:

1. Aircraft identification,
2. Departure aerodrome,
3. Destination aerodrome,
4. Estimated time of arrival,
5. Number of persons on board,
6. Number of suspected case(s) on board, and
7. Nature of the public health risk, if known.





## 6.4 REPORTING UNFIT WHILE ON DUTY

Procedures for Mukamalah Aviation crew reporting unfit for duty during layover or in-flight aim to ensure maximum safety and well-being.

### 6.4.1 Immediate Notification to PIC

Crew becoming unfit inflight due to health issues must immediately inform the Pilot in Command (PIC). Similarly, during layover, the PIC or Senior Cabin Crew must be promptly notified.

### 6.4.2 Responsibilities of PIC

The PIC is authorized and responsible to remove any crew from duties when fitness is in question, ensuring flight safety and crew welfare.

If inflight unfitness is reported, the PIC must immediately assess severity and impact. The PIC coordinates with Operations Control for medical assessment and care upon landing. For relieved cabin crew, duties are reorganized among remaining members in consultation with the Senior Cabin Crew.

During layover, the PIC coordinates medical treatment with Operations Control. The unfit crew obtains a comprehensive medical report within 24 hours of returning to base detailing their condition.

The PIC must exercise discretion and sensitivity, maintaining privacy/dignity while providing necessary support. Mukamalah Aviation upholds the highest safety, operational efficiency, and crew welfare standards.

### 6.4.3 Procedure When the PIC Is Incapacitated

In cases where the PIC is the one incapacitated or unfit, the established chain of command and succession of command protocols in this Operations Manual must be followed. The SIC, as per the predefined hierarchy, assumes the PIC's duties, including the responsibility for safety-related decisions. The SIC must then follow the same procedure as documented in 6.4.2 of reporting and seeking guidance from the OCC.

### 6.4.4 Mandatory Clearance for Flight and Cabin Crew

Mukamalah Aviation protocols require unfit flight crew to obtain Approved Medical Examiner (AME) clearance and cabin crew to obtain approved doctor clearance before resuming duties, following thorough evaluations confirming fitness. Clearances and documentation must be provided to Operations Control. This ensures all crew are fit to maintain the highest safety and service standards.

### 6.4.5 Additional Considerations

Mukamalah Aviation maintains confidentiality and sensitivity with medical reports. Crew welfare is a priority with appropriate recovery support provided. Compliance with clearance procedures is mandatory after an unfit report.



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Additional points:

- Crew must proactively report any factors potentially affecting fitness for duty and comply with evaluations. Withholding conditions will be considered a violation.
- Operations Control will coordinate coverage for unfit crew absences. Extended leave may require crew to re-validate qualifications prior to return.
- Unfit reports without obtaining mandated clearances will be treated as disciplinary offenses given the centrality of fitness to flight safety.

Strict adherence to clearance procedures and proactive reporting reinforces Mukamalah Aviation's uncompromising safety culture and standards.



## 6.5 HEALTH GUIDANCE AND PRECAUTIONS

*GACAR 61.11*

### 6.5.1 Alcohol and Intoxicating Liquids

Mukamalah Aviation imposes a strict 12 hour minimum between alcohol consumption and duty, ensuring no influence while working. Moderation limit is 4 alcohol units in the 15 hours preceding the ban, avoiding residual effects. Random testing deters violations and ensures compliance. Refusal of testing is a serious offense with potential disciplinary action up to termination, reflecting zero tolerance for compromising safety.

### 6.5.2 Narcotics and Psychoactive Substances

Mukamalah Aviation strictly prohibits narcotics use regardless of legal status, as impairment of judgment and reactions endangers safety. Random testing enforces compliance. Positive results are dealt with severely, potentially including immediate suspension and further discipline.

### 6.5.3 Drugs

Mukamalah Aviation policy requires flight crew to obtain AME approval for all new medications, even over the counter, as side effects may impact safety. Evaluations thoroughly assess effects, duration, and duty impact. Cabin crew must disclose medications to a medical professional for guidance on use and ongoing fitness assessments, especially with changes in medication or dosage.

Compliance with health precautions and substance policies is mandatory. Mukamalah Aviation acts decisively to eliminate risks and uphold our uncompromising safety culture.

#### 6.5.3.1 Antibiotics

Crew must trial new antibiotic prescriptions for 24 hours while off-duty before use during flights, as the underlying condition may prevent flying despite antibiotic compatibility.

#### 6.5.3.2 Anti-hypertensives

Specific anti-hypertensive agents are flight-compatible if prescribed by an approved examiner, with sufficient time to assess suitability and lack of side effects before resuming duties.

#### 6.5.3.3 Antihistamines

All antihistamines can produce side effects like sedation and fatigue. Mild hay fever may be controlled by small doses after a trial period and examiner approval.



## 6.5.4 Sleeping Tablets

### 6.5.4.1 Prohibition on Melatonin

Melatonin is strictly prohibited for crew due to side effects including impaired performance and sleepiness compromising flight safety.

### 6.5.4.2 Considerations for Sleeping Tablets

Mild short-acting sleeping tablets may rarely be necessary but are heavily restricted. Usage during duty or standby is strictly forbidden.

### 6.5.4.3 Prescription and Approval Requirements

Any sleeping tablet use requires medical prescription and AME approval to prevent adverse effects on performance. Timing and dosage must be carefully monitored, with a minimum 10 hours before a flight duty.

Compliance with medication policies and obtaining necessary approvals is a crew responsibility, upholding Mukamalah Aviation's uncompromising safety culture.

### 6.5.4.4 Trial Period and Timing

To prevent adverse reactions impacting duties, specific sleeping tablets must be trialed 48 hours before any duty period. This ensures no undesirable individual responses.

### 6.5.4.5 Alternative Sleep Management Methods

Crew are strongly encouraged to adopt non-pharmacological sleep management methods like consistent schedules, conducive environments, and relaxation techniques. These lack side effects and benefit overall well-being, making them preferable to medication.

## 6.5.5 Anti-Depressants

Strict regulations govern anti-depressant use. For flight crew, only AMEs can prescribe, and both GACA and Mukamalah Aviation must approve given mental health impacts on duties. Mukamalah Aviation supports crew requiring anti-depressants through confidential counselling and duty adjustments to accommodate treatment while upholding safety.



## 6.5.6 Pharmaceutical Preparations

Crew must exercise caution with all medications, even over the counter, as side effects may impact performance. Flight crew must report all medications to an AME for evaluation before use.

## 6.5.7 Scuba Diving

Mandatory guidelines require a 24-hour interval before flight duties after any scuba dive to prevent decompression sickness risks from compromising safety. All flight and cabin crew must comply with these intervals.

Adhering to health precautions and obtaining necessary approvals is a crew responsibility, upholding Mukamalah Aviation's uncompromising standards.

## 6.5.8 Blood/Bone Marrow Donation

Blood/bone marrow donation may deplete crew members, affecting duty performance. Sufficient recovery time based on AME advice is crucial.

*Note: No flight crew shall operate a flight post-donation without AME approval, upholding crew health and safety.*

## 6.5.9 Meal Precautions

Providing flight crew different in-flight meal options mitigates simultaneous food poisoning risks, aligning with comprehensive risk management. All crew meals are carefully selected for nutritional suitability and performance support.

## 6.5.10 Sleep and Rest

Adequate sleep/rest are non-negotiable for crew health/safety. Mukamalah Aviation adheres to rest guidelines, ensuring sufficient periods. Fatigue management through training, education, and tools is critical.

## 6.5.11 Surgical Operations

Following surgery, crew must obtain GACA clearance after comprehensive evaluation confirming full recovery and fitness before resuming duties. Mukamalah Aviation provides recovery support including schedule adjustments and medical/rehab services for smooth, safe return.

Complying with health guidance demonstrates an unwavering commitment to safety. Mukamalah Aviation supports crew welfare, enabling peak performance.

## 6.5.12 Immunization

Mukamalah Aviation recommends vaccinations for crew as per international guidelines including yellow fever, Hepatitis A/B, and COVID-19, ensuring crew/passenger health/safety given global operations.



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*Note: Crew must not operate flights within 24 hours of new vaccinations to prevent adverse reactions. Individuals must maintain vaccination records and comply with KSA/country regulations.*

## 6.5.13 Smoking

Smoking has adverse health and performance impacts. Mukamalah Aviation enforces strict no-smoking policies on board and encourages quitting, offering medical support programs considering nicotine addiction challenges.

Comprehensive Mukamalah Aviation health guidance demonstrates an uncompromising commitment to safety, health, and operational efficiency. Following international best practices ensures well-prepared, fit crews providing exceptional, safe service. Mandatory compliance is expected.



## 6.6 HYGIENE

Exemplary hygiene standards are critical for Mukamalah Aviation's health and safety. Guidance is provided on drinking water precautions, food safety, food poisoning symptoms, and essential personal/environmental hygiene measures.

### 6.6.1 Drinking Water Precautions

Crew must consume water only from safe, reliable sources. Bottled water should be used in areas with unsafe water for drinking, teeth brushing, and washing fruits/vegetables. Caution must be exercised regarding ice in drinks, which may be from untreated water in some regions.

### 6.6.2 Food Precautions and Food Poisoning Symptoms

Consuming properly prepared, stored food is crucial. Raw/undercooked meat, fish, eggs and room-temperature food should be avoided, especially in tropical climates. Symptoms like nausea, vomiting, diarrhea, abdominal pain, fever or headache may indicate food poisoning and require immediate medical attention and incident reporting.

### 6.6.3 Personal Hygiene Measures

Frequent, thorough hand washing with soap and water is highly effective in preventing germ/infection spread. Hand sanitizers can be used if soap/water are unavailable. Good respiratory hygiene like covering coughs/sneezes with tissue/elbow is also essential.

### 6.6.4 Cabin Cleanliness

Regular sanitization of high-touch cabin areas minimizes contamination/germ spread risks, upholding a hygienic environment. This routine is fundamental to Mukamalah Aviation's commitment to a safe, clean flying experience.

### 6.6.5 Personal Protective Equipment (PPE)

PPE usage during cleaning or potentially infectious situations protects crew from harm. This aligns with Mukamalah Aviation's health/safety protocols emphasizing a safe, healthy environment.

Upholding rigorous hygiene standards through knowledge and resources is imperative for crew/passenger health and safety. Mukamalah Aviation mandates compliance.



## 6.7 HANDLING POTENTIALLY INFECTIOUS SITUATIONS

Procedures and protocols for managing potential infections on Mukamalah Aviation flights aim to mitigate risks and ensure passenger/crew safety and health.

### 6.7.1 Identification of Infectious Situations

Ground staff conduct pre-flight passenger screenings and review health declarations during check-in/boarding, with heightened monitoring during outbreaks. If passenger fitness to fly is questioned, medical personnel provide guidance and clearance. In-flight, crew are trained to identify infectious disease signs/symptoms and immediately report suspicions to the Pilot-in-Command (PIC) and OCC.

### 6.7.2 Initial Response and Isolation

Suspected infectious individuals should be isolated as effectively as possible by reseating in an isolated area and minimizing interactions. Handling crew must use appropriate PPE, including masks, gloves, and eye protection, to reduce transmission risks.

### 6.7.3 Communication and Coordination

The PIC coordinates with cabin crew to communicate with Operations Control and OCC, receiving guidance on managing the situation and preparing any required medical response upon landing. Discreet, calm in-flight announcements may inform passengers if necessary to avoid panic.

### 6.7.4 Post-Exposure Procedures

Upon landing, affected individuals are medically assessed as soon as possible. Other close contacts are identified for potential follow-up. The aircraft undergoes thorough disinfection cleaning, concentrating on contacted areas.

### 6.7.5 Documentation and Reporting

The PIC submits an Aviation Safety Report within 24 hours detailing the incident, steps taken, and individuals involved. Information is handled confidentially and sensitively, respecting privacy and data protection regulations.

### 6.7.6 Training and Preparedness

Crew undergo regular training on protocols including PPE use, isolation techniques, and communication. Procedures are continuously updated based on the latest public health guidelines and infectious disease control best practices.

Effective protocol management minimizes on-board transmission risks. Mukamalah Aviation's comprehensive training and procedures ensure preparedness and professional responses, safeguarding health, and safety. Mandatory compliance is required.





## 6.8 TROPICAL DISEASES

Understanding and preventing tropical diseases is crucial for crew frequently traveling to these regions. This section elaborates on common diseases and mandatory precautions.

### 6.8.1 General Precautions

Diseases spread through vectors, food/water, and person-to-person contact require varied precautionary measures. Vector diseases like malaria, dengue, yellow fever, zika, and chikungunya spread via mosquito bites, requiring repellent, protective clothing, bed nets, and screened accommodation. Contaminated food/water spread cholera, dysentery, etc., requiring drinking only treated water, avoiding ice/raw food, and practicing good hygiene. Respiratory illnesses spread through droplets, needing good respiratory hygiene like masking and distancing. Animal contact risks rabies, needing avoiding animals and prompt treatment if bitten. Comprehensive strategies are essential for tropical region health and safety.

### 6.8.2 Common Tropical Diseases

Understanding geographical disease distribution and adhering to expanded precautions significantly mitigates crew exposure risks.

#### 6.8.2.1 Malaria

1. Parasitic, mosquito-borne disease.
2. Africa, South America, Asia, rural/semi-rural areas.
3. 7-30 day incubation.
4. Fever, chills, sweating, headaches, muscle pains, nausea.
5. Repellent, clothing, bed nets, window screens, prophylaxis.

#### 6.8.2.2 Dengue Fever

1. Viral, mosquito-borne disease.
2. Southeast Asia, Western Pacific, Americas, Africa.
3. 4-10 day incubation.
4. Fever, headache, eye pain, muscle/joint pain, rash.
5. Repellent, clothing, bed nets, window screens.
6. No specific treatment.

#### 6.8.2.3 Yellow Fever

1. Viral, mosquito-borne disease.
2. South America, Africa.
3. 3-6 day incubation.



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**6 CREW HEALTH PRECAUTION**  
**6.8 TROPICAL DISEASES**

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4. Fever, chills, headache, back pain, nausea, jaundice.
5. Vaccination, repellent, clothing, bed nets, window screens.
6. Vaccine certificate required in some countries.

## **6.8.2.4 Zika Virus**

1. Viral, mosquito-borne disease.
2. Americas, Africa, Asia, Pacific.
3. Few days to 1 week incubation.
4. Fever, rash, eye pain, muscle/joint pain.
5. Repellent, clothing, bed nets, window screens.
6. Can cause birth defects if infected during pregnancy.

## **6.8.2.5 Cholera**

1. Bacterial disease, contaminated food/water.
2. Africa, Asia, Haiti.
3. 2–3-day incubation.
4. Watery diarrhea, vomiting, leg cramps, dehydration.
5. Drink bottled/treated water, avoid raw food, wash hands frequently.
6. Vaccination recommended for travel to affected areas.
7. Spreads via contaminated water/food.

## **6.8.2.6 Dysentery**

1. Intestinal infection causes diarrhea.
2. Developing countries with poor sanitation.
3. 1–3-day (bacterial), 1–4-week (amoebic) incubation.
4. Bloody diarrhea, abdominal cramps, fever, dehydration.
5. Clean water, peeled/cooked food, hand hygiene, avoid swimming in contaminated water.
6. Spreads via contaminated food/water and person-to-person contact.

Thorough knowledge and stringent adherence to precautions protects crew health and safety. Mukamalah Aviation mandates compliance.



## 6.9 COSMIC RADIATION

Mukamalah Aviation recognizes cosmic radiation as an occupational hazard, especially at high altitudes and polar routes. We are committed to managing and mitigating associated risks per GACA and IAEA guidelines.

### 6.9.1 Managing Cosmic Radiation Exposure

Regular assessments identify crew exceeding 1 mSv annual exposure. Assessments utilize route dose software and rosters, including departure/arrival locations, max flight level, and duration.

### 6.9.2 Work Schedule Organization

Schedules will be organized to reduce radiation doses for highly exposed crew through route rotation or limiting frequency on high-radiation routes.

### 6.9.3 Informing Crew Members

Training ensures crew are informed of cosmic radiation health risks. Educational programs enhance awareness and understanding.

### 6.9.4 Special Considerations for Pregnant Crew Members

Upon pregnancy notification, exposure is strictly controlled at <1 mSv for the remainder of the pregnancy, keeping the fetus dose as low as reasonably achievable.

### 6.9.5 Record Keeping and Reporting

Individual exposure records are maintained for high-exposure crew and provided annually and upon departure.

### 6.9.6 Operational Altitude Restrictions

Aircraft shall not operate above 49,000 ft without functional equipment measuring/indicating total cosmic radiation dose rate, essential for monitoring real-time radiation levels and ensuring crew safety.

*Note: Mukamalah Aviation does not operate any aircraft capable of >49,000 ft.*

### 6.9.7 Exceeding Dose Rate Limits

If a dose limit is anticipated to be exceeded, the PIC shall contact Operations Control to descend and reduce exposure below the 6 mSv annual maximum.

Mukamalah Aviation maintains responsibility for ensuring limits are not exceeded, protecting crew health. Compliance is mandatory.



## 7. FLIGHT TIME LIMITATIONS

*GACAR Parts 117, 121*

### 7.1.1 Definitions

*GACAR 117.3*

- Calendar day: 24 hours 0000-2359 UTC or local time
- Scheduled: Appointed, assigned, or designated for a fixed time
- Duty time: Any assigned pre-flight duty

### 7.1.2 Fitness for Duty

*GACAR 117.5*

1. Crews shall report well rested and prepared.
2. Mukamalah Aviation shall not assign duty if a crew reports unfit.
3. Crews shall not continue duty if unfit.
4. Crews shall confirm fitness prior to flights.

### 7.1.3 Flight Time Limits

*GACAR 117.11*

1. Mukamalah Aviation shall not schedule crews beyond:
  - a. Limits in Table below with minimum crew
  - b. 13 hours with 3 pilots
  - c. 17 hours with 4 pilots
2. PIC may exceed limits as needed after takeoff for safe landing.
3. Exceedances beyond 60 minutes shall be reported to GACA within 10 days with circumstances and corrections.
4. Corrective actions shall be implemented within 30 days.

Time of Report (acclimated)	Maximum Flight Time(hours)
0000-0459	8
0500-1959	9
2000-2359	8



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## 7 FLIGHT TIME LIMITATIONS

### 6.9 COSMIC RADIATION

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For unacclimated crews, reduce limits by 30 minutes based on last acclimated territory.

### 7.1.4 Unaugmented Flight Duty Periods

*GACAR 117.13*

Table below shows unaugmented FDP limits based on acclimated start times and segments.

If unacclimated:

1. Reduce max FDP by 30 minutes
2. Apply limits based on last acclimated territory

Scheduled Time of Start (acclimated time)	Maximum Flight Duty Period (hours) for Line holders Based on Number of Flight Segments						
	1	2	3	4	5	6	7+
0000-0359	9	9	9	9	9	9	9
0400-0459	10	10	10	10	9	9	9
0500-0559	12	12	12	12	11.5	11	10.5
0600-0659	13	13	12	12	11.5	11	10.5
0700-1159	14	14	13	13	12.5	12	11.5
1200-1259	13	13	13	13	12.5	12	11.5
1300-1659	12	12	12	12	11.5	11	10.5
1700-2159	12	12	11	11	10	9	9
2200-2259	11	11	10	10	9	9	9
2300-2359	10	10	10	9	9	9	9

### 7.1.5 Split Duty

*GACAR 117.15*

For unaugmented operations, a rest opportunity of at least 3 hours from 22:00-05:00 local time may be excluded from the FDP if:

1. Rest opportunity is scheduled before FDP.
2. Rest opportunity as scheduled is provided.
3. Occurs after first segment.
4. Total FDP and rest time does not exceed 14 hours.



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## 7.1.6 Augmented Flight Duty Periods

GACAR 117.17

1. Table below shows limits for augmented FDPs based on acclimation, rest facilities, and crew size.
2. If unacclimated, reduce limit by 30 minutes based on last acclimated territory.
3. Assignment requires in-flight rest opportunities as specified.
4. No more than 3 segments.
5. At least 1 qualified pilot must be at controls.

Scheduled Time of Start (acclimated time)	Maximum Flight Duty Period (hours) Based on Rest Facility and Number of Pilots					
	Class 1 Rest Facility		Class 2 Rest Facility		Class 3 Rest Facility	
	3 Pilots	4 Pilots	3 Pilots	4 Pilots	3 Pilots	4 Pilots
0000-0559	15	17	14	15.5	13	13.5
0600-0659	16	18.5	15	16.5	14	14.5
0700-1259	17	19	16.5	18	15	15.5
1300-1659	16	18.5	15	16.5	14	14.5
1700-2359	15	17	14	15.5	13	13.5

## 7.1.7 FDP Extensions

GACAR 117.19

1. Within 2 hours before takeoff, the PIC and Mukamalah Aviation may extend the FDP up to 2 hours maximum, with extensions over 30 minutes only once before a rest period. Extensions cannot cause cumulative limits to be exceeded.
2. After takeoff, the PIC and Mukamalah Aviation shall extend FDPs as needed to safely land. Extensions beyond 30 minutes may occur only once before a rest period, and may exceed cumulative limits.
3. FDP extensions over 30 minutes shall be reported within 10 days with circumstances and corrections. Corrections shall be implemented within 30 days.



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## 7.1.8 Reserve Limits

*GACAR 117.21*

1. Reserve types are long-call, short-call, and airport/standby. Airport/standby reserve is part of the FDP.
2. Short call reserves have a 14-hour availability period, and must receive required rest between availability periods.
3. The combined FDP and reserve availability for short call unaugment reserves cannot exceed the lesser of max FDP + 4 hours, or 16 hours. For augmented operations, it cannot exceed max FDP + 4 hours.
4. Long call reserves must receive 12 hours notice if reporting for duty during their circadian low.
5. Rest is required to transition reserve status from long call to short call.

## 7.1.9 Cumulative Limits

*GACAR 117.23*

1. All company flying counts towards cumulative limits.
2. 100 hours flight time in any 672 consecutive hours.
3. 1000 hours flight time in any 365 consecutive calendar days.
4. 60 FDP hours in any 168 consecutive hours.
5. 190 FDP hours in any 672 consecutive hours.

## 7.1.10 Rest Periods

*GACAR 117.25*

1. Crews shall not be assigned duty during required rest periods.
2. 30 consecutive hours free of duty are required within the past 168 hours before assignment.
3. 36 consecutive hours free of duty provides acclimation.
4. 56 consecutive hours are required after exceeding 60° longitude, encompassing 3 nights' sleep.
5. 12 hours rest (in base) or 14 hours rest (away) is required before FDP assignment. Crews shall notify the company if rest will not provide 8 uninterrupted hours sleep opportunity.
6. Deadheads exceeding max FDP require rest equal to deadhead time, but no less than required rest.

## 7.1.11 Consecutive Night Operations

*GACAR 117.27*



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No more than 3 consecutive FDPs may infringe on the window of circadian low.





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## 7.1.12 Emergency/Government Operations

*GACAR 117.29*

1. Applies to government contract/deviation operations under GACAR 119.105 that cannot meet rest requirements.
2. The PIC may exceed limits as needed for relief crew or rest at the closest safe location.
3. Exceedances cannot violate cumulative flight time limits.
4. Crews get 24 hours rest or rest equal to the extended FDP after reaching location.
5. Report FDP exceedances over 30 minutes or flight time exceedances within 10 days.
6. Reports must include circumstances and corrections/actions taken.
7. Corrective actions must be implemented within 30 days.



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## 7 FLIGHT TIME LIMITATIONS 7.2 Cabin Crew Duty Time Limits and Rest Requirements

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## 7.2 CABIN CREW DUTY TIME LIMITS AND REST REQUIREMENTS

GACAR 121.1041

Table below specifies cabin crew duty period limits and required rest.

- No duty assignment unless minimum rest is provided
- No duty during required rest
- Transportation for duty at another location does not count as rest
- 24 consecutive hours free of duty per week
- Exceedances due to circumstances beyond airline control are permitted
- Boarding and deplaning count towards duty time

Duty Period in hours	Rest Required
14 hours	12 hours *
(*) The rest period required under the above point may be scheduled or reduced to 10 consecutive hours	
14 – 16 hours *	12 hours (Note 1)
(*) One additional cabin crew member assigned above the minimum complement.	
16 – 18 hours **	12 hours (Note 1)
(**) Two additional cabin crew members assigned above the minimum complement.	
18 – 20 hours ***	12 hours (Note 1)
(***) Three additional cabin crew members assigned above the minimum complement.	
Duty Period in hours	Rest Required
Note 1	The rest period required above may be scheduled or reduced to 10 consecutive hours if the cabin crew member is provided a subsequent rest period of at least 14 consecutive hours; this subsequent rest period must be scheduled to begin no later than 24 hours after the beginning of the reduced rest period and must occur between the completion of the scheduled duty period and the commencement of the subsequent duty period.
	If Mukamalah Aviation elects to reduce the rest period to 10 hours as authorized by note 1 above, Mukamalah Aviation may not schedule a cabin crew member for a duty period of more than 14 hours during the 24-hour period commencing after the beginning of the reduced rest period.



7.3 AIRCRAFT DISPATCHER DUTY TIME LIMITS

GACAR 121.1037

- 1. Duty starts to allow weather data review before first dispatch. Remains on duty until flights complete or are transferred.
- 2. Unless emergency conditions dictate:
  - a. Maximum 10 consecutive duty hours
  - b. Minimum 8 hour rest after 10 hours duty in 24 hours
  - c. Minimum 24 consecutive hours off in 7 days or equivalent in a month

7.4 FATIGUE RISK MANAGEMENT

GACAR 121.1001, 117.7, 117.9, and Appendix G(a)(2):

Flight crew limits may only be exceeded as approved under Mukamalah Aviation's Fatigue Risk Management System (FRMS) Manual. Refer to the FRMS Manual for required information.



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## 8 OPERATING PROCEDURES

### 8.1 FLIGHT PREPARATION INSTRUCTIONS

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## 8. OPERATING PROCEDURES

### 8.1 FLIGHT PREPARATION INSTRUCTIONS

Mukamalah Aviation is committed to planning and executing all flight operations within the highest tier of controlled airspace whenever feasible, unless specific operational factors dictate otherwise.

Flight Operations should, where circumstances permit, be executed within controlled airspace or within zones of positive radar coverage. In scenarios where such conditions are unattainable, operations should be confined to areas where traffic advisories or equivalent services are accessible. Notwithstanding these policies, deviations are permitted when necessary, such as for circumnavigation of thunderstorms, even if it results in operating outside of controlled airspace.

The Pilot in Command (PIC) is obligated not to embark on a flight unless assured of the following conditions:

1. The aircraft is confirmed to be airworthy.
2. The configuration of the aircraft aligns with the Configuration Deviation List (CDL).
3. All necessary instruments and equipment for the flight are present.
4. The instruments and equipment meet operational standards, except as permitted by the Minimum Equipment List (MEL).
5. The relevant sections of the Operations Manual necessary for the flight are accessible.
6. All mandated documents, additional information, and forms are available on board the aircraft.
7. Up-to-date maps, charts, and associated documents, or their digital equivalents, are at hand to fully cover the intended flight operation, including any reasonable diversionary routes (this encompasses necessary conversion tables for operations in metric airspace).
8. The ground facilities and services required for the intended flight are available and meet the requisite standards.
9. The flight can meet the specifications set out in the Operations Manual regarding fuel, oil, oxygen, minimum safe altitudes, aerodrome operating minima, and the availability of alternate aerodromes, where applicable.
10. The load is properly distributed and securely fastened within the aircraft.
11. The aircraft's weight at the start of the take-off roll is such that the flight will adhere to all regulatory mandates and aircraft-specific documentation.
12. Any additional operational limitations imposed by the Original Equipment Manufacturer (OEM) are fulfilled.



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### 8.1.1 Minimum Flight Altitudes

*GACAR Part 91.67, 121 Appendix G – (a)(7)*

Mukamalah Aviation mandates that all flights, with the exception of take-off and departure phases or approach and landing sequences, shall be planned and executed at or above the minimum flight altitudes stipulated herein. These designated minimum altitudes must at all times conform to or exceed any minimum altitudes established by the sovereign airspace being traversed.

In determining these minimum flight altitudes, the following considerations shall be rigorously evaluated:

1. The precision with which the aircraft's position can be ascertained.
2. The potential errors inherent in the altimeter readings utilized.
3. The topographical features of the terrain over which the flight is to be conducted, particularly abrupt changes in elevation along the flight route or within the operational area.
4. The likelihood of encountering adverse weather phenomena, such as intense turbulence or downdrafts.
5. The potential for inaccuracies within the aeronautical charts.
6. Necessary adjustments for deviations in temperature and pressure from standard values, as detailed in the Operations Manual-C (OM-C).
7. Any predictable eventualities that could be encountered en route.

#### 8.1.1.1 Terrain Clearance and ATC

Under Mukamalah Aviation operational guidelines, the ultimate responsibility for maintaining adequate terrain clearance, in accordance with regulatory requirements, rests with the Pilot in Command (PIC) of the aircraft. This responsibility persists even when the aircraft is under positive radar control, provided by Air Traffic Control (ATC).

The PIC must ensure the following:

1. Even if ATC provides a cleared altitude, the PIC maintains the authority and obligation to question or refuse ATC clearances that may compromise the safe operation of the aircraft, including terrain clearance.
2. The PIC should always be aware of the Minimum Safe Altitudes for the area of operation, including Minimum Enroute Altitudes, Minimum Obstacle Clearance Altitudes, Minimum Sector Altitudes, etc.
3. The PIC should actively use all available resources, such as onboard navigation systems, terrain awareness and warning systems (TAWS), and other safety systems to maintain situational awareness and ensure a safe flight profile.
4. In case of discrepancies or doubts regarding ATC instructions, the PIC should seek clarification or request an amended clearance to maintain safe terrain separation.



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5. The PIC must be knowledgeable about the terrain and obstacles along the route of flight and any potential impact on the flight path due to meteorological conditions or aircraft performance.

The PIC's primary concern is the safety of the flight, and terrain clearance is a critical aspect of this responsibility. ATC provides assistance and separation from other aircraft, but the PIC must always be prepared to make the final decision to ensure the aircraft's safe passage.

#### 8.1.1.2 Minimum Flight Altitudes/Flight Levels

The minimum flight altitude for any phase of flight is shown on the company provided charts and/or guidance material. The information contained below shall be considered by the PIC when determining the minimum flight altitude/ level for the safe avoidance of terrain and obstacles:

Except during take-off, departure, approach and landing, no person may operate an aircraft at an altitude lower than the MSA.

##### 8.1.1.2.1 Terminal Area

Minimum Safe Altitude (MSA): Except during takeoff, departure, approach, and landing phases, aircraft must not be operated below the MSA to ensure adequate clearance from terrain and obstacles.

##### 8.1.1.2.2 Enroute

###### 8.1.1.2.2.1 On Airway

The aircraft must fly at the higher of these two altitudes Minimum Enroute Altitude (MEA) and Minimum Obstacle Clearance Altitude (MOCA)

###### 8.1.1.2.2.2 Off Airway

When operating off established airways, the aircraft must maintain the higher of the AMA or MOCA if it is published. If these are not published, then the grid MORA must be used.

###### 8.1.1.2.2.3 Abnormal Operations

In cases such as depressurization or engine failure, the flight should adhere to the minimum enroute altitude as defined by the operational flight plan's depressurization or drift down schedule.

For more information on these procedures, one should refer to the Operations Manual C (OM C) specific to the aircraft and airline.

###### 8.1.1.2.2.4 Temperature Corrections

Altitude corrections must be made when the outside air temperature (OAT) deviates from the standard atmosphere temperatures. These corrections are critical in cold weather operations to ensure that the true altitude above terrain is maintained, as cold temperatures can cause the altimeter to display a higher altitude than the aircraft is actually flying.

For specific procedures and calculations regarding low temperature altitude corrections, the OM C provides detailed guidance.



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Aircraft must comply with these altitude requirements to ensure a safe flight operation that accounts for navigational accuracy, terrain, and obstacle clearance, as well as changes in atmospheric conditions. The PIC must be familiar with these regulations and the specific guidance provided in OM C, especially when dealing with abnormal operations and temperature variations that could affect terrain clearance.

### 8.1.1.3 Minimum Altitudes/Flight Levels for VFR Flights

#### 8.1.1.3.1 VFR Take-off and Landing Weather Minimums

*GACAR Part 121.1205*

This section is not relevant to the operations of Mukamalah Aviation

#### 8.1.1.3.2 Prohibition of Night VFR Flights

*GACA Part 91.171*

This regulation does not apply to Mukamalah Aviation

### 8.1.2 Aerodrome Suitability

Mukamalah Aviation has duly classified all authorized aerodromes in accordance with the criteria established in the Operations Manual C (OM-C). These classifications take into account a myriad of factors to determine the operational suitability of each aerodrome.

#### 8.1.2.1 Aerodrome Categorization

For a comprehensive list of aerodrome categorizations, please consult the OM-C.

#### Special Airports

*GACAR § 121.777*

Special airports are designated based on an assessment by Mukamalah Aviation or GACA regulations, which may require pilots to possess particular skills or knowledge for operations. The criteria for such determinations include, but are not limited to:

1. Airports surrounded by or in close proximity to mountainous terrain, which may include high or steeply rising terrain.
42. Airports in regions where terrain contributes to mountain waves, turbulence, strong surface winds, sudden wind shifts, or other atmospheric disturbances that could impact aircraft performance.
43. Airports set in landscapes with significant topographical diversity, such as ridges, valleys, or ravines, where adverse conditions like downdrafts may pose hazards, particularly during crosswind landings.
44. Airports where the runway or approach environment is challenging to discern at night due to the interference of surrounding lights.



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45. Airports located in areas where vast or featureless terrain could induce visual illusions either during daylight or nighttime.
46. Airports that lack adequate lighting, complicating the identification of the airport, runway, or approach areas at night in the absence of prominent landmarks.
47. Airports that do not offer lighting and where reliance on external visual cues alone does not suffice for maintaining correct aircraft attitude control.
48. Airports that demand the application of any additional specific skills or knowledge, as mandated by Mukamalah Aviation or the State authority.

A detailed list of all special airports is maintained in the OM-C. The requirements for flight crew member qualifications are outlined in the OM-D.

## 8.1.2.2 Minimum Pavement Width

For information regarding minimum pavement width, please refer to the OM-C.

## 8.1.2.3 Minimum Pavement Strength

For details on minimum pavement strength requirements, the OM-C should be consulted.





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## 8.1.2.4 Rescue and Fire Fighting Services (RFFS)

*GACAR Part 121.1117*

Mukamalah Aviation is required to adhere to the following minimum standards for Rescue and Fire Fighting Services (RFFS):

Minimum Required RFFS			
Type	Departure and destination aerodrome	Take-off alternate, destination alternate and other enroute alternate aerodromes	ETOPS enroute alternate aerodromes
B737			

*Note:*

*A reduction to one category below the specified aircraft RFFS category is permissible.*

*For departure and destination aerodromes: In the event of an RFFS downgrade, the RFFS may be reduced by one category below the aircraft's RFFS category.*

*If a Temporary Downgrade is published via NOTAM, the RFFS may be reduced to two categories below the aircraft's RFFS category.*

*For take-off, destination, and enroute alternate aerodromes: During a Temporary Downgrade published via NOTAM, the RFFS can be reduced to category xxx.*

PIC Emergency Authority:

In-flight, the Pilot in Command (PIC) may, in coordination with the Operational Control Center (OCC), opt to land at an aerodrome where the RFFS category is lower than that specified in section 8.1.5. This decision should be made if, in the PIC's judgment and after considering all relevant factors, such an action is deemed safer than diverting to another location.

## 8.1.2.5 Aerodrome Curfew/Night Noise Quota Restriction

The Pilot in Command should ensure coordination with the Operational Control Center for any planned departure or arrival that coincides with an aerodrome curfew or falls within any other specified restricted period.



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## 8.1.2.6 Performance Requirements

### 8.1.2.6.1 Definitions

#### Dry Runway:

A dry runway is one which is neither wet nor contaminated.

#### Damp Runway:

A damp runway has moisture present but does not appear reflective or shiny. Damp runways shall be considered wet runways.

#### Wet Runway:

A wet runway has water or equivalent fluid covering the surface without significant standing water. The surface appears reflective due to sufficient moisture.

#### Contaminated Runway:

A contaminated runway has more than 25% of the required length and width covered by the following:

1. Standing water over 3 mm deep, slush, or loose snow equivalent to over 3 mm of water.
2. Snow compressed into a solid mass resistant to further compression.
3. Ice, including wet ice.

#### Standing Water:

Pools of water of substantial depth on the runway surface.

#### Slush:

Snow saturated with water that spatters when stepped on firmly.

#### Wet Snow:

Snow that sticks together when compressed to form a snowball.

#### Dry/Loose Snow:

Snow that can be blown loose or falls apart when compressed then released.

#### Compacted Snow:

Snow compressed into a solid mass.

#### Frost:

Ice crystals formed from moisture condensing on surfaces below freezing temperature. Granular texture.

#### Rime/Rime Ice:

The formation of an opaque, milky, granular deposit of ice by rapid freezing of supercooled water droplets upon impact with exposed aircraft surfaces.

#### Icy:

Covered in ice.



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### Operational Landing Distance (OLD):

The actual achievable landing distance without margins, from threshold to touchdown and full stop deceleration. Assumes a realistic airborne phase.

### Factored Operational Landing Distance (FOLD):

The operational landing distance multiplied by a factor to provide adequate margin for a safe landing under normal conditions. The FOLD accounts for deviations from the ideal stabilized approach and landing.

Distance	Factor
Operational Landing Distance (OLD)	x 1.15

Table 3: Factored Operational Landing Distance Calculation

#### 8.1.2.6.2 General

Takeoff and landing performance calculations must be completed electronically or by referring to approved Mukamalah Aviation documentation. The Pilot in Command shall ensure the actual takeoff and landing weight does not exceed the maximum weights calculated, accounting for all performance restrictions.

The Pilot in Command shall determine that takeoffs and landings can be conducted safely given the anticipated runway conditions. Runway surface conditions shall be used to complete takeoff and landing performance calculations. If multiple runway condition codes (RWYCCs) and/or contamination grades are reported, the most conservative values shall be used for calculations.

The following considerations are mandatory for wet and contaminated runway operations:

1. Available runway length
2. Grooved or porous runway surfaces
3. Clarity of threshold, centerline, and edge lighting
4. Reliability of reported runway conditions
5. Surface wind and crosswind limitations
6. Visibility/RVR
7. Risk of optical illusions
8. Comparable aircraft pilot reports (for guidance only)

#### 8.1.2.6.3 Take-off – Adverse Runway Conditions

In addition, the following limitations apply during contaminated runway operation:

1. Maximum take-off thrust shall be used,
2. Take-off is prohibited on icy runways considered contaminated as per 8.1.2.6.1.4 unless the icy runway is treated with sand/chemicals and an exemption for the respective airport has been granted. Exemptions shall be granted on an airport-to-airport basis after review of local icy runway



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sand/chemical treatment procedures. The conditions and limitations of the exemption shall be included in the respective Jeppesen airport information page,

3. Take-off shall not be commenced if the risk of icing during the initial climb is forecast or reported to be such that the anti-icing system may not be able to cope with the expected ice accretion,
4. Take-off shall be abandoned immediately if the airplane does not accelerate properly,
5. Minimum cleared or treated runway width:

Distance	Factor
Operational Landing Distance (OLD)	x 1.15

*Factored Operational Landing Distance Calculation*

#### 8.1.2.6.4 In-Flight Landing Distance Requirements

The Landing Distance Available (LDA) must not be less than the Factored Operational Landing Distance (FOLD).

In abnormal or non-normal situations, the Pilot in Command may disregard the FOLD if the Operational Landing Distance (OLD) is equal to or less than the LDA.

### 8.1.3 Methods and Responsibilities for Establishing Aerodrome Operating Minima

*GACAR Part 121.1209*

Mukamalah Aviation establishes aerodrome operating minima for takeoff and landing in accordance with mandatory considerations including:

1. Aircraft type, performance, and handling characteristics.
2. Flight crew composition, qualifications, and experience.
3. Dimensions and characteristics of potential runways.
4. Capabilities and performance of available visual and non-visual ground aids.
5. Available equipment for navigation, flight path control, takeoff, approach, flare, landing, rollout, and missed approach procedures.
6. Obstacle clearance requirements in approach, missed approach, and climb out areas.
7. Obstacle clearance altitudes/heights for instrument approaches.
8. Means to determine and report meteorological conditions.
9. Final approach flight techniques.
10. Local regulations.

Aerodrome operating minima are published in the Jeppesen Airway Manual. Strict compliance with established minima is crucial for flight safety.



8.1.3.1 Types of Aerodromes

8.1.3.1.1 Alternate Aerodrome for Departure

1. A takeoff alternate is required if departure aerodrome weather is below Mukamalah Aviation landing minimums or return to departure aerodrome is not possible. Takeoff alternates must be located within:

1 hour normal one-engine inoperative cruise speed from the departure aerodrome calculated at actual take-off mass under standard conditions.

Each required take-off alternate aerodrome must be listed in the dispatch release.

8.1.3.1.2 En-route Alternate Aerodromes

En-route alternate aerodromes are aerodromes to which an Aeroplan can safely divert after experiencing a deviation from planned operation or for any other reason while flying enroute.

8.1.3.1.3 Alternate Aerodrome for Destination

1. Aircraft on IFR flights must dispatch with at least one destination alternate unless:
  - a. Flight is 6 hours or less and weather forecasts indicate:
    - i. Ceiling at least 1500 ft above the lowest approach minimum or 2000 ft above airport elevation, whichever is greater.
    - ii. Visibility at least 5 km.
    - iii. Separate usable runways with at least one instrument approach.
  - b. The destination is an isolated airport.
2. Isolated airport operations must comply with fuel requirements and establish a point of no return.
3. Two destination alternates required when:
  - a. The destination weather below Mukamalah Aviation minimums.
  - b. Destination weather information unavailable.
4. GACA may approve alternate selection variations based on Mukamalah Aviation safety risk assessments.
5. Destination alternate weather must meet requirements in **Section XXX.**
6. All required destination alternates must be listed in dispatch release.



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#### 8.1.3.1.4 Isolated Aerodrome

An isolated airport requires alternate and final reserve fuel exceeding 2 hours above destination.

Strict compliance with enroute and destination alternate selection criteria is mandatory for Mukamalah Aviation flight planning and dispatch.

#### 8.1.3.2 Instrument Approach Classification

*GACAR Part 121 Appendix-G (a)(27)*

1. Non-precision approach (NPA) procedure. An instrument approach procedure designed for 2D instrument approach operations Type A, i.e., VOR, NDB, RNP APCH with LNAV minima.
2. Approach procedure with vertical guidance (APV). A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A, i.e., RNP APCH with LNAV/VNAV minima.
3. Precision approach (PA) procedure. An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B.

##### Category I operations

A straight-in approach to the runway of an aerodrome under a Category I instrument approach procedure.

Category I approaches include a decision height not lower than 200 ft (60 m) and either a visibility not less than 800 m or a runway visual range not less than 550 m.

##### Category II operations

A straight-in approach to the runway of an aerodrome under a Category II instrument approach procedure.

Category II approaches include a decision height lower than 200 ft (60 m), but not lower than 100 ft (30 m), and a runway visual range not less than 350 m.

##### Category III operations

An approach to, and landing on, the runway of an aerodrome using a Category III instrument approach procedure. Category III operations may be further classified as follows:

1. Category IIIA operations means an approach and landing with no decision height (DH), or a DH below 100 ft (30 m) and controlling runway visual range not less than 700 ft (200m).
2. Category IIIB operations means an approach and landing with no DH, or with a DH below 50 ft (15 m) and controlling runway visual range less than 700 ft (200 m), but not less than 150 ft (50m).
3. Category IIIC operations means an approach and landing with no DH and no runway visual range limitation.



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#### Lower than standard (LTS) CAT I

A Category I precision approach procedure conducted when reported visibility is below the standard minimums required for such procedures.

Mukamalah Aviation is not authorized to conduct LTS CAT I operations.

Approach type	2D Flown to MDS/H		3D Flown to DA/H	
(Type A) MDH or DH at/ above 75m (250 ft)	VOR, NDB, LOC	APCH (LNAV, LP)	ILS, MLS, GLS CAT I	APCH (LNAV, VNAV, LPV) AR(RNP)
(Type B) DH Below 75m (250 ft)	-----	-----	ILS, MLS, GLS CAT I, CAT II Or CAT III	APCH (LPV)

#### 8.1.3.3 Pre-Flight Planning Minima

Type	Required to be at or Above the Applicable Charted Minima
CAT II and III	RVR
CAT I, APV and Non-precision approach (Note 1, 2)	RVR or visibility
Circling	Visibility and ceiling
Visual approach	Visibility and ceiling

Table 4: Pre-flight Planning Minima

Pre-flight planning minima will be in accordance with the following table unless restricted by local requirements. Mukamalah Aviation Flight Dispatch and pilots should consider the most probable runway expected to be in use at destination and alternate airports, considering failed or downgraded ground equipment (such as unserviceability by NOTAM).

If no weather forecast is available for a destination, destination alternate, en-route alternate, and take-off alternate aerodrome, it shall be below pre-flight planning minima.



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Subject to GACA approval: Mukamalah Aviation is authorized to use alternate airport operating minima from the following table, for planning purposes:

Destination Alternate Aerodrome, Take-off Alternate Aerodrome, En-route Alternate Aerodrome, Isolated Aerodrome

*GACAR Part 121.1397, 121.1389*

For planning purposes Mukamalah Aviation is authorized to use alternate aerodrome weather minimums only derived from the table below:

Alternate Aerodrome IFR Weather Minima		
Approach Facility Configuration	Ceiling	Visibility
For aerodromes with at least one operational navigational facility providing a straight-in non-precision approach procedure, or Category I precision approach, or, when applicable, a circling maneuver from an IAR	Add 400ft (125m) to MDA(H) or DA(H), as applicable.	Add 1 statute mile or 1600m to the landing minimum.
For aerodromes with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200ft (50m) to higher DA(H) or MDA(H) of the two approaches used.	Add 1/2 statute mile or 800m (out of KSA 700m if different forecast standard used) to the higher authorized landing minimum of the two approaches used.
One useable authorized Category II ILS IAP.	Three hundred (300) feet (75m) ceiling.	Visibility 1200m or RVR 1200m.
One useable authorized Category III ILS IAR	Two hundred (200) feet (50m) ceiling.	Visibility 800m or RVR 550m.

*Table 5: Alternate Aerodrome IFR Weather Minima*

An aerodrome served by an RNP APCH only, may be used for planning purposes as an alternate aerodrome if:

1. The Mukamalah Aviation aircraft dispatcher performs a preflight RAIM prediction for that alternate aerodrome and finds it satisfactory for the ETA.
2. At the destination aerodrome, the Mukamalah Aviation flight crew may fly a non-GPS-based IAP.

An aerodrome served by an NPA only, with the underlying navigation aid (NDB, VOR, or DME) out-of-service or compatible Mukamalah Aviation aircraft avionics not operational (ADF, VOR, or DME), may not be used for planning purposes as an alternate aerodrome.

If no IAP has been published under GACAR Part 97 for the alternate aerodrome, the ceiling and visibility minima are those allowing descent from the minimum enroute altitude (MEA), approach, and landing under basic VFR.





8.1.3.4 In-Flight Minima

Before commencing an approach to land, the PIC shall satisfy himself that, according to the information available, the weather at the aerodrome and the condition of the runway intended to be used should not prevent a safe approach, landing or missed approach.

Unless conducting a visual approach, appropriate approach charts shall be available to the crew for the planned procedure.

Type	Required to be at or Above the Applicable Charted Minima
CAT II and III	RVR
CAT I, APV and Non-precision approach ( <i>Note</i> )	RVR or visibility ( <i>Note</i> )
Circling	Visibility and ceiling
Visual approach	Visibility and ceiling

*Note: The applicable value (RVR or visibility) as required according to the approach chart shall be considered.*

8.1.4 En-route Operating Minima for VFR flights or VFR Portions of a Flight

GACAR Part 91.169

Not applicable.



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### 8.1.5 Presentation and Application of Aerodrome and en-route Operating Minima.

A PIC is not permitted to operate to minima which are lower than that shown in Jeppesen Route Manual for the take-off or approach.

The PIC has the final authority to decide on higher minima if deemed necessary.

#### 8.1.5.1 Take-off Minima

Take-off minima are expressed as RVR/visibility.

#### 8.1.5.2 Landing Minima

Landing minima are expressed as follows:

Type	DH/DA	RVR/visibility
Precision Approach Procedure	DH/DA	RVR/visibility
Approach Procedure with Vertical Guidance (APV)	DA	RVR/visibility
Non-precision Approach Procedure (NPA) not using CDFA technique	DA	RVR/visibility
Non-precision Approach Procedure (NPA) using CDFA technique	MDA	RVR/visibility
Visual Approach (as applicable)/Circling	MDA	visibility

Table 6: Landing Minima

#### 8.1.5.3 Application of Minima

The minima for a specific type of take-off or approach procedure are considered applicable if:

1. The ground equipment shown on the respective approach chart for the intended procedure is fully operative or as per failed or downgraded equipment chart,
2. The required Mukamalah Aviation airplane systems are fully operative,
3. The required Mukamalah Aviation airplane performance criteria are met,
4. The Mukamalah Aviation crew is qualified accordingly.



8.1.5.3.1 Aeroplane Categories

Aerodrome operating minima are based on the following Mukamalah Aviation aeroplane categories:

Type	Aeroplane Category
B737-800	C

Table 7: Aerodrome Operating Minima based on airplane Category.

8.1.5.3.1.1 Standard IFR Takeoff En-route Operating Minima

- Standard takeoff minima under IFR:
  - Visibility 1600m for VFR Flights or RVR 1500m for twin-engine aircraft.VFR Portions of a Flight
- RVR reports must be used when available for all takeoffs on that runway.
- When unpublished, pilots may use standard or lower than standard minima per this section. Touchdown Zone RVR controls when using standard minima or greater.
- When published minima exceed standard minima without an alternate procedure, pilots must not use lower than published minima. Touchdown Zone RVR controls.
- When published minima are equal to or less than standard minima, pilots may use lower than standard minima.

Standard take-off Minima

A/C Engine Type	RVR/VIS
2 Engine A/C	RVR 1500m/VIS 1600m



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## 8.1.5.3.1.2 Lower than Standard IFR Takeoff Minima

subject to GACA approval:

1. Mukamalah Aviation may takeoff below standard minima when:
  - a. No takeoff minimum is published.
  - b. The published minimum is equal to or less than standard.
- Applicable when reported visibility is below 1600m or RVR 1500m for twin-engine aircraft.
- RVR Requirements:
  - RVR 400m or above:
  - TDZ RVR controlling if available.
  - Mid RVR may substitute if TDZ unavailable.
  - Visibility 400m+ if no RVR.
  - RVR 200-400m:
    - Minimum 2 operative RVR systems required.
    - All available RVRs controlling.
  - RVR below 200m:
    - All RVR systems required Presentation and controlling.
- Authorized minima per Summary. Follow Low Visibility procedures below RVR 400m.

## 8.1.5.3.1.3 Low Visibility Take-Off (LVTO)

1. LVTO Minima:

Mukamalah Aviation is authorized to conduct LVTO with:

- a. RVR below 400m if criteria in table are met.
- b. RVR 125-150m if:
  - i. High intensity 15m runway centerline lightsApplication of Aerodrome and 60m edge lights are on. En-route Operating Minima
  - ii. 295ft visual segment available at takeoff start.
  - iii. Required RVR achieved at all relevant points.
  - iv. Crosswind component less than airplane or 15kt limit.
- c. The crosswind component on the take-off runway is less than the airplane flight manual's crosswind limitation, or 15kts, whichever is more restrictive.



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FACILITIES	RVR1
Day: runway edge lights and runway centerline markings Night: runway edge lights or runway centerline lights and runway end lights	300m
Runway edge lights and runway centerline lights	200m
Runway edge lights and runway centerline lights and relevant RVR information <sup>2</sup>	TDZ 150m MID 150m ROLLOUT 150m
High intensity runway centerline lights spaced 15m (49ft) or less and high intensity edge lights spaced 60m (200ft) or less are in operation <sup>2</sup>	TDZ 125m MID 125m ROLLOUT 125m
The reported RVR value representative of the initial part of the take-off run (TDZ RVR) can be replaced by pilot assessment by counting the runway edge lights (spaced 60m apart) and/or centerline lights (spaced 15m apart).  The required RVR value to be achieved for all relevant RVRs reporting points with the exception given in Note 1 above.	

Figure 2: LVTO Criteria Table

### 49. Training and Qualifications:

Flight crew must complete Mukamalah Aviation's approved training for lower than standard IFR takeoff and be qualified in their respective crew positions for the authorized takeoff RVR minima.

#### 8.1.5.3.1.4 Take-off Minima - All Airports Except Unlisted

The following takeoff minima apply to all airports except those not listed in OM-C:

1. Use published takeoff minima if higher than standard minima.
2. Use lower than standard minima from table below if:
  - a. Takeoff minima are unpublished; or
  - b. Published minima are equal to or lower than standard minima.

*Note: Always compare company minima to published minima and use the higher.*



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Lower than STD T/O Minima					
LVTO less than RVR 400m*¹					
HIRL, CL & relevant RVR	RL & CL relevant RVR	RL & CL	Day: RL &RCLM Night: RL or CL	Day: RL & RCLM Night: RL or CL	Adequate vis ret (Day only)
TDZ, MID, RO RVR 125m	TDZ, MID, RO RVR 150m	RVR 200m	RVR 300m	400m	500m
All RVR reporting systems are required and controlling (TDZ, MID, and Rollout).		Minimum two RVR required (out of TDZ/MID/ROLLOUT).  All available RVR reports are controlling excluding Far- End.		RVR reports, when available for a particular runway, shall be used for all take-off operations on that runway.  Visibility 400 meters or more may be used when there are no RVR reports.  TDZ RVR, if available, is controlling.  MID RVR may be substituted if TDZ is unavailable.	
<i>Note 1: Night operations always require Runway End Lights. This is not indicated in the take-off minima box.</i>					
<i>Note 2: The reported RVR value for TDZ representative of the initial part of the take-off run can be replaced by pilot assessment by counting the Runway Edge Lights (spaced 60m apart) and/or Centreline Lights (spaced 15m apart).</i>					
<i>*Adequate visual reference means any one of the following:</i>					
<i>Serviceable RCLM or RL or CL or HIRL; or</i>					
<i>Any other visual reference that a pilot is able to continuously identify the take-off surface and maintain directional control throughout the take-off roll.</i>					
<i>**The LVTO crosswind component limitation on the take-off runway is 15 knots.</i>					
CL	Runway Centreline Lights		RL	Runway Edge Lights	
HIRL	High Intensity Runway Edge Lights		TDZ	Touch Down Zone	
RCLM	Runway Centreline Marking		RO	Rollout	

Table 8: Lower than Standard Take Off minima



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### 8.1.5.3.1.5 Take-off Minima - Unlisted Airports

GACAR 121.1385

If published, use published takeoff minima at unlisted airports.

If takeoff minima are unpublished for an unlisted airport, the following standard takeoff minima apply:

Ceiling	Visibility
800ft (240m)	3000m
900ft (270m)	2000m
1000ft (300m)	1600m

### 8.1.5.3.2 Approach Minima

Actual conditions shall be assessed when using approach minima.

The DH/DA/MDA shall be the higher of:

1. Published minimum
2. Company minimum
3. Minimum considering failed/downgraded airplane or ground equipment

*Note: If flown to a MDH/A, add 50ft to published MDH/A.*

#### 8.1.5.3.2.1 Approaches with Visibility Below 1200 Meters

Subject to GACA approval:

Approaches with visibility below 1200m or RVR 1200m require:

1. 15% extra runway length over landing field length required.
2. Operational precision runway markings or centerline lights.
3. PIC qualification for lower landing minima.



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### 8.1.5.3.2.2 Company Landing Minima

The table below shows the lowest DH and minimum RVR for the respective approach category.

#### 8.1.5.3.2.2.1 Non-Precision and CAT I Precision Approach and Landing Minima

All Aircraft Types			
Airport Categories	CAT I * Precision Approach	Non-Precision Approach	Circling
All	DH 200' RVR 550m (VIS 800m)	As Published	MDA(H) 1000' VIS 4800m
TDZ RVR reports, when available are controlling. Mid RVR and rollout RVR reports (if available) is advisory. The mid RVR report may be substituted for the TDZ RVR report if the TDZ RVR report is not available.  Visibility values below 800 meters are not authorized and must not be used.			

Table 9: CAT I Precision Approach and Landing Minima

**Note:** The crew shall use the highest of the published minima and the company minima

#### 8.1.5.3.2.2.2 CAT II Precision Approach and Landing Minima

Subject to GACA approval

Aircraft Type	Approach/Landing Systems	DH Not Less Than	TDZ RVR Meters Feet	MID RVR Meters Feet	Rollout RVR Meters Feet
ALL	AUTOPILOT/AUTOLAND	100ft	350m/300m* 1200W1000ft*	175m 600ft	75m 300ft
TDZ RVR report is controlling for all operations and the Mid, Rollout and Far End RVR are advisory. Mid or Far End RVR may be substituted for the rollout RVR if the rollout RVR is not available.					

Table 10: CAT II Precision Approach and Landing Minima

Minima 300m/1000ft RVR require the flight crew to use Autoland.

For RVR 350m/1200ft and higher use Autoland (if available).

**Note:** The crew shall use the highest of the published minima and the company minima





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## 8.1.5.3.3 Precision Approach and Landing Minima

### 8.1.5.3.3.1 Required Visual References for Operation Below DA/DH or MDA

*GACAR 91.191(e):*

Upon reaching DA/DH or MDA, and before the missed approach point, the pilot may continue the approach below DA/DH or MDA and land if:

1. The aircraft can make a normal descent to landing within the touchdown zone at a normal rate using normal maneuvers.

*GACAR 91.191(i),*

- The flight visibility is not less than the procedure visibility.
- At least one of the following visual references is distinctly visible and identifiable:

*GACAR 91.127(e)(3),*

- a. The approach light system, not descending below 100ft above touchdown elevation using only approach lights unless red terminating or side row bars are also visible.
  - b. The threshold, markings, lights, or end identifier lights.
  - c. The visual approach slope indicator.
  - d. The touchdown zone, markings, or lights.
  - e. The runway or markings.
  - f. The runway lights.
- On a straight-in non-precision approach with a visual descent point, the aircraft has reached the descent point.
  - For CAT II approaches, at least a 3 light segment of the approach, touchdown zone, runway centerline, edge, or combination is attained and maintained. This shall include a lateral ground element like the threshold, crossbar, or touchdown zone lighting.



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## 8.1.5.3.3.2 Conversion of Reported Meteorological Visibility to RVR/CMV

The conversion table shall not be used:

2. For calculating take-off minima,
  - For calculating any other required RVR minimum less than 800 m, or
  - When reported RVR is available.

Lighting Elements in Operation	RVR/CMV = Reported Met Visibility x	
	Day	Night
High intensity approach and runway lighting	1.5	2.0
Any type of lighting installation other than above	1.0	1.5
No lighting	1.0	N/A

## 8.1.6 Interpretation of Meteorological Information

For further information, refer to Jeppesen Airway Manual.

### 8.1.6.1 Application of Aerodrome Forecast

Application of initial part of the TAF:

1. Applicable Time Period: From the start of the TAF validity period up to the time of applicability of the first subsequent 'FM... \*' or 'BECMG' or if no 'FM' or 'BECMG' is given, up to the end of the validity period of the TAF.
2. Application of Forecast: The prevailing weather conditions forecast in the initial part of the TAF should be fully applied with the exception of the mean wind and gusts (and crosswind) which should be applied in accordance with the policy in the column 'BECMG AT and FM' in the table below. This may however be overruled temporarily by a 'TEMPO' or 'PROB' if applicable acc. to the table below.



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### 8.1.6.2 Application of Aerodrome Forecast

Application of the initial part of the TAF:

3. Applicable Time Period: From the start of the TAF validity period until the time applicability of the first subsequent "FM..." or "BECMG" group. If no "FM" or "BECMG" given, applies until end of TAF validity.
4. Application of Forecast: Prevailing conditions in the initial part should be fully applied, except for mean wind and gusts (and crosswind) which should follow the "BECMG AT and FM" policy below. This may be temporarily overruled by a "TEMPO" or "PROB" if applicable per the table.

Application of forecast following change indicators in TAF and TREND:

	FM (Alone) and BECMG AT:	BECMG (Alone) BECMG FM, BECMG TL, BECMG FM..*TL in case of		TEMPO (Alone), TEMPO FM, TEMP TL TEMPO,TL PROB30/40 (alone)		PROB TEMPO	
	Deterioration And Improvement	Deterioration	Improvement	Deterioration		Improve ment in Any Case	Deterioration And Improvement
TAF or TREND for AERODROME PLANNED AS:				Transient/ Showery Conditions in connection with short-lived weather phenomena, thunderstorms, showers	Persistent conditions in Connection with, e.g., haze, mist, fog, dust/ sandstorm, continuous precipitation		
ETA -1+1 hour: Destination D Alternate ERA Alternate	start of the change  Mean wind: ✓  Gusts: ✕	start of the change  Mean wind: ✓  Gusts: ✕	end of the change  Mean wind: ✓  Gusts: ✕	Not applicable  Mean wind: ✓  Gusts: ✕	Applicable  Mean wind: ✓  Gusts: ✕	✕	✕
Earliest/latest ETA -1+1 hour: ETOPS ERA	start of the change  Mean wind: ✓  Gusts: ✓	start of the change  Mean wind: ✓  Gusts: ✓	end of the change  Mean wind: ✓  Gusts: ✓	Not applicable  Mean wind: ✓  Gusts: ✓	Applicable  Mean wind: ✓  Gusts: ✓		



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## 8.1.7 Determination of the Quantities of Fuel and Oil to be Carried

### 8.1.7.1 Fuel Planning Requirements

*GACAR 121.1381, App G-A14*

The PIC and dispatcher shall ensure sufficient usable fuel and oil to complete the flight safely, allowing for deviations.

The PIC is ultimately responsible for the final fuel load, ensuring it permits safe operation within limitations.

### 8.1.7.2 Fuel Calculation

The amount of usable fuel to be carried must, as a minimum, be based on:

1. Conservative fuel consumption data derived from:
  - a. Current aircraft-specific data derived from a fuel consumption monitoring system, if available; or
  - b. If current aircraft-specific data are not available, data is provided by the aircraft manufacturer.
2. The operating conditions for the planned flight including:
  - a. Anticipated aircraft mass;
  - b. NOTAMs;
  - c. Current meteorological reports or a combination of current reports and forecasts;
  - d. Air traffic services procedures, restrictions and anticipated delays; and
  - e. The effects of deferred maintenance items and/or configuration deviations.



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### 8.1.7.3 Fuel Supply Requirements

#### 8.1.7.3.1 The preflight fuel calculation must include:

1. Startup and Taxi fuel, which must be no less than the amount of fuel expected to be consumed before take-off.
2. Trip fuel, which must be no less than the amount of fuel required to enable the aircraft to fly from take-off, or the point of in-flight re-planning, until landing at the destination aerodrome.
3. Contingency fuel, which must be no less than the amount of fuel required to compensate for unforeseen factors. It must be five per cent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel but, in any case, must not be lower than the amount required to fly for five minutes at holding speed at 1 500 ft above the destination aerodrome in standard conditions.
4. For IFR flights, destination alternate fuel or without destination alternate fuel, as applicable, which must be no less than:
  - a. Where a destination alternate aerodrome is required:
    - i. The amount of fuel required to enable the aircraft to:
    - ii. Perform a missed approach at the destination aerodrome.
    - iii. Climb to the expected cruising altitude.
    - iv. Fly the expected routing.
    - v. Descend to the point where the expected approach is initiated, and
    - vi. Conduct the approach and landing at the destination alternate aerodrome, or
  - b. Where two destination alternate aerodromes are required:
    - i. The amount of fuel, as calculated in point (i), required to enable the aircraft to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel, or
  - c. Where a flight is operated without a destination alternate aerodrome:
    - i. The amount of fuel required to enable the airplane to fly for 15 minutes at holding speed at 1 500 ft above destination aerodrome elevation in standard conditions, or
  - d. Where the aerodrome of intended landing is an isolated aerodrome:
    - i. The amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel
5. Final reserve fuel, which must be no less than the amount of fuel calculated using the estimated mass on arrival at the destination alternate aerodrome, or the destination aerodrome when no destination alternate aerodrome is required:



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- a. The amount of fuel required to fly for 30 minutes at holding speed at 1500 ft above aerodrome elevation in standard conditions.
6. Additional fuel, which must be the supplementary amount of fuel required if the minimum fuel calculated in accordance with points (a) through (e) of this section is not sufficient to:
  - a. Allow the aircraft to descend as necessary and proceed to an alternate aerodrome in the event of engine failure or loss of pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route and to.
    - i. Fly for 15 minutes at holding speed at 1500 ft above aerodrome elevation in standard conditions.
    - ii. Make an approach and landing; and
  - b. Meet additional fuel requirements not covered above; and
7. Discretionary fuel, which must be the extra amount of fuel to be carried at the discretion of the PIC and consistent with fuel supply policies of Mukamalah Aviation.

### 8.1.7.3.2 Fuel planning limitation

A flight must not commence unless the usable fuel on board meets the requirements in paragraphs.

Section 8.1.7.3.1 (1), (2), (3), (4), (5) and (6) if required, of this section and must not continue from the point of in-flight re-planning unless the usable fuel on board meets the requirements in Section 8.1.7.3.1 (2), (3), (4), (5) and (6) if required, of this section.

### 8.1.7.3.3 Pre-flight fuel planning variations

Notwithstanding the provisions in paragraphs 8.1.7.3.1 (a), (b), (c), (d), (e) and (f) if required, of this section, the President may, based on the results of a specific safety risk assessment conducted by Mukamalah Aviation which demonstrates how an equivalent level of safety will be maintained, approve variations to the pre-flight fuel calculation of taxi fuel, trip fuel, contingency fuel, destination alternate fuel, and additional fuel. The specific safety risk assessment must include at least the:

1. Flight fuel calculations.
2. Capabilities Mukamalah Aviation include:
  - a. A data-driven method that includes a fuel consumption monitoring program; and/or
  - b. The advanced use of alternate aerodromes; and
3. Specific mitigation measures.



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## 8.1.7.3.4 President Authority

The President may amend the operations specifications to require more fuel than any of the minimums stated in this section if he finds that the additional fuel is necessary on a particular route in the interest of safety.

## 8.1.7.3.5 Fuel re-planning requirement

When fuel is used after flight commencement for purposes other than originally intended during pre-flight planning the PIC in coordination with dispatch must perform a re-analysis and, if applicable, adjustment of the planned operation.

## 8.1.7.4 Oil

Engine oil quantity will be sufficient for the Commander to ensure before flight that the engine oil contents have been topped up in accordance with the manufacturer's recommendations. Minimum and maximum oil quantities and maximum average estimated oil consumption are indicated in the relevant aircraft type manuals.





8.1.8 Mass and Centre of Gravity

*GACAR §121.197, 121.1337, 121.1517.*

TBD



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## 8.1.9 ATS Flight Plan

*GACAR §121.1509, 121.1513, 91.73*

Except for training, maintenance, demonstration, and sightseeing flights, an IFR ATS flight plan must be filed prior to commencement regardless of conditions to permit alerting services activation if needed.

Flight Dispatch is responsible for filing the ATS flight plan. If unavailable, the PIC assumes this duty. If communications are limited, the plan may be filed by radio after takeoff when able.

Unless regulations state otherwise, the ATS flight plan will normally be filed at least one hour before the expected departure time.

If departure is delayed by 30 minutes or more, the ATS flight plan shall be amended or cancelled and refiled.

The ATS flight plan is typically closed automatically upon landing by local ATS.

In exceptional circumstances without ATS facilities/communications, the PIC shall ensure alternative means to close the flight plan are utilized.

Differences between ATS flight plan and Operational Flight Plan (OFP) shall be checked and, if applicable, corrections applied.

Adherence to ATS flight plan filing and closing requirements is mandatory. Mukamalah Aviation ensures compliance by flight crews or dispatch.



## 8.1.10 Operational Flight Plan

*GACAR 121.1513, 121.1333(a)*

1. Flight Dispatch shall generate an IFR flight plan for all flights utilizing the approved system.
2. The Dispatcher shall prepare the flight plan with accurate Estimated Zero Fuel Weight from Load Control, optimizing for:
  - a. Lowest fuel burn flight level
  - b. Speed based on Cost Index capabilities
  - c. Route optimization
  - d. Overflight cost optimization
  - e. Delay cost optimization

### 8.1.10.1 OFP Contents

The Operational Flight Plan shall contain at minimum:

1. Aircraft type, variant, and registration number
2. Flight number, departure/destination airports, date, STD, STA
3. Types of operations
4. Required alternate airports
5. Route defined by navigation aids/waypoints
6. Routing to alternates if applicable
7. Planned altitudes/flight levels and change points
8. Planned speeds and times between waypoints
9. Fuel calculations and ramp fuel
10. Cruise winds, temperature, and true airspeed
11. Estimated enroute time and fuel burn
12. Planned data to alternates
13. Required RFFS categories
14. Aircraft wake category
15. Fuel endurance
16. Emergency/survival equipment



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## 8.1.10.2 Accuracy Responsibility

1. The dispatcher and PIC shall verify accuracy, especially route and fuel. Incorrect data does not absolve responsibility for flight safety and regulatory compliance.
2. The PIC may request a new flight plan if any discrepancy is found.
3. The OFP shall be provided with relevant documents for briefing.
4. FCMs and dispatch shall crosscheck the route summary against the ATS flight plan. Any differences require the FCM to use the ATS route for FMC setup.

## 8.1.10.3 Dispatch Release

*GACAR 121.1309*

A dispatch release is required for each flight leg and is only valid once signed by the PIC and dispatcher, jointly accepting responsibility for safe planning and flight conduct per regulations.

Refer to OM-A 2.4 for full dispatch release description.

Compliance with operational flight plan and dispatch release requirements is mandatory. Mukamalah Aviation ensures accuracy and completion by all involved personnel.



8.1.11 Aircraft Technical Log System

8.1.11.1 Reporting Mechanical Irregularities

GACAR 121.1193

The PIC shall ensure all mechanical irregularities occurring during the flight are entered in the maintenance log at the end of that flight. Prior to each flight, the PIC shall ascertain the status of irregularities entered after the preceding flight. By signing the maintenance log, the PIC formally accepts the aircraft for flight.

8.1.11.2 Maintenance Log

GACAR 121.1541

The maintenance log shall record any airframe, engine, or appliance failure or malfunction critical to flight safety. The log is part of the Aircraft Technical Log kept in the cockpit.

8.1.11.3 Fuel and Oil Records

GACAR 121.1537

- 1. Fuel and oil amounts shall be recorded in the technical log for each flight.
- 2. Records shall be retained for at least three months.

8.1.11.4 Airworthiness Release Log Entry

GACAR 121.1545

- 1. Following maintenance, preventive maintenance, or alterations, an approved maintenance organization shall issue an airworthiness release or technical log entry.
- 2. The release or entry shall:
  - a. Be per Mukamalah Aviation's maintenance manual procedures.
  - b. Certify work was performed to Mukamalah Aviation's manual, items were inspected satisfactorily, the aircraft is airworthy for safe operation.
  - c. Be signed by an authorized certified mechanic or repairman, except repairmen only for employed work.
- 3. After foreign repair station work, release/entry may be signed per that station's authority.
- 4. When an airworthiness release is prepared, a copy shall be placed in the technical log for the PIC to determine airworthiness. Release records shall be kept for 2 months minimum.
- 5. Authorized signatures constitute certification per required conditions.

The PIC's authority to release an aircraft under GACAR 121 at stations without engineering support shall be clarified.



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#### 8.1.12 List of Documents, Forms and Additional Information to be Carried

*GACAR §121.17, GACAR §91.9*

The PIC shall ensure the following original or copies are carried before any revenue flight:

1. Aircraft Documentation Binder containing:
  - a. Air Operator Certificate
  - b. Operations Specifications Certificate
  - c. Certificate of Registration
  - d. Certificate of Airworthiness
  - e. Aircraft Radio License
  - f. Noise Certification
  - g. Certificate of Insurance
  - h. Article 83 bis agreement copy if applicable
2. Onboard Library (EFB) containing:
  - a. OM-A
  - b. OM-B
  - c. OM-C
  - d. EFB applications
3. Flight Documentation per dispatch release
4. Aircraft Records including:
  - a. Aircraft Technical Logbook
  - b. Aircraft Cabin Logbook
  - c. All Hold Item Lists
5. Crew Documents for each member including:
  - a. Valid company ID badge
  - b. License/certificate with ratings and endorsements
  - c. Valid passport with required visas
  - d. Medical certificate
  - e. Any required vaccination certificate
6. Cabin Documents including:
  - a. Passenger manifest



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- b. Cargo manifest if applicable
- c. Air mail documents if applicable
- d. Emergency equipment
- e. Safety/briefing cards and exit instructions
- f. Two cabin crew manuals



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## 8.2 GROUND HANDLING

*GACAR Part 121 Appendix G – (a)(10)*

### 8.2.1 Fueling Procedures

The PIC must ensure the ordered fuel quantity has been correctly loaded prior to dispatch per GACA and local procedures. If fuel quantity indication is problematic or accuracy is doubted, maintenance personnel or the Approved Maintenance Provider must be contacted, and the actual fuel load and distribution confirmed and documented in the Aircraft Technical Logbook.

#### 8.2.1.1 Ordering of Fuel

Unless instructed otherwise, authorized engineers may begin fueling up to 3 tons below the operational flight plan minimum fuel requirement. Fueling must not commence without PIC authorization.

#### 8.2.1.2 Safety Precautions During Refueling/Defueling

*GACAR Part 121- Appendix G (a)(9)*

Precautions must be taken to prevent fire during refueling/defueling operations. Primary risks are static electricity and hot surfaces on engines, APU, ground equipment, or smoking materials. The following apply:

- No open flames or smoking permitted near aircraft
- Fueling prohibited during thunderstorms
- No fueling inside hangars
- Fueling must stop and APU shut down in case of spillage
- No PED use on apron during fueling
- No oxygen system replenishment
- No HF transmissions
- Fuel truck positioned for forward egress
- Bonding line connected between aircraft and fuel truck
- No electrical connections or battery charging within 6m of fill/vent points
- No mobile equipment within 3m of fill/vent points or hydrant pits
- GPU must be started before/after fueling
- Fueling supervisor confirms all clear before pressurizing fuel hose





## 8.2.1.3 Refueling/Defueling with Passengers Onboard

The PIC decides whether passengers will embark, remain onboard, or disembark during fueling. The PIC must check with the handling agent for any aerodrome restrictions and ensure compliance.

### 8.2.1.3.1 Ground Operations Precautions:

- Passengers must use marked safe routes away from fueling zone
- Passengers should be escorted in manageable groups to/from aircraft
- Cabin servicing must not impede emergency evacuation
- Passenger stairs or air bridge must be in place if doors are open
- Slide deployment areas must be kept clear of equipment

### 8.2.1.3.2 Operational Procedures:

- At least one pilot must remain in cockpit
- Two-way communication must be maintained between fuel supervisor and cockpit
- Fueling personnel advised passengers are onboard
- Passengers and crew notified fueling will occur
- Seat belt signs must be off
- No smoking signs on, with interior lighting for exits
- Passengers instructed to unfasten belts and not smoke
- Minimum cabin crew complement onboard and prepared
- If fuel vapor detected, fueling must stop immediately
- Slide deployment areas kept clear at doors without stairs
- At least two doors designated and available for evacuation

## 8.2.1.4 Precautions to Avoid Fuel Contamination

When wide-cut fuel has been used, it must be recorded in the Aircraft Technical Logbook. The next two fuel uplifts should also be treated as wide-cut fuel.

With wide-cut fuel, reduced flow rates are recommended during refueling to minimize static charge buildup and arcing risk. Flow rates should adhere to fuel supplier and aircraft manufacturer guidance.

Overwing fueling should avoid splashing and insert nozzles as far as possible into tanks.



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## 8.2.1.5 Fuel Uplift Check

Prior to departure, a fuel uplift check must be completed per aircraft documentation. Discrepancies exceeding defined tolerances require investigation and documentation in the Aircraft Technical Logbook.

## 8.2.1.6 Fuel Freezing Point

For mixed fuel uplifts, the freezing point is determined by actual measurement. If unavailable, use:

- Uplift  $\geq 90\%$  Jet A/A1: Freezing point of  $-40^{\circ}\text{C}/-47^{\circ}\text{C}$
- Uplift  $< 90\%$  Jet A/A1: Freezing point of  $-40^{\circ}\text{C}$



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## 8.2.2 Aircraft, Passenger and Cargo Handling

### 8.2.2.1 Passenger Boarding

Prior to boarding:

1. Pre-boarding safety briefing completed
2. Security screening finished
3. Pre-boarding cabin checks complete
4. PIC authorization obtained

*Note: Senior Cabin Crew Member and minimum 4 cabin crew must be onboard.*

### 8.2.2.2 Special Passenger Categories

#### 8.2.2.2.1 Unaccompanied Minors

Special procedures apply for Unaccompanied Minors (UM) age 5-11 travelling without an adult. Refer to OM-E.

#### 8.2.2.2.2 Passengers with Reduced Mobility

Passengers with reduced mobility are categorized and are subdivided into the following groups:

1. Ambulatory Passengers are those passengers with reduced mobility who are able to reach an emergency exit during an evacuation without assistance.
2. Non-ambulatory Passengers are those passengers with reduced mobility who:
  - a. Require assistance in order to reach an emergency exit during an evacuation,
  - b. May require assistance to board or disembark,
  - c. Are unable to move about the airplane unassisted,
  - d. Are unable to feed themselves or manage their own bodily functions in the lavatory.

In the case of a non-ambulatory passenger an accompanying able-bodied person/attendant shall be travelling with the passenger.

#### 8.2.2.2.3 Wheelchair Passengers

Wheelchair Passenger Types:

1. WCHR - Can use steps but not long distances
2. WCHS - Cannot use steps but can move slowly in cabin
3. WCHC - Fully immobile, requiring wheelchair assistance

*Note: Max number of WCHCs limited to 50% of total pax due to required*



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## 8.2.2.2.4 PRM Conditions of Carriage

The Senior Cabin Crew Member advises the PIC of any PRMs. PRMs may not occupy seats blocking crew duties, emergency equipment, or evacuation routes.

## 8.2.2.2.5 Onboard Handling of PRMs

Ambulatory PRMs should have aisle seats near but not adjacent to exits. No more than 2 non-ambulatory PRMs may be seated directly across the aisle.

## 8.2.2.2.6 Multiple Non-Ambulatory PRMs

The number of non-ambulatory PRMs and details of additional able-bodied assistants must be communicated to crew pre-boarding. Maximum number and seating arrangements are determined through safety evaluation.

Responsible additional assistants must be seated near their assigned PRM(s) to assist during emergencies. Groups may be split up depending on aircraft type and designated seating areas.

## 8.2.2.2.7 PRM Evacuation

Cabin crew are responsible for evacuating all passengers reaching exits unassisted. PRMs will be evacuated by escorts, crew, and able-bodied passengers as appropriate.

## 8.2.2.2.8 Stretcher Passengers

Stretchers and incubator patients must be accompanied by an escort. The PIC and Purser must be advised. Belts/harnesses must be secured when seat belt sign is illuminated.

## 8.2.2.2.9 PRM Safety Briefing

Refer to OME

## 8.2.2.2.10 PRM Acceptance Criteria

- Non-US Ops: PRMs requiring medical clearance must be approved by Mukamalah Aviation Medical Services specifying acceptable travel conditions. Private medical certificates do not constitute approval.
- US Ops: Under DOT 14 CFR Part 382, PRMs must be accepted on a nondiscriminatory basis for flights originating, terminating, or transiting the US, including with private medical certificates. Complaint Resolution Officers (CROs) oversee regulatory compliance.

The PIC may only refuse post-acceptance for valid safety reasons with written justification within 24 hours.



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## 8.2.2.3 Travel During Pregnancy

During the first 28 weeks of pregnancy women expecting one or multiple children can travel without a medical certificate.

1. Single pregnancy:
  - a. From the beginning of the 29th week to the end of the 36th week, expectant mothers will need a medical certificate.
  - b. From the beginning of the 37th week onwards, expectant mothers will not be accepted for travel.
2. Multiple pregnancy:
  - a. From the beginning of the 29th week to the end of the 32nd week, expectant mothers will need a medical certificate.
  - b. From the beginning of the 33rd week onwards, expectant mothers will not be accepted for travel.
3. Medical certificate guidelines:
  - a. Issued and signed by a doctor or attending midwife.
  - b. Issued within 14 days of the date of travel.
  - c. States if the pregnancy is single or multiple.
  - d. States the number of weeks of pregnancy and the Expected Date of Delivery (EDD).
  - e. States that you are fit to fly.

The requirements stated above apply to both the outbound and inbound flights (if the customer has booked a return flight).



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## 8.2.2.4 Inadmissible Passengers and Deportees

Armed escorts accompanying high-risk passengers may carry firearms in cabin when approved by local authorities and the airline. The PIC must be notified of armed persons onboard.

Per judicial/administrative orders, Mukamalah Aviation has policies incorporating risk assessments for secure transport of inadmissible and deportees. Information is gathered from authorities to evaluate risks for inadmissible, including:

1. Reason for inadmissibility
2. Willingness to travel/escape risk
3. History of violence/self-harm
4. Mental/physical state
5. Need for escorts
6. Wanted status
7. Other flight security risks

Mitigation measures are implemented based on risk assessments. High-risk cases may be denied boarding if an unacceptable safety threat exists. Enhanced monitoring, security and restraints may be required.

For deportees, Mukamalah Aviation coordinates with authorities to ensure safe handover and security escorts, sharing relevant information and notifying airports.

### 8.2.2.4.1 Inadmissible Passengers (INADs)

INADs are refused entry by authorities, usually for invalid/missing documents. There are two INAD types:

1. INAD 1 - Expired/missing visa/passport. No airline risk, board normally, keep documents. No special seating.
2. INAD 2 - Suspicious/forged documents. Pre-board with documents collected by crew, seated last row.

*Note: If an INAD actively refuses to return to their departure point, they become a deportee (DEPA) and should be escorted. The key distinctions are that INAD 1s pose no concern and travel normally, while INAD 2s require document collection and monitoring due to higher risk.*



8.2.2.4.2 Deportees (DEPU/DEPA)

Key deportee procedures:

- 1. Accompanied (DEPA) require escorts, pose risks.
- 2. Unaccompanied (DEPU) have government escorts.
- 3. Pre-board last cabin rows with monitoring.
- 4. Escorts hold travel documents until arrival.
- 5. Restraints may be required per risk assessment.
- 6. Medical clearance is required.
- 7. Written deportation order provided.
- 8. Requires close coordination with security agencies.

Mukamalah Aviation may refuse transport if the safety of aircraft/occupants is threatened.

8.2.2.5 Alcoholic Beverages

Mukamalah Aviation does not serve or allow alcoholic beverages onboard. Visibly intoxicated persons are denied boarding. Unless approved, alcohol is prohibited on all KSA sectors.

8.2.2.6 Cabin Baggage Size/Weight Limits

Maximum cabin baggage weight is 10 kg with size 55 x 40 x 25 cm, except as detailed. More restrictive commercial limits may apply. The following stowage rules apply:

- 1. Aisles and exits must remain clear
- 2. Check-in/gate agents must visually inspect size/weight
- 3. Stow only in approved restraining locations
- 4. Placarded weight limits must not be exceeded
- 5. Under seat stowage only with restraint bar and if properly restrained
- 6. No stowage against bulkheads lacking restraint placard/max weight
- 7. Latched compartments must close securely over contents
- 8. No obstruction of emergency equipment access
- 9. Check bags secured pre-takeoff, landing, and when seat belt sign is illuminated
- 10. Permitted in forward seat under seat stowage
- 11. Must be adequately restrained if on seats
- 12. Not permitted adjacent to emergency exits
- 13. No placement on seats during critical phases
- 14. Crews should check for dangerous goods and PEDs switched off



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#### 8.2.2.6.1 Special Cabin Items

Large/valuable items like musical instruments/diplomatic bags up to max 50 kg may be carried if properly secured in forward window seat by seat belt and additional device. Max 2 items per seat. Not permitted in emergency exit rows or rows immediately forward/aft of exits. Company approval required.

If PEDs placed in hold, passengers must switch off and protect devices to prevent accidental activation.

#### 8.2.2.7 Offloading Pooled Baggage

For groups, baggage may be pooled and travel together. If any group member is offloaded:

- Family Groups: No baggage of offloaded member is boarded
- Non-Family Groups: All baggage must be offloaded

Local regulations may alter procedures.

#### 8.2.2.8 Animals in Cabin

Except for service dogs and falcons, animals are prohibited in cabin.

##### 8.2.2.8.1 Service Animals

Service/seeing eye dogs are trained to assist individuals with a disability. Therefore, under the following conditions the Flight Crew may accept service animals to be transported in the cabin:

1. The Purser shall inform the PIC about the service/seeing eye dog,
2. Not more than one service/seeing eye dog is allowed per cabin.

##### 8.2.2.8.2 Falcons

Live bird import/export prohibited without Saudi Agriculture Ministry permit. Domestic transport permitted. Falcons must be properly hooded with handler. Refer to Mukamalah Aviation ground operations manual for required procedures and forms. Carried at passenger's own risk.

Falcons/perches on floor in front of seat with plastic sheeting and tethered to seat. Last row ticketed class seating. No more than 1 bird per seat, up to max 15 total in cabin. Must remain hooded. Handler must maintain full control.

##### 8.2.2.8.3 Animals as Cargo

Cargo hold ventilation and temperature control must be operational to accept any live animal shipment, regardless of ambient temperature.





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## 8.2.2.9 Ground Operations

Refer to Mukamalah Aviation Ground Operations Manual for:

- Positioning of ground equipment
- Operation of aircraft doors
- Ramp safety and fire prevention
- Documents and forms for aircraft handling

## 8.2.2.10 Pushback and Towing Operations

Standard phraseology:

Pilot	Ground Crew
"Ground, flight deck"	"Flight deck, ground"
	"All ground checks completed, steering bypass pin installed, clear to pressurize hydraulics"
"Ready for pushback and engine start"	
	"Release parking brake"
"Parking brake released"	
	"Engines clear for start"
"Starting engine 1 or 2"	
	"Set parking brake"
"Parking brake set"	
"2 good engine starts, cleared to disconnect ground equipment, hand signals on left/right side"	
	"Ground equipment clear, steering bypass pin removed, hand signals on left/right side"



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If interphone unavailable, use marshalling signals per aircraft manufacturer guidance. PIC must confirm ground crew is thoroughly familiar with signals.



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## 8.2.3 Refusal of Boarding

The PIC is responsible for passenger safety from boarding to deplaning and may refuse boarding to any person potentially hazardous to aircraft or occupant safety. The PIC shall not allow boarding to anyone:

- Appearing intoxicated from alcohol/drugs
- Who may be a source of infection
- Whose conduct, status, or condition renders them incapable of evacuation without assistance

### 8.2.3.1 Disruptive Passengers

Ground staff may refuse boarding to disruptive passengers by withholding boarding pass or taking steps to prevent boarding. Checked baggage must be offloaded. The PIC makes the final decision to exclude the disruptive passenger from carriage and must coordinate with authorities for offloading. Checked baggage must also be offloaded.



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## 8.2.4 Deicing and Anti-Icing

Mukamalah Aviation policy is “Make It Clean, Keep It Clean” - aircraft must be completely clear of frost, ice, snow, and slush. Contamination drastically affects aerodynamics and flight control. Engine and system performance also deteriorates. Removal and prevention of contamination is mandatory. As Mukamalah Aviation utilizes deicing contractors, personnel are responsible for ensuring aircraft are contamination-free before dispatch.

Takeoff is prohibited with contamination adhering to lifting surfaces or flight controls. Light frost is allowable on upper fuselage and up to 1/8 inch on wing lower surface. All vents, leading edges, control surfaces, horizontal stabilizers, and upper wing surfaces must be clean. Even small roughness significantly impacts lift, drag, and handling. Ice interferes with controls and adds weight.

Holdover times do not guarantee safe flight if exceeded. Certain conditions may render deicing ineffective beyond aircraft certification. Takeoff is allowed in light freezing rain but prohibited in moderate/heavy freezing rain, heavy ice pellets, continuous heavy snow, hail, and any contamination on critical surfaces.

### 8.2.4.1 Flight Crew Responsibilities

While the PIC has final authority to ensure a contamination-free aircraft, all flight/cabin crew share responsibility to advise the PIC of any observed/suspected contamination. Cabin crew must also report any passenger observations. Contamination reports require a Pre-Takeoff Contamination Inspection per Mukamalah Aviation procedures.

### 8.2.4.2 Recording Deicing/Anti-Icing

The PIC must record the following in the Aircraft Technical Log:

- Fluid type used in final application
- Fluid mix ratio of final application
- Fluid brand if used for holdover time calculation
- UTC time anti-icing begun



## 8.3 FLIGHT PROCEDURES

### 8.3.1 VFR/IFR Policy

*GACAR Part 97*

All Mukamalah Aviation revenue flights shall operate under IFR with an IFR flight plan filed. Cancellation is prohibited. Visual clearances may be accepted for portions of flight or visual approaches when suitable.

Unless authorized by GACA, instrument approaches into civil aerodromes shall use published IAPs from GACAR Part 97. At military/foreign aerodromes, applicable IAPs and minima from the authority shall be used, unless authorized otherwise.

#### 8.3.1.1 Dispatch Release Under VFR

Not applicable.

### 8.3.2 Navigation Procedures

#### 8.3.2.1 Independent Cross-Checks

Any route or procedure loaded into the FMS, whether uplinked, from the database, or entered manually, shall be independently cross-checked by each pilot before activation.

Crews shall remain alert for errors and be prepared to revert to conventional navigation if needed. Inaccurate navigation due to faulty/unreliable equipment shall be reported to ATC immediately. Additional procedures for MNPS operations are in the ICAO MNPS Manual.

It is Mukamalah Aviation policy that:0-

- Charts are required for all charted procedures.
- Expired database procedures shall not be used.

#### 8.3.2.2 Required Navigation Performance (RNP)

*GACAR 91.405*

PBN includes RNAV and RNP methods. RNAV means the navigation specification value, while RNP adds onboard monitoring/alerting. Values indicate expected lateral accuracy 95% of the time.

Navigation Specification are aircraft and aircrew requirements for a navigation application. The numerical designation refers to lateral accuracy in NM.

This information is detailed in International Civil Aviation Organization's (ICAO) Doc 9613, Performance-based Navigation (PBN) Manual.



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Existing and future Navigation Specification:

- RNAV 10
- RNAV 5
- RNAV 2
- RNAV 1
- RNP 4
- RNP 2
- RNP 1
- RNP APCH
- RNP AR APCH

For RNAV 1, RNAV 2, RNP 1, RNP 2, and RNP APCH, flight crews shall not modify procedures retrieved from the database, except for allowable altitude/speed constraints.

The lateral and vertical flight path shall not be altered between the FAF and MAP.

Mukamalah Aviation's approved RNP operations are in the GACA OpSpecs. See OM-B and FCOM for operating instructions.

### 8.3.2.3 RNP(AR) Authorization Required

Mukamalah Aviation is not currently approved for RNP AR APCH.



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## 8.3.2.4 PBN Specification and their applicability for different phases of flight

ICAO PBN MANUAL (Doc 9613) PAN-OPS (Doc 8168).

Navigation Specification	Navigation Accuracy (NM) per flight phase						
	En-Route		Terminal	Approach			
	Oceanic Remote	Continental		Initial Interim	Final	Missed	Departure
RNAV 10 (RNP 10)	10						
RNAV 5		5	5				
RNAV 2		2	2				2
RNAV 1		1	1	1		1	1
RNP 4	4						
RNP2	2	2					
RNP1			1	1		1	1
RNP APCH				1	0.3 or angular	1	
RNP AR APCH				1-0.1	0.3-0.1	1-0.1	

Table 11: PBN Specification and their Applicability for Different Phases of Flight



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## 8.3.2.5 Minimum Navigation Performance Specifications (MNPS)

*GACAR 91.407*

The North Atlantic MNPS airspace between FL 285-420 has been designated as NAT HLA since February 2016, though the term MNPS remains in use. MNPS approval is required for operations in this airspace.

Refer to Jeppesen and aircraft-specific documentation for MNPS procedures.

## 8.3.2.6 Reduced Vertical Separation Minima (RVSM)

*GACAR 91.409*

RVSM reduces vertical separation from 2000 ft to 1000 ft between FL 290-410.

Mukamalah Aviation is GACA-approved for RVSM operations.

Refer to Jeppesen and aircraft-specific documentation for RVSM procedures.

## 8.3.3 Altimeter Setting Procedures

The following altimeter settings shall be used:

Flight Phase	Altimeter Setting
Take-off and to climb to an Altitude	QNH
Climb to a Flight Level and Approaching Transition to Altitude (Note 1)	STD
Cruise above the Transition Level or Descent to a Flight Level	STD
Descent to an Altitude or Cleared for Approach	QNH (Note 2)

*Notes:*

- 1. Approaching is defined as 1000 ft prior to transition altitude.*
- 2. QNH shall be set when established in descent with no planned intermediate flight level restrictions.*

Whenever the altimeter setting is changed, a crosscheck of all altimeters shall occur per aircraft-specific procedures.

Prior to top of descent, an up-to-date landing QNH shall be obtained and set on the standby altimeter.





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## 8.3.4 Altitude Alerting System Procedures

When ATC issues or the flight crew initiates an altitude or flight level change during a procedure, the altitude alerting system shall be reset to the new cleared altitude or flight level per aircraft-specific procedures.

The PF or PM shall set the new value based on phase of flight and autopilot status. The other pilot shall cross check and verbally acknowledge the change.

## 8.3.5 Ground Proximity Warning System (GPWS) Procedures

GPWS/EGPWS alerts of abnormal proximity require immediate corrective action to ensure terrain clearance. When any alert occurs, the PF shall initiate corrective action per aircraft-specific procedures.

## 8.3.6 Traffic Collision Avoidance System (TCAS)/Airborne Collision Avoidance System (ACAS)

*GACAR 121 Appendix G (a)(33), 91.237*

TCAS shall be used on all flights unless specially approved otherwise. Avoiding collisions remains the pilots' responsibility. During critical phases near aerodromes, descents, climbs, or in high density airspace, non-essential tasks shall be minimized to facilitate lookout. Autopilot use is recommended.

Only ICAO standard phraseology shall be used. TCAS indications shall be followed:

1. Traffic Advisories (TAs) - Do not maneuver, prepare for possible RA.
2. Resolution Advisories (RAs) - Follow all RAs, visually acquired traffic may not be RA traffic. ATC may issue contrary instructions unaware of RAs.
3. Deviate the minimum extent necessary to comply with RAs.
4. After initiating an RA maneuver, promptly notify ATC: "(Callsign) TCAS RA". When clear of conflict, notify ATC and resume cleared route. If ATC instruction contradicts an RA, follow the RA and inform ATC "Unable, TCAS RA".

When within 1000 ft of an assigned altitude/flight level near traffic, vertical speed should not exceed 1500 ft/min when practical and safe.

Adherence to TCAS procedures is mandatory. Mukamalah Aviation ensures compliance through training and qualification.



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## 8.3.7 In-Flight Fuel Management Policy and Procedures

*GACAR 121.1383*

Mukamalah Aviation policy is that the PIC must ensure the usable fuel remaining is not less than that required to proceed to an aerodrome for a safe landing with final reserve fuel.

The PIC shall request delay information from ATC when unanticipated circumstances could result in landing below final reserve fuel plus alternate or isolated aerodrome fuel.

### 8.3.7.1 In-Flight Fuel Checks

Fuel checks at intervals not exceeding 30 minutes are compulsory, recorded on the OFP, and evaluated to:

1. Compare actual vs planned consumption
2. Ensure sufficient usable fuel remains to complete the flight

With a negative trend and no fuel leak, consider corrective actions such as:

1. Decreasing speed/cost index
2. Requesting direct routes or optimum flight level
3. Selecting a closer alternate

### 8.3.7.2 In-Flight Delay and Fuel Management

If expected arrival fuel is below alternate plus final reserve fuel, the PIC may continue under:

1. Unknown EAT: Continue if two aerodromes are within reach with final reserve fuel. Two separate runways may be considered equivalent if fuel burn from likely ATC delays is considered.
2. Known EAT: Regardless of runways, continue or hold if landing is assured with final reserve fuel. A successful landing is expected barring forecast deterioration or plausible system failures.

Use weather forecasts beyond 2 hours and actual conditions within 2 hours to assess landing probability.

### 8.3.7.3 Minimum Fuel

The PIC shall declare MINIMUM FUEL when committed to land at a specific aerodrome, and any clearance change may result in landing below final reserve fuel. This indicates emergency possible if further delay.

### 8.3.7.4 Mayday Fuel

The PIC shall declare MAYDAY MAYDAY MAYDAY FUEL when the predicted usable fuel on landing at the nearest safe aerodrome is less than final reserve fuel.



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## 8.3.8 Adverse and Potentially Hazardous Atmospheric Conditions

### Dispatch Policy:

Flights shall not be dispatched or operated into forecast hazardous conditions. Takeoff or landing near thunderstorms is prohibited. Surface mean wind speeds of 60 kt or above shall close the aerodrome.

#### 8.3.8.1 Thunderstorms

Although thunderstorms should be avoided when possible, flight through areas of activity may occur when no alternative exists. Maximum use of weather radar shall be made to identify and avoid thunderstorms and turbulence.

Avoid radar echoes by at least:

- 10 NM below FL200
- 20 NM above FL200

Approximately 80% of lightning occurs within  $\pm 3500$  ft of the freezing level. Maintain appropriate distance from electrified cells and minimize time near the freezing level.

#### 8.3.8.2 Icing Conditions

Known severe icing shall be avoided, exiting any encountered areas as soon as possible. When possible, minimize time in the vicinity of the freezing level to reduce the potential for lightning strikes.

#### 8.3.8.3 Turbulence

1. Cabin crew shall be advised if turbulence is likely. SEATBELT sign shall be switched on when turbulence is imminent or encountered, with passengers seated and secured.
2. Recommended turbulence penetration speed/Mach shall be flown.
3. When unavoidable:
  - Seat belt sign on
  - Limit/cease cabin service if recommended
  - Make cabin crew take seats call if needed
  - Secure loose items and wear harnesses
  - Set cockpit lighting to high intensity if lightning expected
  - Closely monitor speed per procedures
4. At maximum cruise altitude, the buffet margin is small. Any increased g-loads from turbulence or maneuvering could lead to difficulties. This shall be considered before climbing over turbulence, and maximum cruise altitudes avoided.
5. Turbulence may sometimes be avoided by changing cruise level. Monitor other aircraft reports.



#### 8.3.8.3.1 Turbulence Reporting

When encountering significant turbulence, crews shall report:

1. Aircraft position
2. Altitude/flight level
3. Wind direction/velocity

Severe turbulence or abnormal stress shall be logged, including any exceedance or suspected exceedance.

#### 8.3.8.4 Windshear

Crews shall remain alert for possible windshear and react promptly. Refer to FCOM if reported, expected, or encountered.

#### 8.3.8.5 Jetstream

Jetstream are high speed narrow wind bands that can extend thousands of miles. Maximum cruise altitudes should be avoided near Jetstream operationally feasible. Monitoring other aircraft reports also assists avoidance.

Pilots should also be aware of the effect of increased fuel consumption due to unexpected significant head wind components that can be encountered.

#### 8.3.8.6 Volcanic Ash/Gases

Flight crews and dispatch shall closely monitor volcanic ash advisories and apply avoidance. If ash is encountered, exit immediately via the shortest route and follow volcanic ash procedures from the QRH.

#### 8.3.8.7 Heavy Precipitation

Heavy precipitation as rain, snow, or hail presents hazards including:

- Reduced visibility
- Icing risk with low temperatures

On the ground, contaminated runways can:

- Reduce performance
- Limit crosswinds
- Increase aquaplaning risk

Aircraft-specific special procedures in OM-B shall be followed for operations on contaminated runways.

#### Notes:

*Loss of orientation may occur when transitioning to visual flight during snow showers.*

*Use landing lights cautiously in falling/blowing snow as reflected light can reduce visibility and cause drift illusion.*



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## 8.3.8.8 Sandstorms

Avoid active sandstorms when possible to prevent damage to:

- Windscreens from abrasion
- Leading edges from erosion
- Engine compressor blades from sand ingestion

Considerable damage can result from sand particle abrasion on an aircraft's exterior surfaces and engine internals.

## 8.3.8.9 Mountain Waves

Mountain waves can form leeward of mountains as standing waves with peaks/troughs miles apart, extending 10,000-20,000 ft above terrain and 200-300 NM downwind. Crews shall be aware of mountain wave conditions and areas to act accordingly. Refer to OM-C and route manual.

## 8.3.8.10 Significant Temperature Inversions

Temperature inversions adversely affect aircraft performance and must be considered:

- Inversions after take-off can severely reduce climb, especially at high mass.
- Inversions can limit maximum cruise altitude capability.
- Cruising in an inversion at limiting altitude can require descent due to reduced buffet margins.
- Low level inversions often bring fog and poor visibility.

## 8.3.9 Wake Turbulence

To safely separate aircraft landing/departing the same runway, international authorities have established minimum criteria based on the relationship between aircraft weight and generated wake turbulence strength.

- Wake turbulence categories according to maximum certified takeoff weight are:
- Super (J) - Currently only the A380
- Heavy (H) - Aircraft 136 tons or greater
- Medium (M) - Aircraft less than 136 tons but over 7 tons
- Light (L) - Aircraft 7 tons or less

Some Medium aircraft like the B757 generate Heavy-level vortices. Medium aircraft meeting Heavy vortex criteria should be considered Heavy for wake separation.

Heavy and Super aircraft shall state category after callsign on initial ATC contact: (HEAVY) or (SUPER).



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## 8.3.9.1 Wake Turbulence Separation for Arriving Aircraft

Leading Aeroplan	Following Aeroplan	Separation
J	J	Not required <sup>a</sup>
	H	6 NM
	M	7 NM
	L	8 NM
H	H	4 NM
	M	5 NM
	L	8 NM
M	H	3 NM
	M	3 NM
	L	5 NM
L	H	3 NM
	M	3 NM
	L	3 NM

Table 12: Radar separation minimums

## 8.3.9.2 Wake Turbulence Separation for Departing Aeroplan

Leading Aeroplan	Following Aeroplan	Minimum Wake Turbulence Separation at the Time Aeroplanes are Airborne	
J	J	Departing from the same position or from a parallel runway separated by less than 760 m (2.500 ft)	2 minutes
	H		3 minutes
	M		
	L		
H	M	Departing from an intermediate point on the same runway or from an intermediate point of a parallel run- way separated by less than 760 m (2.500 ft)	2 minutes
L	L		2 minutes
J	J		3 minutes
J	H		3 minutes
J	M	from an intermediate point of a parallel run- way separated by less than 760 m (2.500 ft)	4 minutes
	L		
H (full length take-off)	M		3 minutes
L	L		3 minutes
M	L		



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## 8.3.10 Crew Members at Stations

*GACAR 121.771, 121.1141*

### 8.3.10.1 Flight Crew

1. Except as in (2) below, flight crew at stations shall have:
  - a. Seat belt and shoulder harness fastened for takeoff/landing. Non-pilots may unfasten shoulder harness if interfering with duties, but seat belt shall remain fastened.
  - b. Seat belt fastened while enroute.
2. Flight crew may leave station if:
  - a. Necessary to perform duties.
  - b. For physiological needs.
  - c. When taking an enroute rest break with qualified relief:
    - i. PIC relief requires an ATP certificate and type rating, current PIC or SIC qualification, and qualification as PIC enroute. Relief pilot need not complete recent:
      1. Recurrent training
      2. Operating experience
      3. Takeoffs/landings
      4. Line check
      5. Proficiency check or simulator training
    - ii. SIC relief requires qualification as SIC enroute. Relief pilot need not meet recent experience.
3. Relief pilots must have within the prior 90 days:
  - a. Operated the aircraft or variant as PIC, SIC, or relief.
  - b. Received skill refresher training including cruise procedures and approach/landing as PF or PNF in the aircraft, variant, or simulator.

Cruise is defined as the portion above FL200 after takeoff until descent below FL200.

Operating crew shall be at stations at least 1 hour before landing.



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## 8.3.10.1.1 Seat Qualifications

- Qualified Seat: Seat the crew member is qualified to occupy on augmented long-range flights.
- Qualified Operating Seat: Seat the crew member is qualified and trained to occupy in any phase of flight, including take-off/landing.

When not in qualified operating seat, the crew member shall familiarize themselves with emergency controls.

## 8.3.10.2 Augmented Long Range Operations

Crew scheduling shall designate the operating and augmenting crew members.

### 8.3.10.2.1 1 Captain, 2 First Officers

The PIC occupies the left seat unless qualified in the right seat. First officers occupy left seat only for relief or training. The second in command shall be on the flight deck when PIC is absent. The PF shall be in qualified operating seat when possible.

### 8.3.10.2.2 2 Captains, 1 First Officer

The PIC occupies the left seat unless qualified in the right seat as PIC. The first officer occupies the right seat unless training. The augmenting captain occupies left seat for PIC relief and right seat for first officer relief. The second in command is the augmenting captain when PIC is absent. Either can be PF when in qualified seat.

### 8.3.10.2.3 Rest Strategies

Rest plans should match published strategies in OM-A Chapter 7. Deviations shall provide crews sufficient time to adjust sleep patterns. Duty and rest should be balanced across the crew.

## 8.3.10.3 Augmenting Crew Members

Augmenting members shall:

1. Participate in briefings
2. Monitor PF/PM actions
3. Monitor ATC

The preferred location is the first observer seat. The PIC may nominate a crew member for the observer seat based on experience, alertness, and training benefit.





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## 8.3.10.4 Safety Pilots

Safety pilots remain responsible for trainee duties, cross-checking, monitoring, and supporting the training captain. They shall not cause undue distraction or instruct outside the training captain's direction. PICs shall brief safety pilots on roles, expectations, and intervention methods.

In addition to 8.3.10.3, safety pilots shall:

1. Assume an operating role when required
2. Occupy only qualified operating seat
3. Conduct external inspection at training captain discretion

## 8.3.10.5 Handover Briefing

Before handing over a station, a briefing shall include:

1. Aircraft position, route, ETA, FL
2. ATC/FIR environment, clearances, restrictions
3. Threats and mitigations like weather/terrain
4. Destination/alternate weather
5. Fuel check and flight progress.
6. Aircraft status
7. Any other relevant information

In addition, the PIC should brief the second in command on:

1. Severity of issues requiring notification
2. Decisions requiring authority like diversions or curfew issues.

## 8.3.10.6 Controlled Rest on Flight Deck

Controlled rest counters fatigue from sleep loss and circadian disruption. It significantly increases later flight alertness when used discretionarily by the PIC for both unexpected and anticipated fatigue. Controlled rest is a task-free period that may include actual sleep.

Controlled rest is permitted under the following conditions:

1. Handover and wake-up arrangements are briefed.
2. Cabin crew is aware rest is planned.
3. Only one pilot may rest at a time.
4. Rests must occur in the dedicated pilot rest seat.
5. Rests should not be planned during anticipated higher workload times.



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Before rest:

- Any physiological needs are addressed
- The PF verifies proper communication configuration

Rest duration should not exceed 40 minutes to minimize sleep inertia upon waking. Equipment like eye shades, neck supports, and ear plugs may be used.

At least 20 minutes should pass after waking before any duties or briefing to fully awaken. A handover briefing will then occur, and communication systems will be re-verified.

#### 8.3.10.7 Designated PIC in Training

The training captain is designated PIC when assigned as the operating crew member.

#### 8.3.10.8 Cabin Crew

Refer to OM-E for minimum cabin crew requirements.

During takeoff, landing, and any time deemed necessary by the PIC, the minimum number of cabin crew shall be positioned at stations.

Any additional cabin crew beyond available stationed seats shall normally occupy passenger seats, or an unoccupied flight deck jump seat at the PIC's discretion.



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## 8.3.11 Use of Seat Belts for Crew and Passengers

### 8.3.11.1 Crew

Crew shall be at assigned stations fully secured by seat belt and shoulder harness during:

1. Taxi (except when performing duties)
2. Takeoff/landing
3. When deemed necessary by PIC (turbulence, non-normal conditions)

At flight deck stations, flight crew shall keep seat belts fastened at all other times.

### 8.3.11.2 Passengers

All passenger seats have seat belts. Passengers shall fasten seat belts when illuminated. Belts shall be worn tight and low. Children aged 2 and above shall be in their own seat secured for takeoff, landing, and turbulence.

### 8.3.11.3 Use of Fasten Seat Belt Sign

The seat belt sign shall be illuminated during:

1. Taxi, takeoff, and all phases below 10,000 ft AAL.
2. Descent at/below 20,000 ft AAL.

*Note: Illumination may be delayed until 10,000 ft AAL if delay anticipated.*

3. When deemed necessary by PIC (turbulence, anticipated turbulence).



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## 8.3.12 Admission to the Flight Deck

### 8.3.12.1 Flight Deck and Jump seat Admission

*GACAR 121.1145, 121.1157*

Flight deck admission requires PIC permission.

1. No person may disturb normal duties.
2. Only the following may use the jump seat in flight:
  - a. Crewmembers
  - b. Authorized company personnel on duty
  - c. GACA inspectors/investigators on duty
  - d. Assigned flight mechanics with cabin seat
  - e. Authorized manufacturer representatives
  - f. Authorized ATC personnel
  - g. Essential personnel approved by director of operations.
  - h. Government security agents protecting onboard persons
3. All persons are subject to PIC emergency authority and exclusion.
4. No entry is permitted from all doors closed until 10 minutes after takeoff and 10 minutes before landing unless instructed by the PIC.
5. GACA inspectors shall be given free flight deck access when credentials are presented.

*Note: Cabin jump seats are available for uniformed crewmembers.*

### 8.3.12.2 Flight Deck Door

*GACAR 121.1165*

The flight deck door shall remain closed and locked from all doors closed until 10 minutes after takeoff and 10 minutes before landing.

### 8.3.12.3 Flight Deck Entry

Cabin crew shall ensure the door is immediately closed/locked after entry/exit in flight.

For entry:

1. The PIC's pre-arranged signal must be used.
2. The door is immediately closed/locked after entry/exit.
3. Forward lights are dimmed before opening at night.
4. Passengers are kept clear of the door area.



## 8.3.12.4 Flight Deck Absence

A cabin crew member must be present until the flight deck crew member returns from any absence. Visual confirmation via peephole or camera is required before opening for the returning crew member.

## 8.3.12.5 Passenger Visits

Passenger flight deck visits are prohibited.

## 8.3.12.6 Jump seat Authorization

Deadheading/additional uniformed crew may use jump seats with PIC approval and authorization:

1. Authorization must be obtained from operations department.
2. Authorization is presented to the PIC.
3. Authorized crew will proceed through normal crew or passenger channels.

## 8.3.13 Use of Vacant Seats

### 8.3.13.1 Flight Deck Observer Seats

1. Seats must have safety belt/harness and meet supplemental oxygen requirements.
2. Occupants shall be briefed on:
  - a. Safety and emergency equipment locations
  - b. Seat and harness operation
  - c. Normal and emergency entry/exit procedures
  - d. Not to distract, touch controls, or speak uninvited
3. Occupants must have adequate strength and dexterity to operate and open exits.
4. Non-crew occupants must hold a valid ticket for the sector.

### 8.3.13.2 Cabin Crew Jump Seats

Cabin crew jump seat use in-flight is restricted to Operating crew members.



## 8.3.14 Incapacitation of Crew Members

*GACAR 121 Appendix G(a)(40)*

Incapacitation is an air safety hazard that can occur anytime during flight.

Incapacitation is the deprivation or failure of power, strength, or capacity due to a disabled body system or impaired thoughts/perception/processing. It may manifest as:

1. Sudden or slow onset
2. Complete or partial
3. Overt or subtle
4. Permanent or temporary

### 8.3.14.1 Recognition

Obvious signs like shortness of breath, chest pain, incoherent speech are easy to detect. However, partial incapacitation may be difficult to detect.

Incapacitation shall be suspected if a crew member does not respond to:

1. Two verbal communications above 1,000 ft AGL
2. One verbal communication below 1,000 ft AGL
3. Any communication with significant deviation from flight path

### 8.3.14.2 Procedures

#### 8.3.14.2.1 Flight Crew Member Incapacitation Procedures

If pilot incapacitation is suspected/obvious, the other pilot shall:

1. Ensure safe flight condition
2. Take over controls immediately
3. Engage autopilot
4. Declare emergency if needed
5. Call cabin crew for assistance if needed
6. Have cabin crew remove incapacitated pilot from controls if practical
7. Evaluate all operational factors
8. Consider enroute alternates for diversion (preferably CAT I or better)
9. First officers may conduct Autoland for CAT II/III approaches as needed.
10. The remaining pilot may continue an approach if it can be completed safely.



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The remaining pilot shall operate from the qualified seat and:

1. Arrange medical assistance in-flight and after landing
2. Allow enough time to prepare for landing
3. Request long final approach vectors when possible
4. Perform checklists early as practicable
5. Arrange suitable parking bay (request tow if guidance calibrated opposite seat)

The SIC may vacate the runway/clear critical area after PIC incapacitation provided:

1. Aircraft has SIC steering wheel
2. 180 degree turn not required to vacate

#### 8.3.14.2.2 Succession of Command

If the PIC becomes unable to maintain command, consider succession priority:

Priority	Non-augmented Flight Crew	3 Men – Augmented Flight Crew	4 Men – Augmented Flight Crew
1	Safety Pilot (if carried)	Augmenting Captain (if carried)	Augmenting Captain
2	-	Operating First Officer (if holding a full GACA ATP)	-
3	-	Augmenting First Officer (if holding a higher license than the operating First Officer)	-

Table 13: Succession of Command

#### 8.3.14.2.3 Cabin Crew Incapacitation Procedures

1. Cabin crew shall inform the PIC directly and make a PA for doctors. Contact medical provider.
2. If a doctor responds, verify credentials, and allow use of on-board medical kits/diversion.

#### 8.3.14.3 Reporting

Refer to OM-A Chapter 11.

#### 8.3.14.4 Medical Examination

An incapacitated crew member shall not resume duties until cleared by medical services.



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## 8.3.15 Cabin Safety Requirements

### 8.3.15.1 General

Cabin crew shall notify flight crew of any safety or emergency situations, including but not limited to:

- Unruly passengers
- Injury to passengers/crew
- Use of first aid or medical equipment
- Smoke/fumes in cabin
- Emergency equipment failures
- Suspicious activity or security breaches

During critical phases, cabin crew shall only perform duties required for safe operation and shall firmly/politely refuse passenger service requests. Cabin crew shall not distract flight crew unless safety necessitates.

### 8.3.15.2 Scope

Flight and cabin crews are responsible for cabin safety from aircraft acceptance until passenger deplaning at the flight's end.

## 8.3.16 Passenger Briefing

*GACAR 121.1249, 121.1253, 121.1257, 91.45*

Prior to each takeoff and landing, the PIC shall ensure passengers receive an oral briefing in Arabic and English per OM-E, as confirmed by the Cabin Ready signal from the purser.

In an emergency, the PIC shall ensure passengers are instructed on appropriate emergency actions based on the circumstances.

## 8.3.17 Cosmic and Solar Radiation

*GACAR 121.1133*

### 8.3.17.1 Cosmic Radiation Exposure Limits

In compliance with GACA and Nuclear/Radiological Regulatory Commission regulations, Crew Scheduling shall account for in-flight cosmic radiation exposure for each crew member on duty (including deadheads).

Crew Scheduling shall monitor members likely to exceed 1 millisievert (mSv) and ensure highly exposed members do not exceed 6 mSv yearly.





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## 8.3.17.2 Preventing Exposure Limit Exceedance

Crew Scheduling shall adjust rosters of affected members to lower exposure routes to prevent exceeding the 6 mSv yearly limit.

### 8.3.17.3 Records and Reports

Crew Scheduling shall:

1. Maintain individual radiation exposure records for at least 30 years or until age 75.
2. Report exposures to individuals annually and upon departure.



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## 8.3.18 Use of Autopilot and Auto-Throttle

### 8.3.18.1 General Policy

Pilots shall be proficient in all autopilot modes. Auto flight systems should be utilized appropriately for safety, efficiency, and passenger comfort based on perceived threat. Manual flying is encouraged for takeoff/landing when workload permits. Full automation may be preferential in high workload or precise operations.

### 8.3.18.2 Minimum Altitudes

*GACAR 91.69*

Autopilot shall not be engaged below:

- Take-off, climb, enroute, go-around/missed approach: Altitudes prescribed in the FCOM
- Approach: Higher of FCOM prescribed altitudes or 50 ft below DA/H or MDA, unless conducting Autoland

### 8.3.18.3 Level of Automation

Flight crews must understand automation function/limitations and select appropriate levels. Crews shall monitor auto flight, reduce automation, and assume manual control when required by SOPs or for situations like stalls, upsets, terrain, or windshear.

Flight Directors should be on unless unserviceable or switched off as per FCOM.

Above 20,000 ft, autopilot should be engaged unless unserviceable or as per FCOM. Manual flying is encouraged below 20,000 ft when able.

Auto-thrust/throttle should remain engaged unless unserviceable or as per FCOM.

For Flight Management Systems:

1. Actively monitor flight path
2. Announce and cross-check mode changes/status
3. Intervene to achieve desired path including modifying selections or reverting to manual control
4. During high workload, PM should perform non-essential FMS modifications

### 8.3.18.4 Additional Policies

- Aircraft shall not be operated in RVSM airspace with an unserviceable autopilot.
- Flights over 1 hour shall not be dispatched with a defective autopilot. The PIC may continue to an alternate or destination after autopilot failure, if deemed safe after considering environmental and operational factors.



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## 8.3.19 Company Policies

### 8.3.19.1 Sterile Flight Deck

During critical phases, flight crews shall not perform non-essential activities that could distract from duties.

The departure phase is from door closure until passing 10,000 ft AAL (excluding extended ground holds).

The arrival phase is from passing 25,000 ft in descent until first door open.

#### 8.3.19.1.1.1 Communication Protocol

After takeoff with seatbelt sign off, normal communication may be initiated by flight or cabin crews.

#### 8.3.19.1.1.2 No Contact Period

Cabin crew including Purser/Supervisor shall not contact flight crew:

- From take-off roll until landing gear retraction on departure
- From landing gear extension until clear of runway on arrival

#### 8.3.19.1.2 Doors Operation

Door operation, arming, and disarming shall follow OM-E and aircraft FCOM.

#### 8.3.19.1.3 ATC Communication

Flight crews shall comply with ICAO and country ATC communication standards per route manual.

Both pilots shall maintain ATC listening watch when practical. Normally ATC is PM responsibility. Pilots shall announce handing off ATC responsibility.

Each clearance shall be acknowledged by one pilot and confirmed by the other before execution. Crews shall clarify any unclear clearances with ATC.

Voice clearances shall be recorded on the OFP. Deviations from clearances shall be reported to ATC immediately.

When changing frequencies, the previous frequency should remain available until contact on the new frequency is established.

When possible, one VHF shall maintain continuous listening on 121.5 emergency frequency.

#### 8.3.19.1.4 Checklists, Callouts, Critical Controls

Published checklists shall be used, read out loud, and responded to during all phases as per aircraft FCOM. Checklists shall not be performed from memory unless specified. Interrupted checklists shall be restarted.

Standard callouts shall be made and acknowledged as per FCOM. Crews shall advise the other of intentions and receive acknowledgement when adjusting settings or controls like FMS modifications.



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## 8.3.19.1.5 ATC Clearance

Flight crews shall comply with ATC clearances unless:

1. An emergency necessitates deviation
2. Adherence would be hazardous

If able, amended clearance shall be obtained before deviating. ATC shall be informed of deviations as soon as possible.

## 8.3.19.1.6 Headsets/Microphones

Headsets/boom mics shall be used for:

1. Receiving departure clearance
2. On ground with engines running
3. In flight below transition altitude or 10,000 ft, whichever is higher
4. Operating multiple radios
5. Single pilot operation
6. Controlled rest
7. When deemed necessary by PIC

Speaker volume should be adjusted/lowered when using headsets, if practical. Speakers should be on when changing seats.

Training, checking, or auditing shall not be conducted from observer seat without headset.

## 8.3.19.1.7 Taxi

Taxi shall not commence until:

1. Both pilots verify ground crew all-clear signal
2. One pilot acknowledges with thumbs up
3. Both confirm airplane is clear
4. Both confirm taxi clearance and route
5. PM confirms turns to comply with clearance
6. Consider taxi light off when holding.

Right seat taxi not permitted:

- With left seat parking guidance system
- Requiring 180 degree turn



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Maximum taxi speeds:

- Normal surface: 30 kt
- Slippery/contaminated: 10 kt
- Low visibility: 10 kt

Factors like runway surface and geometry should determine suitable taxi speed to vacate runway.

Parking brakes should be set when stopped.

### 8.3.19.1.7.1 Single Engine Taxi

Taxi with engines shutdown as per aircraft FCOM.

### 8.3.19.1.8 Speed Limit

Do not exceed 250 kt or minimum clean speed below 10,000 ft AAL.

Higher speeds may be required for procedures or when ATC approved above 5,000 ft AAL.



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## 8.3.19.2 Normal Procedures

### 8.3.19.2.1 Cabin Crew Briefing

Prior to duty, the PIC or delegate shall conduct a cabin crew briefing to establish PIC team leadership, encourage mutual respect and coordination, and build an effective team. Information exchanged should include:

1. Flight crew introduction
2. Flight crew roles and responsibilities
3. Expected taxi time
4. Expected flight times and altitudes
5. Expected conditions including turbulence
6. Flight deck access policy if non-standard
7. Any security requirements for duty

### 8.3.19.2.2 Departure Briefing

Pre-flight, a departure briefing shall be conducted encouraging crew feedback and addressing anticipated threats. Both pilots shall independently review relevant charts and FMS entries. Changes from the original briefing shall be highlighted.

### 8.3.19.2.3 Pushback/Towing

Ground personnel are responsible for safe pushback/towing maneuvering.

### 8.3.19.2.4 Starting Engines

Flight crew shall coordinate start with ground personnel, except for engine start after push and hold. Ground personnel shall ensure clear danger areas before start.

### 8.3.19.2.5 Engine Start After Push and Hold

Published type-specific procedures shall be followed when engine start after push and hold is required. Ground personnel are not required at remote position.

### 8.3.19.2.6 Runway Selection

The PIC shall select the runway with the best safety margin for conditions.

### 8.3.19.2.7 Runway/Intersection Change

Type-specific procedures shall be followed for runway changes. Intersection changes only require procedure application if more limiting than original performance calculation.



## 8.3.19.2.8 Cabin Secure for Takeoff

The purser shall advise PIC when cabin is secured for takeoff.

## 8.3.19.2.9 Minimum Runway Occupancy Time (MROT)

Flight crews shall support MROT when safely possible.

## 8.3.19.2.10 Takeoff Conditions

Before takeoff, the PIC shall be satisfied that weather and runway conditions allow safe takeoff and departure.

## 8.3.19.2.11 Intersection Takeoff

Full runway length should be used. Intersection takeoff may be done if operationally advantageous and no significant safety reduction.

## 8.3.19.2.12 Line-up Verification

Both pilots shall verify correct line-up position per ATC clearance before takeoff.

## 8.3.19.2.13 Initial Turns

1. No turns below 400 ft AAL after takeoff, except when required by procedure or ATC.
2. If turn required below 400 ft AAL, do not commence before 200 ft AAL.
3. Restrict bank angle to 15 degrees until 500 ft AAL.

## 8.3.19.2.14 Noise Abatement Departure Procedures (NADP)

Flight crews shall comply with applicable NADPs. Deviations are allowed for adverse conditions.

Unless required for performance, maintain flaps up speed until noise profile satisfied and clear of obstacles/crossing altitudes.

## 8.3.19.2.15 Cabin Release for Duties

The PIC may release the cabin crew when:

1. Flaps fully retracted
2. Above 5000 ft AAL
3. Turbulence expected to be none/light

Release may be by extinguishing seat belt sign, cycling sign, calling purser, or PA announcement.



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## 8.3.19.2.16 Weather Monitoring

Flight crews shall monitor destination, alternate, and enroute alternate weather.

## 8.3.19.2.17 Approach Selection

The PIC shall select the approach equipment/procedure best suited for conditions to maximize success probability.

Preferred order:

1. Precision
2. APV to threshold
3. Visual with vertical guidance
4. Non-precision (no vertical guidance)
5. Circling
6. Visual (no vertical guidance)

*Note: Visual circuits only for base training and emergencies.*

## 8.3.19.2.18 Communication Prior to Arrival

The flight crew shall inform purser of 20 minutes to top of descent and make arrival PA. If unable, request purser make PA and crew will follow up.

## 8.3.19.2.19 Temperature/Threshold Corrections

Both pilots shall independently calculate and agree on cold temperature or displaced threshold altitude corrections prior to any FMS modifications. Combining corrections is prohibited.

## 8.3.19.2.20 Approach Briefing

An approach briefing shall be conducted normally within 20 minutes of TOD. Crew participation shall be encouraged, anticipated threats addressed, and charts/FMS independently reviewed. Changes from original briefing shall be highlighted.





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## 8.3.19.2.21 Rate of Descent

Except for momentary exceedances, do not exceed:

Altitude Above Terrain (Ft AGL)	Maximum Rate of Descent
Above 5000	5000
5000-3000	3000
3000-1000	2000
Below 1000	1000

Table 14: Rate of Descent

Higher rates are allowed if required by a vertical profile and briefed.

## 8.3.19.2.22 Approach Procedures

### 8.3.19.2.22.1 CAT II/III Approaches

CAT II/III approaches require applicable ground equipment and shall be flown per Low Visibility Procedures, regardless of weather. Autoland is mandatory for CAT III. Autoland is normally mandatory for CAT II, with downgrade on malfunction per documentation.

### 8.3.19.2.22.2 CAT I, APV, Non-Precision Approaches

Required ground and aircraft equipment shall be operative prior to initiating and during approach.

FMS/FMC-based approaches require:

1. Approach coded in database (verify if label does not match chart)
2. Database must contain associated waypoints/VNAV data
3. Database protected against modifications

Validation Item	Maximum Difference (FMS/FMC vs Charted Value)
Final approach course	3°
Vertical Profile	0.10°
Distance FAF to RW/MAWP	1 NM
Minimum Crossing Altitudes	10 ft

Table 15: Maximum allowed differences before approach modification



## 8.3.19.2.22.2.1 LDA Approaches

Straight-in minima for approaches within 30° of runway alignment. Circling only beyond 30°.

## 8.3.19.2.22.2.2 Simultaneous Offset Instrument Approaches (SOIA)

Refer to Jeppesen manual.

## 8.3.19.2.22.2.3 Surveillance Radar Approaches (SRA)

SRA approaches are prohibited.

## 8.3.19.2.22.3 Visual Approaches

Visual approaches are flown when an instrument procedure is not completed using visual reference to terrain.

Crew responsibilities include:

1. Terrain clearance
2. Visual navigation
3. Traffic/wake turbulence separation
4. Establishing go-around requirements

### 8.3.19.2.22.3.1 RNAV Visual Flight Procedures (RVFP)

Fly published lateral/vertical RNAV visual procedures coded in the FMS. Report field in sight to ATC for clearance. Comply with charted altitudes/speeds unless otherwise cleared.

### 8.3.19.2.22.3.2 Charted Visual Flight Procedures (CVFP)

Fly published CVFPs using charted landmarks and supplemental NAVAIDS.

## 8.3.19.2.22.4 Circling Approaches

Circling approaches without enhanced coding are prohibited unless approved. Fly published missed approach if visual reference lost while circling.

## 8.3.19.2.22.5 RNP AR Approaches

RNP AR approaches require authorization. Required equipment must be verified serviceable. Database must meet requirements and be protected from modifications.

## 8.3.19.2.23 Cabin Secure for Landing

When passing 5000 ft in descent, notify cabin to prepare via procedure in aircraft documentation. Purser shall advise PIC when cabin is secured prior to landing.



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## 8.3.19.2.24 Approach Ban

The PIC may commence an approach regardless of RVR/visibility but shall not continue beyond the outer marker or equivalent if below landing minima.

If visibility/RVR falls below minimum after outer marker/equivalent, continue approach to DA/H or MDA/H.

If no outer marker/equivalent, decide to continue or abandon approach before 1,000 ft AAL on final.

For circling approaches, decide at IAF. A landing may be completed if required visual reference is established and maintained at DA/H or MDA/H.

## 8.3.19.2.25 Continuous Descent

Use continuous descent techniques during initial/intermediate phases. Use continuous descent final approach unless specifically authorized.

## 8.3.19.2.26 Orbits/360° Turns

Orbits/360° turns shall only be conducted:

1. At/above 1500 ft AAL/AGL (higher altitude)
2. With autopilot engaged
3. Complying with approach stabilization criteria

Only permitted VMC unless under positive radar control. Ensure terrain clearance.



## 8.3.19.2.27 Approach Stabilization

Meet/maintain approach stabilization criteria below. Execute go-around if unstable or stabilization lost. Elements are:

1. Lateral path
2. Vertical profile
3. Configuration/speed

Aircraft is laterally stabilized when established on path at FAF or glideslope intercept.

Aircraft is vertically stabilized when at FAF altitude or glideslope intercept altitude.

At 1000 ft AAL aircraft shall be:

1. Landing gear down/locked
2. In landing flaps
3. Speed brakes not deployed

The following should be achieved by 1000 ft AAL if possible, by 500 ft AAL if needed:

1. VREF to VREF+10 kt
2. Thrust set for configuration
3. Checklists complete

Execute a go-around if displaced beyond:

- - 1 dot localizer/glideslope or RNP x 1.0
- - 1 dot/5° VOR/NDB
- Not on extended centreline/glidepath at 500 ft AAL

## 8.3.19.2.28 Aerodrome Operating Minima

Set the minimum for the planned procedure unless a higher value is required.

Use as follows:

Published Minimum	Altimeter Used
DH	Radio Altimeter (RA)
DA	Barometric Altimeter (QNH)
MDA	Barometric Altimeter (QNH)



#### 8.3.19.2.29 Visual Approach Aids

When available, follow PAPI/VASI guidance unless:

- On electronic glideslope, maintain electronic guidance
- On other approaches, correct to/maintain PAPI only if meets stabilization criteria

#### 8.3.19.2.30 Threshold Crossing Height

Cross the runway/displaced threshold based on:

1. Electronic glideslope/glidepath
2. VASI
3. Radio altimeter

#### 8.3.19.2.31 Touchdown

Aim for touchdown-on-touchdown zone markings or 300 m from landing threshold if none.

Consider go-around if unable to touch down in zone.

#### 8.3.19.2.32 Missed Approach

The PF or PM shall clearly announce the go-around decision. Once announced, the missed approach is irrevocable, and ATC shall be notified.

Missed approach acceleration altitudes:

1. Published missed approach altitude
2. Lower level off altitude if practical
3. Published state acceleration altitude if lower

##### 8.3.19.2.32.1 Missed Approach Initiation

Execute a go-around if:

1. Required visual reference not attained at DA/H/MDA
2. Reach approach ban point below required RVR/visibility/ceiling
3. Required visual reference lost after DA/H/MDA
4. Instructed by ATC
5. Approach stabilization not met or lost
6. Required ground or airborne equipment fails in IMC
7. Approach and landing cannot be completed as planned



## 8.3.19.2.32.2 Subsequent Approaches

A second approach may be conducted if high likelihood of success. After two missed approaches due to weather, divert if unable.

A third approach may be conducted if one or both misses were non-weather related and high success likelihood. Carefully evaluate weather before committing.

## 8.3.19.2.33 Diversion

Select the most suitable alternate considering:

1. Aerodrome classification per OM-C
2. Actual/forecast weather
3. NOTAMs

Ensure:

1. Diversion discussed and reported to NCC
2. Cabin crew advised
3. Passengers briefed

### 8.3.19.2.33.1 Medical Diversion

Ground Medical Services will recommend a suitable aerodrome with medical support and arrange local emergency response. The PIC makes the final aerodrome selection considering overall safety risks. The PIC shall arrange local response if possible based on available information.

### 8.3.19.2.33.2 Diversion to Aerodromes with Company Support

Preferable to keep passengers onboard if quick turnaround. Passengers remain PIC responsibility if kept onboard. If disembarked, passengers become ground personnel responsibility and must take belongings/baggage.

The PIC shall arrange crew hotel/transportation with ground personnel if rest required but shall not leave until passengers cared for and airplane secured. Comply with local regulations.

### 8.3.19.2.33.3 Diversion to Aerodromes Without Company Support

The PIC is responsible for normal ground staff functions like security, maintenance, passengers, baggage, flight preparations, and shall coordinate with ground station. If disembarked, passengers become ground personnel responsibility and must take belongings/baggage. At least 2 cabin crew should accompany passengers.



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## 8.3.19.2.34 Parking and Docking Systems

- Confirm assigned parking bay is acceptable for aircraft type. With VDGS use, illuminate aircraft type before entry.
- Both pilots shall maintain lookout when approaching bay, stopping and requesting marshalling if any clearance concerns.
- Once parked, set parking brake and both pilots visually confirm no movement.
- Parking brake should normally remain set.
- If released during ground phase, ground personnel shall chock aircraft first.
- Visually confirm no movement when releasing parking brake.

## 8.3.19.2.35 Post Flight Review

A post flight review should be conducted covering items like deviations from briefed plans, strategies to enhance team performance, and technical status/maintenance requirements.

## 8.3.19.2.36 Layover Briefing

A layover briefing should be conducted after disembarkation covering items like crew wake-up/pick-up times, layover threats, and planned crew changes.



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## 8.3.19.3 Non-Normal/Emergency Procedures

### 8.3.19.3.1 Emergency Authority

During emergencies, the PIC may deviate from rules/procedures/minima as required for safety, advising ATC as soon as possible if deviating from clearance.

### 8.3.19.3.2 Declaration of Emergency

Crews shall not hesitate to declare emergencies. Assistance can be cancelled later if no longer needed. Declare with MAYDAY or PAN-PAN initially.

### 8.3.19.3.3 Malfunctions/Emergencies

Flight crews shall follow type-specific abnormal/non-normal/emergency procedures and duties. The PIC may allocate specific duties as appropriate.

The PIC should conduct the landing following situations affecting performance, but may delegate if safer option after assessment.

In-flight, crew shall not enter avionics compartments except in emergencies.

The PIC should provide a calm, professional passenger briefing with appropriate instructions.

### 8.3.19.3.4 Cargo Smoke/Fire Warnings

If on ground and warning believed non-fire related, the PIC with ground personnel may decide to immediately reopen the cargo compartment without passenger/crew disembarkation or door disarming.

### 8.3.19.3.5 Rejected Takeoff

The PIC solely decides reject or continue takeoff. Announcing reject automatically transfers control to PIC with first officer assuming PM duties. Ensure full control before attempting to taxi.

### 8.3.19.3.6 Engine Out Procedures (EOP)

Standard EOP assumes:

1. Maintain runway track compensating for wind
2. Climb between V2 and V2+15
3. Initiate acceleration at/above acceleration height

Non-standard EOP assumes:

1. Maintain runway track compensating for wind
2. Climb between V2 and V2+15
3. Turn at specified point with 15° bank
4. Initiate acceleration when established on final heading/altitude or meeting specific requirements.





8.3.19.3.7 Depressurization/Drift down

Refer to OFP and OM-C

8.3.19.3.8 Overweight Landing

Every effort shall be made to land at or below MLW. The PIC may decide on an overweight landing using type-specific procedures after assessing overall safety risks including required maintenance. Document overweight landings in the aircraft logbook with actual landing weight.

8.3.19.3.9 Hard Landing

Only the PIC may classify a hard landing. Document in aircraft logbook using the term ‘Hard Landing’.

8.3.19.3.10 Emergency Evacuation

The PIC shall provide clear commands for initiating evacuation or precautionary disembarkation. Do not initiate while aircraft moving. Refer to OM-E and type-specific documentation.



## 8.4 ALL WEATHER OPERATIONS

All Weather Operations (AWO) means any take-off or landing operations in conditions where visual reference is limited by weather conditions.

This Chapter provides a compact reference for AWO and highlights the differences in terminology not normally covered in other operations. The term AWO refers to operations in weather conditions for take-off that are below the take-off minima, and in weather conditions for landing that are below the CAT I approach minima. Under these conditions special crew authorization and qualification is required.

The term AWO includes:

- Low Visibility Take-off (LVTO). (RVR values less than 400 m);
- CAT II landing: (Decision height below 200 ft but not less than 100 ft and RVR less than 550 m but not less than 300 m).
- CAT IIIA landing: (Decision height Lower than 100 ft but not less than 50 ft, RVR (m) not less than 200 m and alert height (ft) 100 ft).
- CAT III B landing: (Decision height Lower than 50 ft or No DH, RVR (m) Less than 200 m but not less than 75 m and Alert Height (ft) 100 ft).
- LVTOs and CAT II or CAT III operations shall not be conducted, unless:
- DH is determined by means of a radio altimeter;
- Specific approval/authorization for CAT II or CAT III operations is granted by the Authority;
- Crew Members are qualified for Low Visibility Operations;
- Taxi, take-off and landing are carried out by the Commander;
- To conduct Low Visibility Operations (LVO), Low Visibility Procedures (LVP) must be enforced at the aerodrome of intended use;
- The PIC satisfies himself that the status of the visual and non-visual facilities is sufficient for commencing a LVTO and CAT II or CAT III approach, and that all Crew Members are briefed on the local LVPs.

Procedures and instructions to be used for LVTO and CAT II or CAT III operations are prescribed in the OM Part B and in OM Part D.



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## 8.4.1 Qualifications Requirements for LVTO and CAT II OR CAT III Operations

Mukamalah Aviation Flight Crews are qualified for LVTO operations as part of the initial qualification process, however, they are not qualified for CAT II or CAT III operations, until completing the specific training and meeting the qualification requirements for CAT II or CAT III operations, refer to 5

## 8.4.2 Precision Approaches CAT II and CAT III

Precision approach CAT II and CAT III operations are defined according to the applicable DH (A) and RVR as shown in the following Table below:

PRECISION APPROACHES TABLE

Approach Category	Decision Height	RVR (m)	Alert Height (ft)	Equipment Allowed
CAT II	Lower than 200 ft but not less than 100 ft	Not less than 300 m	N/A	N/A
CAT III A	Lower than 100 ft but not less than 50 ft	Not less than 200 m	100	Fail-passive and Fail-operational
CAT III B	Lower than 50 ft or No DH	Less than 200 m but not less than 75 m	100	Fail-operational

**Note 1:** For instrument approach and landing operations, aerodrome operating minima below 800 meters Visibility is not authorized unless RVR information is available for the intended runway of use.

**Note 2:** For CAT II operations, auto coupled to below DH means continued use of the automatic flight control system down to a height of 80% of the DH (i.e. the autopilot must be disengaged no later than 80 ft AGL).



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## 8.4.2.1 Required Visual Reference for Precision Approaches

The required visual reference for CAT II or CAT III approaches are as follows:

### RVR FOR PRECISION APPROACHES

Approach Type	Required Visual Reference
CAT II	<p>A pilot may not continue an approach below DH unless the following visual references are attained and can be maintained:</p> <ol style="list-style-type: none"><li>A segment of at least 3 consecutive lights being:<ul style="list-style-type: none"><li>The center line of the approach lights, or</li><li>Touchdown zone lights, or</li><li>Runway center line lights, or</li><li>Runway edge lights, or</li><li>A combination of these is attained or maintained.</li></ul></li><li>And a lateral element of the ground pattern:<ul style="list-style-type: none"><li>An approach lighting crossbar, or</li><li>The landing threshold, or a barrette of the touchdown zone lighting.</li></ul></li></ol>

If loss of the Visual Reference occurs after passing the DH:

- Before touchdown – Conduct a missed approach.
- After touchdown and during rollout – Continue the landing. A go-around should not be attempted. The roll-out should be continued with AP in ROLL-OUT mode down to taxi speed.

## 8.4.2.2 Decision Height

Decision Height (DH) is a specified Height in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

At DH:

- If the visual references have not been established, a go-around must be executed.
- If the visual references have been established, the approach can be continued. However, the PIC may always decide to execute a “Go-around” if sudden degradations in the visual references or a sudden flight path deviation occur.
- In CAT II, DH is always limited to 100 ft or Obstacle Clearance Height (OCH), whichever is higher.



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- In CAT III operations with DH, the DH is lower than 100 ft (typically equal to 50 ft for a fail-passive automatic landing system and 20 ft for a fail-operational automatic landing system).

#### 8.4.2.3 Alert Height

The Alert Height (AH) is as a specified radio altitude height above touch down, above which a CAT III approach would be discontinued, and a missed approach executed, if a failure occurred in either the aircraft systems or in the relevant ground equipment.

The AH is evaluated during aircraft certification; it is set to 100 feet. If a failure occurred:

- Above AH, the approach must be discontinued and a go-around executed.
- Below AH, the approach will be continued using the remaining automatic system, except if AUTOLAND warning triggered, autoland must be discontinued.

#### 8.4.2.4 Runway Visual Range

Runway Visual Range (RVR) is the range over which the PIC of an aircraft on the centerline of the runway can see the runway surface markings or the lights delineating the runway or identifying its centerline.

For CAT II and CAT III operations, the RVR measurements are provided by a system of calibrated transmissometers and account for the effects of ambient background light and the intensity of runway lights.

Transmissometers systems are strategically located to provide RVR measurements associated with three basic portions of a runway:

- The Touchdown Zone (TDZ);
- The Mid-runway Portion (MID); and
- The Rollout Portion (RO) or stop end.

RVR measuring point required for CAT II/III operations are as follows:

Approach Category	Required RVR Measuring Point
CAT II	TDZ measurement is required.
CAT III	TDZ measurement is required. However, TDZ can be replaced by the MID, if inoperative.
CAT III without DH	Requires only one RVR measuring point on the runway.

Table 16: RVR MEASURING POINT TABLE



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## 8.4.3 Required RVR/Visibility for Take-Off

A low visibility take-off (LVTO) is a take-off in met. Conditions with an RVR of less than 400 m. Low visibility procedures (LVP) must be in effect at the relevant airport, If no LVP are established, or LVP are not in force, the lowest RVR authorized for take-off is 400 m.

## 8.4.4 Minimum Required DH and RVR For CAT I, CAT II or CAT III Operations

RVR measurements are provided by a system of calibrated transmissometers, which account for ambient lights and the intensity of runway lights. These transmissometers are located to provide RVR measurements associated with three portions of a runway as follows:

- The touch-down zone (TDZ);
- The mid runway portion (MID);
- The rollout portion (RO) or stop-end.

In some cases, the minima authorized by a particular state may be more restrictive than those given in below Table. Authorized approach minima are also reflected in the approach plates.

Approach Category	DH/DA ft	Required RVR Reading <sup>(Note 1)</sup>			
		TDZ (m)	MID with auto rollout (m)	MID without auto rollout (m)	RO <sup>(Note 2)</sup> (m)
CAT II	100 <sup>(Note 3)</sup>	300	75	125	75
CAT III A	50	200	75	125	75
CAT III B	20	125	75	125	75
CAT III B	NO DH	75	75	N/A	75

Table 17: MINIMUM REQUIRED DH AND RVR CAT II / III APPROACHES

*Note 1: For CAT IIIB without DH, at least one RVR value must be available at the aerodrome. If all three are available, the required RVR from the above table applies.*

*Note 2: The requirement for rollout RVR is not required if the aircraft speed is anticipated to be less than 60k knots when entering the rollout section of the runway.*

*Note 3: Radio Altimeter altitude (RA) may be less or higher depending on the terrain profile during approach.*

## 8.4.5 Airport Approval for LVP

It is not permitted to carry out LVP operations at an airport which is not approved for such operations by the competent Authority.



## 8.4.6 Low Visibility Flight Preparation and Execution

### 8.4.6.1 Taxi

Adherence shall be given to the following:

- LVPs are in force;
- For seat adjustment, refer to the relevant OM Part B;
- LVTO briefing shall be performed while the aircraft is at complete stop;
- The status of the visual and non-visual facilities is sufficient;
- Minimum required RVR for take-off is obtained;
- Use of aircraft anti-icing procedures, if applicable;
- Maximum taxi speed is 10 kts;

*NOTE: Taxiway light spacing of 15 meters is reduced to 7,5 meters to indicate curved taxiways. Continuous green taxiway lights following alternating green and yellow lights indicate the boundary of the ILS critical area.*

- If in doubt, the aeroplane shall be stopped and follow me assistance shall be requested;
- Ground equipment, aircraft wing-tips and tails may not be as readily seen as the taxiway lights, therefore taxi with utmost caution;
- Any checklist, clearance or action shall be carried out while the aircraft is stationary and the parking brake is set;
- Make full use of all aircraft lights, e.g., taxi and turnoff, etc.
- Extreme caution shall be exercised when approaching CAT II / CAT III holding point, and while entering the runway, double check runway heading reference and ensure that the aircraft is on the run-way centerline.

### 8.4.6.2 Dispatch

- MEL: The OM Part B and/or MEL prescribe the minimum equipment that must be serviceable at the commencement of a LVTO or a CAT II / III approach.

*NOTE: The PIC shall satisfy himself that the status of the aeroplane and of the relevant air-borne systems are appropriate for the specific operation to be conducted.*

- NOTAMS: Review NOTAMS to ensure that the departure and destination airport meets the visual or non-visual CAT II / CAT III requirements and LVTO, e.g., runway and approach lighting, ILS availability, RVR equipment availability, etc.;
- Crew Qualification: Crew qualification and currency must be reviewed (both Captain and F/O must be qualified and current);



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- Weather Information: For planning minima (take-off alternate, destination, destination and enroute alternate aerodrome)
- Fuel Planning: Additional 15 minutes taxi fuel should be carried for expected ground delays when LVP are in effect at the departure aerodrome;
- 30 minutes holding fuel at 5000 ft over destination should be carried for expected holding delays when LVO are in effect at the arrival aerodrome, to cater for congestion;

*NOTE: PIC are encouraged to adjust based on local airfield conditions.*

- Aircraft Technical Log: Check the Aircraft Technical Log to confirm that no defects are recorded during previous flights, affecting equipment required for CAT II / CAT III.
- Flight crew must adhere to the operating procedures and limitations as mentioned in the OM-B during low visibility operations.

## 8.4.6.3 Take-Off

- Judgment should be exercised regarding the use of interior and exterior lights;
- It must be ensured that the aircraft does not pass the CAT II / CAT III holding point until cleared to enter the runway;
- If available, an ILS shall be tuned and identified and the localizer indication centered and crosschecked by both Pilots to ensure that the aircraft is on the runway centerline;
- The PIC shall satisfy himself that, under the prevailing meteorological conditions, the visual references are sufficient for the take-off to be completed safely;
- Line up on the runway centerline. Use the centerline lights or marking for directional control guidance during take-off roll. As speed increases the streaming effect of the lights and markings improve tracking. Also, the noise of the nose wheel running over the centerline lights is further confirmation that take-off run is straight.
- The take-off minima are mainly determined by the airport installation (runway lighting system, RVR measurement system).
- TOGA shall be used for take-off;

*NOTE: Standard runway centerline lights change from white to alternating red and white when the remaining of the runway is approximately 3000 ft (900 m) and to steady red when the remaining is only 1000 ft (300 m).*

## 8.4.6.4 Approach

For CAT II / CAT III approaches, strict adherence shall be given to the procedures and limitations mentioned in the OM Part B.

Autoland is recommended during CAT II / CAT III approaches.





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## 8.4.6.4.1 Approach Preparation

In addition to normal approach preparation, the following must be reviewed when CAT II / CAT III approaches are anticipated:

- Flight Crew Members are qualified;
- A check of aircraft systems status;
- The status of the visual and non-visual facilities is sufficient;
- LVPs are in force;
- Aerodrome and runway operational status;
- Destination and alternate weather;
- Brief review of task sharing;
- Review approach procedure (stabilized approach and approach gate);
- Review and set applicable landing minima (RA) value in DH field;
- Review Approach Ban;
- Review go-around procedure;
- Review downgrading possibilities above 1000 ft AGL
- Brief review of procedure in case of malfunction below 1000 ft AGL
- Adjust seat positions and interior and exterior lights;
- Review Callouts.
- ATIS must be checked for any degradation of aerodrome equipment;
- Before the Approach Ban, RVR values for TDZ (MID and rollout, if relevant) must be checked and be above minimum values. The approach chart will depict the required minimum values;
- Clearance to carry out a CAT II / CAT III approach shall be obtained from ATC; otherwise, the approach shall not be conducted.



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## 8.4.6.4.2 Abnormality During Final Approach

Failure above 1000 ft AGL Approach may be continued if:	Failure below 1000 ft AGL Approach may be continued if:
All Checklists/required actions are performed;	The PIC has the runway in sight; and
Weather permits;	The type of failure does not affect the landing performance.
Approach briefing and DH are updated; and	
Aircraft is stabilized not lower than 1000 ft AGL.	
Otherwise, a go-around shall be initiated.	
NOTE: This does not impair the emergency authority of the PIC.	

## 8.4.6.4.3 Approach Procedures

The task sharing for a CAT II/CAT III approach is that CM1 is PF and CM2 is PM.

The workload is distributed in such a way that the CM1 primary tasks are supervising and decision making, and the CM2 primary task is monitoring operation of the automatic system.

Detailed summary of task sharing is given in relevant aircraft type operating manual.

## 8.4.7 Failed or Downgraded Equipment Effect on Landing Minima

Refer to 8.XXX

## 8.4.8 CAT II / CAT III Required Visual Reference

For CAT II Refer to 8.XXX

## 8.4.9 Maximum Wind Speeds

For the maximum wind speeds for Autoland following a CAT II / CAT III approach refer OMB.

## 8.4.10 Incapacitation During CAT II / CAT III

- In case of PIC Incapacitation, the F/O after assessing the situation, will decide whether to continue the CAT II / III approach or to divert.
- In case of F/O incapacitation, the PIC, after assessing the situation, will decide whether to continue the CAT II / III approach or to divert.



## 8.4.11 Decision Height Concept

Decision height is a specified point in space at which the PIC must make an operational decision. He must decide if the visual references, adequate to safely continue the approach, have been established.

- If the visual references have not been established, a go-around must be executed;
- If the visual references have been established, the approach can be continued. However, the PIC may always decide to execute a go-around if sudden degradations in the visual references or a sudden flight path deviation occur.

## 8.4.12 Loss of Visual References

Before Touchdown If the required visual reference was acquired before DH but it subsequently becomes insufficient following the decision to continue the approach, or the flight path deviates unacceptably, an immediate go-around shall be initiated.

**CAUTION: A GO-AROUND INITIATED CLOSE TO THE RUNWAY MAY RESULT IN GROUND CONTACT. IN THIS CASE, THE GO-AROUND SHALL BE CONTINUED. STRICT ADHERENCE TO THE RELEVANT CONTENT OF THE OM PART B IS MANDATORY.**

After Touchdown If the required visual reference is lost after touchdown, a go-around should not be attempted. The rollout should be continued with autopilot in ROLLOUT mode down to taxi speed.

If there is no autopilot rollout guidance, use reversers and braking, matching the requirements for maximum deceleration and monitor the distance to the end of the runway.

## 8.4.13 Practice Low Visibility Approach/Autoland

Practice autoland approaches may only be carried out on runways that have ILS equipment certified for CAT II / III approaches. Flight Crew must comply with OM-B LIMITATIONS.

When autoland is intended to be performed without actual low visibility operations in progress, ATC must be informed to enable, whenever possible, the same level of protection available during actual LVP operations.

**CAUTION: A PRACTICE AUTOLAND IN AN UNPROTECTED ENVIRONMENT CREATES SIGNIFICANTLY MORE RISK THAN AN ACTUAL AUTOLAND IN LOW VISIBILITY OPERATIONS. THE RISK INCREASES SUBSTANTIALLY AS THE AIRCRAFT DESCENDS BELOW 200 FEET. IT IS THEREFORE ESSENTIAL THAT BOTH FLIGHT CREW MEMBERS MONITOR THE AIRCRAFT PATH VERY CAREFULLY AND WITH FULL AWARENESS THAT THE MANEUVER IS NOT PROTECTED AND MAY NEED TO BE DISCONTINUED SHOULD ANY ABNORMALITY OCCUR.**

*NOTE: Autoland shall be entered in the aircraft technical logbook and the appropriate form, whether satisfactory or unsatisfactory, malfunctions of aircraft equipment must be precisely detailed.*



## 8.4.14 Fail-Passive Automatic Landing System

An automatic landing system is fail-passive if, in the event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude, but the landing is not completed automatically. For a fail-passive automatic landing system the pilot assumes control of the aircraft after a failure.

The fail-passive capability is announced by the display of CAT 3 SINGLE on the PFD.

## 8.4.15 Fail-Operational Automatic Landing System

An automatic landing system is fail-operational if, in the event of a failure below alert height, the approach, the flare and landing can be completed by the remaining part of the automatic system. In the event of failure, the automatic landing system will operate as a fail-passive system.

## 8.4.16 Minimum Equipment List - MEL

The CAT II or CAT III capability of the aircraft is available provided the equipment listed in the QRH are operative.

If the aircraft is dispatched with equipment inoperative, the MEL shall be consulted which will preclude CAT II or CAT III operations as appropriate.

The PIC shall satisfy himself that the status of the aircraft and of the relevant airborne systems is appropriate for the specific operations to be conducted.



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## 8.5 ETOPS

Mukamalah Aviation does not operate (ETOPS).



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## 8.6 USE OF THE MINIMUM EQUIPMENT AND CONFIGURATION DEVIATION LISTS

### 8.6.1 Minimum Equipment List (MEL)

The MEL is approved by the GACA and permits the operation with specific inoperative items or equipment for a period of time, or a number of flights, until repairs can be accomplished.

The basis for establishing and approving the MEL is the Master Minimum Equipment List (MMEL). In addition to the MMEL, the MEL considers operational regulations and increased safety standards applicable to Mukamalah Aviation commercial operations.

The decision of the PIC of the flight to have allowable inoperative items corrected prior to flight will take precedence over the provision contained in the MEL. The PIC may request requirements above the minimum listed whenever, in his judgment, such added equipment is essential to the safety of a particular flight under the special conditions prevailing at the time, he shall, however, never accept requirements below the minimum required.

Maintenance, ferry, and positioning flights may be dispatched with less than the equipment specified in the MEL, provided all equipment expected to be utilized in that flight is operable. The recommendation in favor or against such a flight must be requested from the technical department, flight operations and the Authority.

Equipment obviously basic to the airplane's airworthiness (such as wings, rudders, etc.) is not listed in the MEL and must be operative for all flights. On the other hand, equipment obviously not required for the safe operation of the aeroplane, such as passenger's convenience items, are not listed and may be unserviceable.

*NOTE: MEL requirements and/or restrictions remain applicable until take-off power is set. Any System failure that occurs after all engines have been started requires completion of the associated non-normal checklist; thereafter, the MEL must be consulted to determine if dispatch relief is available.*

### 8.6.2 Dispatch

The MEL is not intended to provide for continued operation of an aircraft for an unlimited period of time. Repairs should be made as soon as possible within the time limit imposed by Rectification Intervals.

Dispatch of the aircraft is not allowed after expiry of the Rectification Interval specified, unless the Rectification Interval is extended.

Engineering personnel, if applicable, will provide placarding of inoperative items.

For flight planning, the OFP shall take account for take-off and/or landing performance and fuel penalties due to inoperative equipment and/or missing components.



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## 8.6.3 Configuration Deviation List (CDL)

A configuration deviation list is a list, which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction, for additional information, refer to the AFM.

## 8.6.4 Non-Essential Equipment & Furnishings (NEF)

*E-book Vol. 5 Chapter 4. Section 5*

NEF are those items installed on the aircraft as part of the original certification, supplemental type certificate, or engineering order that have no effect on the safe operation of flight and would not be required by the applicable certification rules or operational rules.

They are those items that, if inoperative, damaged or missing, have no effect on the aircraft ability to be operated safely under all operational conditions.

These non-essential items may be installed in areas including, but not limited to, the passenger compartment, flight deck area, service areas, cargo areas, crew rest areas, lavatories, and galley areas.

Items addressed elsewhere in this MEL are not included. Any number or combination of galley equipment may be inoperative provided the in-flight supervisor/purser is notified and determines that the operative galley equipment available is adequate to support the associated passenger service throughout the flight(s).



## 8.7 NON-REVENUE FLIGHTS

### 8.7.1 General

Non-revenue flights shall follow Operations Manual procedures and policies unless specifically alleviated.

1. GACA approval is required for demonstration, delivery, maintenance ferry, and maintenance test flights.
2. No passengers, cabin crew, or baggage shall be carried on test flights.

#### 8.7.1.1 Carrying Supernumeraries and Passengers

A passenger on a non-revenue flight is transported for commercial purposes and is not operating crew or a supernumerary.

A supernumerary is not operating crew or a passenger (e.g. load master, engineer, GACA).

*Note: Non-operating crew on passenger flights are passengers. Non-crew passengers require operations director authorization.*

#### 8.7.1.2 Cabin Crew Requirements

Cabin crew are required on any non-revenue flight with passengers unless authorized.

#### 8.7.1.3 Safety and Security Checks

The PIC shall conduct pre-flight safety checks per the OM-E.

Unless conducted by an authorized provider, the PIC shall also conduct pre-flight security checks per the OM-E.

The PIC may delegate checks to qualified crew or supernumeraries.

#### 8.7.1.4 Supernumerary and Passenger Briefings

The PIC shall ensure supernumeraries and passengers are briefed on safety matters per the OM-E.

Briefings shall cover:

1. Emergency equipment and exits
2. Passenger safety information
3. Following crew instructions
4. Not impeding crew duties
5. Communicating medical issues to crew

The PIC may also inform via PA system:

1. Remain seated with seatbelts
2. Prepare for takeoff/landing/descent
3. Emergency instructions





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## 8.7.1.5 Standard Operating Procedures

Without cabin crew, the PIC shall not accept:

1. Intoxicated or abusive passengers
2. Passengers with disabilities, injuries, illness
3. Infants, unaccompanied minors
4. Inadmissible or deportee passengers
5. Persons in custody

When refueling/defueling without cabin crew, the PIC shall ensure:

1. Designated doors available for evacuation
2. Area outside exits unobstructed
3. Crew near doors to monitor and execute evacuation if needed
4. Communication method between monitoring crew and fueling personnel

Refer to OM-E for passenger door procedures.

## 8.7.2 Types of Non-Revenue Flights

### 8.7.2.1 Demonstration Flights

#### 8.7.2.1.1 Public Relations (PR) Flights

PR flights carry non-paying official/media representatives and may include Mukamalah Aviation personnel. They are in the interest of business.

PR flights including air shows, sightseeing, photography, etc. require director of operation authorization.

### 8.7.2.2 Maintenance Check Flights

Maintenance check flights demonstrate:

1. Airplane handling, performance, functions for buyers/lessees
2. Flying characteristics or procedures for certification
3. Handling, performance, functions following maintenance or troubleshooting

Maintenance Check Flights require Chief Pilot authorization and are normally daylight VMC. Night flights may be approved for specific systems.

Maintenance Check Flights may use line crews or specifically qualified flight/technical crews depending on the operation. Technical crews are referred to as technical flight check pilots and engineers.

As per GACAR 91.419, flight tests shall be over open water or sparsely populated areas with light traffic.



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## 8.7.2.3 Ferry Flights

Ferry flights may be performed for:

1. Moving aircraft to/from maintenance base
2. Flying under permit conditions
3. Moving aircraft from one location to another
4. Positioning for further air transport
5. Moving aircraft to secure location (recovery flight)

## 8.7.2.4 Training Flights

Base training flights require head of training authorization.

Line flying under supervision, checks, etc. are not under non-revenue rules.



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8.8 OXYGEN REQUIREMENTS

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## 8.8 OXYGEN REQUIREMENTS

*GACAR Appendix G a(15), GACAR 91.223(a)(b)*

### 8.8.1 Flight Crew

Prior to departure:

1. Connect oxygen masks at occupied stations to system with sufficient pressure per procedure.
2. Check proper mask operation.

Oxygen masks shall be worn and used:

1. Above FL250, by the remaining pilot when the other pilot leaves station.
2. Above FL410, at all times by one operating pilot.
3. When required by emergency/abnormal checklists.
4. Whenever cabin altitude exceeds 10,000 ft.

*Note: Set "100% - Normal" lever to Normal when masks donned per (2) above.*

Up to 25,000 ft, flights may continue with inoperative/empty oxygen if portable bottles available for each crew member.

Above 25,000 ft the quick-donning system must be fully serviceable with masks available.

Crew shall use oxygen above 10,000 ft cabin altitude.

Refer to aircraft FCOM for oxygen use in emergencies like fire or decompression.

### 8.8.2 Cabin Crew

When required, sufficient outlets, masks, and/or portable units shall be distributed throughout the cabin for immediate availability.

### 8.8.3 Passengers

*GACAR 91.305*

Aircraft shall carry supplemental passenger oxygen:

1. 100% supply for 10 minutes or entire flight time above 15,000 ft, whichever is greater
2. 30% supply for entire flight time from 14,000 - 15,000 ft
3. 10% supply for entire flight time after first 30 minutes from 10,000 - 14,000 ft

Passengers shall use oxygen above 15,000 ft cabin altitude.



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## 8.8.4 First Aid Oxygen

Refer to OM-E.

## 8.8.5 Crew Protective Breathing Equipment (PBE)

Refer to aircraft documentation and OM-E.



## 9. DANGEROUS GOODS AND WEAPONS

### 9.1 LEGAL BACKGROUND

*GACAR 91.27 / GACAR 121 SUBPART R*

Mukamalah Aviation is a Dangerous Goods carry operator. Dangerous Goods operations is conducted in accordance with the Technical Instructions for the Safe Transport of Dangerous Goods by Air (will be referred hereinafter as the Technical Instructions a definition that encompasses its amendments as well) which is published by decision of the Council of the International Civil Aviation Organization (ICAO Doc. 9284).

Mukamalah Aviation takes all necessary measures to prevent the inadvertent carriage of Dangerous Goods onboard its aircraft.

Key regulations include:

1. GACA Dangerous Goods Regulation (GACAR part 109) based on ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284).
2. ICAO Annex 18 - The Safe Transport of Dangerous Goods by Air. This details the signatory states' responsibilities for DG transport.
3. IATA Dangerous Goods Regulations (DGR) - The global reference manual for transporting DG by air. This manual sets packaging, labeling and storage requirements which are updated annually.



## 9.2 POLICY FOR TRANSPORT OF DANGEROUS GOODS

### *GACAR 109.3*

The transport of dangerous goods by air poses risks to the safety of the aircraft, passengers, and crew as well as the public. However, dangerous goods can be transported safely if certain principles and regulations are adhered to. These instructions aim to minimize the inherent risk of dangerous goods by assigning them to hazard classes, providing detailed packing and marking requirements, requiring training for personnel, and establishing limitations on what can be transported. With compliance to all applicable requirements, the risks presented by dangerous goods can be effectively managed.

Mukamalah Aviation will strictly comply with all applicable regulations concerning the air transport of dangerous goods, including the ICAO Technical Instructions and GACAR Part 109. Dangerous Goods are only accepted when they are properly classified, described, packaged, marked, labelled and in a condition ready for air transport as required by the regulations.

Personnel directly involved in the transport of dangerous goods will receive commensurate training on the hazards and requirements.

Passengers will be provided with information regarding limitations on what dangerous goods can be carried onboard. Regulations will be fully implemented through company policies and procedures to ensure the safe air transport of permitted dangerous goods.

Mukamalah Aviation only accepts and transports dangerous goods that comply with the requirements specified in GACAR Part 109 and the ICAO Technical Instructions. The following policies apply:

1. All dangerous goods shipments must be accompanied by a completed Shipper's Declaration certifying compliance with applicable regulations. The declaration must include a proper shipping name, UN number, class/division, packing group, quantity, and other required information.
2. Packages containing dangerous goods must be properly marked, labelled, and in a suitable condition for air transport as required by GACAR Part 109.
3. Permitted dangerous goods will only be accepted if the quantity limits, packaging requirements, loading restrictions, and other transport conditions established in GACAR Part 109 are fully met.
4. Any forbidden or non-compliant dangerous goods will be refused for transport. Limited exceptions may apply when an approval is granted by relevant Saudi authorities.
5. Dangerous goods will only be accepted from shippers that have received adequate training on air transport requirements and their responsibilities.
6. All personnel involved in accepting, handling, or processing dangerous goods will receive commensurate dangerous goods training.
7. Documents for each dangerous goods shipment will be retained for minimum 3 months after transport is complete.



## 9.3 CATEGORIES OF DANGEROUS GOODS

Dangerous goods transported by air are categorized as follows:

1. Forbidden Dangerous Goods: Items considered too hazardous for air transport under any circumstances. Listed as forbidden in regulations. Refer to Section 9.7.
2. Acceptable Dangerous Goods: Items that may be transported by air if properly packaged, marked, labeled, and loaded per regulations. Quantity limits apply. Some are only permitted on cargo aircraft.
3. Excepted Dangerous Goods: Items excepted from normal dangerous goods regulations based on low hazard. Do not require special approvals. Exceptions relevant to Mukamalah Aviation include:
  - a. Aircraft parts, equipment and supplies (excluding fuel) required for the operation or serviceability of the aircraft, when authorized by the General Authority of Civil Aviation. Exceptions include limitations on batteries, gases, flares.
  - b. Dry ice is used for catering when properly packaged.
  - c. Personal items for passenger and crew use that are carried on one's person or in checked/carry-on baggage per quantity limits.
  - d. Medical samples from patients under proper packaging and documentation protocols.
  - e. Company materials (COMAT) owned by Mukamalah Aviation that are required for operations.

All personnel must be familiar with DG categories and associated restrictions to prevent prohibited items from entering the air transportation system. Exceptions must adhere to regulatory packaging, handling, and documentation requirements.

*Note: In accordance with Saudi Arabia's adoption of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air and associated State Variations per DGR Section 9.2, alcoholic beverages are forbidden for air transport to, from, or within Saudi territory under any circumstance. Mukamalah Aviation employees must be vigilant in enforcing this restriction and preventing alcohol from entering the aviation system, whether as cargo or passenger baggage.*



## 9.5 DUTIES AND RESPONSIBILITIES

*GACAR 109.87, GACAR 109.89, GACAR 109.21*

### 9.5.1 Flight Crew Responsibilities

Prior to departure, the pilot-in-command must be provided with written information about any dangerous goods aboard the aircraft through the Notification to Captain (NOTOC).

The pilot-in-command will review the NOTOC to determine the nature, location, and loading details of any dangerous goods. The pilot-in-command shall ensure correct loading procedures have been followed and provides information necessary to respond to any in-flight emergencies involving dangerous goods.

In the event of an in-flight emergency, aircraft accident, or dangerous goods incident, the pilot-in-command must inform air traffic control as soon as the situation permits. As a minimum, the information provided should include:

1. Aircraft identification
2. Departure aerodrome
3. Destination aerodrome
4. Estimated time of arrival
5. Proper shipping name/class/UN number of the dangerous goods
6. Location where the dangerous goods are loaded
7. Nature of the incident, accident, or emergency
8. Any other relevant information

The pilot-in-command shall report the emergency through **Mukamalah Aviation's reporting system.**

### 9.5.2 Cabin Crew Responsibilities

The following are the core duties and responsibilities of the Cabin Crew with regards to Dangerous Goods:

1. Enforce passenger and crew provisions regarding permitted DG items.
2. Respond to any DG incidents/accidents in the cabin per emergency procedures.
3. Report accidents/incidents involving passenger or crew DG to authorities.

### 9.5.3 Shipper's Responsibilities

Any person offering dangerous goods for air transport on Mukamalah Aviation must:

1. Accurately and completely declare and describe the dangerous goods contents of each package, including the proper shipping name, hazard class, identification number, packing group, UN Number, and all other required information. This description must be provided in writing to any person accepting the dangerous goods for transport, including the airline.





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2. Provide a written commitment to have any undelivered dangerous goods shipment returned at the shipper's expense and liability if the shipment is not cleared and received by the consignee within 10 working days after arrival at the destination airport in Saudi Arabia.
3. Ensure all dangerous goods shipments are properly classified, packaged, marked, labelled, and in a suitable condition for air transport as required by the Technical Instructions and GACAR Part 109.
4. Attach completed Shipper's **Declaration for Dangerous Goods** form to each dangerous goods shipment, certifying all applicable regulations have been met.
5. Provide relevant information and instructions for handling staff to comply with any special loading or stowage requirements.
6. Ensure personnel involved in preparing dangerous goods shipments are provided with appropriate training on their responsibilities.
7. Retain documents pertaining to each dangerous goods shipment for a minimum period of 3 months after transport is complete.



## 9.6 DANGEROUS GOODS TRAINING

*GACAR 109.101*

All entities involved in Mukamalah Aviation cargo supply chain (including handling contractors, authorized shipping agents, etc.) must comply with necessary procedures and measures to ensure aviation security per regulations.

Mukamalah Aviation **quality department** is responsible for regularly auditing its contracted cargo service providers to ensure their compliance with all relevant security regulations and implementation of best practices. Any identified deficiencies must be addressed in a timely manner.

### 9.6.1 Crew Training

All crew engaged in the carriage of Dangerous Goods shall receive adequate Dangerous Goods training as established in the **Operations Manual part D and the Dangerous Goods Manual (DGRM)**. This includes initial training and recurrent training.

Flight Crew Training shall include the following:

1. General philosophy,
2. Limitations,
3. List of dangerous goods,
4. Labeling and marking,
5. Recognition of undeclared dangerous goods,
6. Storage and loading procedures,
7. Pilots' notification,
8. Provisions for passengers and crew, and
9. Emergency procedures.

Cabin Crew receives training in the following areas:

1. General philosophy,
2. Limitations,
3. Labeling and marking,
4. Recognition of undeclared dangerous goods,
5. Provisions for passengers and crew, and
6. Emergency procedures.



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## 9.6.2 Testing and Evaluation

Dangerous goods training for flight crew and cabin crew will conclude with written or practical assessment to verify understanding of the subjects covered. Personnel must pass the evaluation prior to being assigned duties involving dangerous goods.

Training records will be retained for a minimum of 36 months. Recurrent training will be provided within 24 months of previous training to ensure crew members maintain up-to-date knowledge on dangerous goods transport.



## 9.7 DANGEROUS GOODS LIMITATIONS

### 9.7.1 Dangerous Goods Forbidden Under Any Circumstance

Articles or substances that are liable to explode, dangerously, emit toxic gases, or spontaneously combust when transported by air must not be carried under any circumstances per ICAO Doc 9284. This includes goods specifically forbidden on the Dangerous Goods List in Table 3-1 of the Technical Instructions.

*Note: Mukamalah Aviation retains the authority to decline the transport of any cargo classified as dangerous goods that surpasses the scope of our handling capabilities. It is imperative to acknowledge that the list of Dangerous Goods Regulations (DGR) detailed in Table 3-1 of the Technical Instructions does not represent an all-encompassing directory of hazardous materials. Cargo personnel must exercise due diligence in identifying potential dangers beyond those explicitly outlined.*

Dangerous goods completely prohibited from passenger and crew baggage include:

1. Explosives, fireworks, flares
2. Compressed gases, deeply refrigerated gases
3. Flammable liquids and solids
4. Oxidizers, organic peroxides
5. Toxic or infectious substances
6. Radioactive material
7. Corrosives

Refer to IATA DGR Manual sections 2.1.1 and ICAO Doc 9284 Table 3-1.



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### 9.7.2 Dangerous Goods Forbidden Unless Exempted

The following dangerous goods are forbidden on board Mukamalah Aviation aircraft unless clearly exempted by GACA:

1. Radioactive material which is:
  - a. In vented type b(m) packages;
  - b. In packages which require external cooling by an ancillary cooling system;
  - c. In packages subject to operational controls during transport;
  - d. Explosive;
  - e. A pyrophoric liquid.
2. Unless otherwise provided, articles and substances (including those described as “not otherwise specified”) with a UN number, which are identified in the list of dangerous goods as being forbidden;
3. Infected live animals;
4. Liquids having a vapour inhalation toxicity which requires packing group I packaging;
5. Substances that are offered for transport in a liquid state at temperatures equal to or exceeding 100°C, or in a solid state at temperatures equal to or exceeding 240°C;
6. Any other articles or substance as specified by the appropriate national authority.

Refer to IATA DGR section 2.1.2.



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## 9.7.3 Hidden Shipment Indicators

Cargo and baggage that are offered under a general description might have hazards that are not apparent. Some of these consignments have caused incidents that could have seriously endangered the safety of the aircraft and/or its passengers. Crewmembers should pay attention to these materials and ensure standard packaging is conducted.

Name	Remarks
Aircraft Parts/COMAT	May indicate the presence of chemical oxygen generators, flammable liquids/solids, corrosives, compressed gases, radioactive materials in aircraft parts and accessories, or general company materials.
Automobile parts	May contain cellulose paints, wet batteries, shocks/struts with nitrogen, air bag inflators/air bag modules, etc.
Breathing Apparatus/SCUBA	May indicate compressed air or oxygen cylinders
Bull Semen (or other animals)	May involve the use of refrigerant (e.g. Liquid Nitrogen)
Camping Equipment	May contain flammable liquids, gas or solids
Chemicals	Often found to be hazardous
Cryogenic (liquid)	Indicates low temperature, low pressure, or non-pressurized gas such as Argon, Helium, Neon, and Nitrogen
Cylinders	May contain compressed gas
Dental Apparatus	May contain hazardous chemicals such as resins or solvents
Electrical Equipment	May contain magnetized materials or mercury in switch gear and electron tubes
Frozen Fruits/Vegetables	May be packed in dry ice
Household goods	May contain hazardous materials such as paint, aerosols, bleaching powder, etc.
Instruments	May conceal barometers, manometers, mercury switches, rectifier tubes, thermometers containing mercury
Laboratory/Testing	May contain various hazardous chemicals
Medical Supplies/Equipment (Test Kits)	May contain various hazardous chemicals
Pharmaceuticals	May contain various hazardous chemicals
Repair Kits	May contain various hazardous chemicals
Samples for testing	May contain various hazardous chemicals (including infectious substances)
Swimming pool supplies	May contain acid, chlorine
Vaccines	May be packed in dry ice



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## 9.8 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

Passengers and crew may only carry specific dangerous goods for personal use as permitted by regulations. Prohibited hazardous materials are forbidden in carry-on or checked baggage. All allowed items must comply with quantity limits, packaging, and handling requirements.

### 9.8.1 Restrictions and Allowances

Permitted dangerous goods include:

1. Alcohol-based hand sanitizers up to 100ml when properly packaged in tamper-evident containers.
2. Portable medical electronic devices like automated insulin pumps when accompanied by sufficient batteries.
3. Approved spare lithium batteries for portable electronic devices, capped to prevent short circuits.
4. Battery-powered mobility aids such as wheelchairs when prepared per guidelines.
5. Chemical agent monitoring equipment required for professional duties, with approvals.
6. Small gaseous oxygen cylinders for medical use, up to 5kg gross weight, with proper packaging and markings.

Baggage moved from cabin to cargo hold must be verified by crew to contain no prohibited dangerous goods. Passengers transferring carry-on bags must remove items approved only in cabin.

Common hazardous materials prohibited from air transport include liquid oxygen devices, electroshock weapons, strike anywhere matches, lighter fuel, and certain battery-powered lighters.

Mukamalah Aviation provides dangerous goods information to passengers during booking and check-in processes. All passengers and crew must comply with DG restrictions and allowances to ensure safe travel.

### 9.8.2 Personal Transportation Devices

Passengers may carry certain battery-powered devices like wheelchairs, mobility scooters, and Segways as checked or carry-on baggage if steps are taken to prevent accidental activation and damage.

Requirements include:

1. Devices must be carried in a manner to prevent accidental operation or damage.
2. Lithium batteries must be disconnected, terminals insulated, and batteries secured against movement.
3. Batteries over 160 watt-hours rating require approval and must be removed if possible.
4. Damaged or defective batteries are forbidden. Batteries must be tested and maintained per manufacturer guidelines.
5. Battery-powered vehicles for children can only contain non-spillable wet batteries or dry lithium batteries.



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6. Propane tanks must be emptied if attached to mobility devices.

Passengers should make advance arrangements with Mukamalah Aviation for transporting large or unique mobility aids.

### 9.8.3 Information to Passengers

*GACAR 109.83*

Mukamalah Aviation utilizes multiple methods to inform passengers about dangerous goods restrictions and permitted items:

1. Booking website highlights general DG policies and prohibited materials.
2. Check-in areas have visible dangerous goods awareness posters and flyers.
3. Check-in staff verbally confirm no unauthorized DG items are in baggage.
4. Aircraft safety cards display DG pictograms and key restrictions.
5. Boarding gate areas contain DG information posters and examples.
6. Baggage claim areas have DG info posters covering items forbidden in checked bags.

Information covers visual examples of common prohibited hazardous materials, quantity limits for permitted substances, proper packaging and handling, and consequences of violations.

*Note: Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.*





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Figure 3: Permitted and Non-Permitted Goods in Airplane Cabin

Passengers are advised to contact Mukamalah Aviation to confirm if unique DG items like medical devices or lithium batteries are allowed. Advance notification enables smooth processing and boarding.



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## 9.8.4 Provisions for Carriage

Dangerous goods must not be loaded in as passenger or crew, checked or carry-on baggage, except if allowed in the table below. The table below is an extract from IATA DGR Manual, revision 2024.

The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Alcoholic beverages, when in retail packaging, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L. <b>Note:</b> Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions.	NO	YES	YES	NO
Ammunition, securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.	YES	YES	NO	NO
Avalanche rescue backpack, one (1) per person, containing cartridges of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing no more than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.	YES	YES	YES	NO
Baggage with installed lithium batteries non-removable batteries exceeding–0.3 g lithium metal or 2.7 Wh.	FORBIDDEN			
Baggage with installed lithium batteries: –Non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh; –Removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.	NO	YES	YES	NO

Table 18: Provisions for Carriage Pg 1 of 7



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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Batteries, spare/loose, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (IATA DGR Manual section 2.3.5.8) for portable electronic devices must be carried in carry-on baggage only. Articles which have the primary purpose as a power source, e.g., power banks, are considered as spare batteries. These batteries must be individually protected to prevent short circuits.  Lithium metal batteries: the lithium metal content must not exceed 2 g (IATA DGR Manual section 2.3.5.8.4).  Lithium-ion batteries: the Watt-hour rating must not exceed 100 Wh (IATA DGR Manual section 2.3.5.8.4). Each person is limited to a maximum of 20 spare batteries. (*The operator may approve the carriage of more than 20 batteries.)  Non-spillable batteries: must be 12 V or less and 100 Wh or less. Each person is limited to a maximum of 2 spare batteries (IATA DGR Manual section 2.3.5.8.5).	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container (IATA DGR Manual section 2.3.2.5 for details).	YES	YES	NO	NO
Chemical Agent Monitoring Equipment, when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (IATA DGR Manual section 2.3.4.4).	YES	YES	YES	NO
Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.	FORBIDDEN			
Dry ice (carbon dioxide, solid), in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked “dry ice” or “carbon dioxide, solid” and with the net weight of dry ice, or an indication that there is 2.5 kg or less dry ice.	YES	YES	YES	NO

Table 19: Provisions for Carriage Pg 2 of 7



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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (IATA DGR Manual section 2.3.5.8.2).	NO	NO	YES	NO
Electroshock weapons (e.g., Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.	FORBIDDEN			
Fuel cells containing fuel, powering portable electronic devices (e.g., cameras, cellular phones, laptop computers and camcorders), IATA DGR Manual section 2.3.5.9 for details.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, IATA DGR Manual section 2.3.5.9 for details.	NO	YES	YES	NO
Gas cartridges, small, non-flammable containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating personal safety device, intended to be worn by a person, such as a life jacket or vest. Not more than two (2) devices per passenger and up to two (2) spare small cartridges per device, not more than four (4) cartridges up to 50 mL water capacity for other devices (IATA DGR Manual section 2.3.4.2).	YES	YES	YES	NO
Gas cylinders, non-flammable, non-toxic, worn for the operation of mechanical limbs. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.	NO	YES	YES	NO
Hair styling equipment containing a hydrocarbon gas cartridge, up to one (1) per passenger or crew member, provided that the safety cover is securely fitted over the heating element. This hair styling equipment must not be used on board the aircraft. Spare gas cartridges for such hair styling equipment are not permitted in checked or carry-on baggage.	NO	YES	YES	NO

Table 20: Provisions for Carriage Pg 3 of 7



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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Insulated packaging’s containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.	NO	YES	YES	NO
Internal combustion or fuel cell engines, must meet A70 (IATA DGR Manual section 2.3.5.12 for details).	NO	YES	NO	NO
Lithium Batteries: Portable electronic devices (PED) containing lithium metal or lithium-ion cells or batteries, including medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets (IATA DGR Manual section 2.3.5.8). For lithium metal batteries the lithium metal content must not exceed 2 g and for lithium-ion batteries the Watt-hour rating must not exceed 100 Wh. Devices in checked baggage must be completely switched off and must be protected from damage. Each person is limited to a maximum of 15 PED.	NO*	YES	YES	NO
Lithium batteries, spare/loose, including power banks, see Batteries, spare/loose				
Lithium battery-powered electronic devices. Lithium-ion batteries for portable (including medical) electronic devices, a Wh rating exceeding 100 Wh but not exceeding 160 Wh. For portable medical electronic devices only, lithium metal batteries with a lithium metal content exceeding 2 g but not exceeding 8 g. Devices in checked baggage must be completely switched off and must be protected from damage.	YES	YES	YES	NO
Lithium batteries, spare/loose with a Watt-hour rating exceeding 100 Wh but not exceeding 160 Wh for consumer electronic devices and PMED, or with a lithium metal content exceeding 2 g but not exceeding 8 g for PMED only. Maximum of two spare batteries in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	YES	NO

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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Matches, safety (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage.	NO	ON ONE'S PERSON		NO
<i><b>Note:</b> “Strike anywhere” matches, “Blue flame” or “Cigar” lighters or lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden (see IATA DGR Manual section 2.3.5.8.4(e)).</i>				
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with non-spillable wet batteries, nickel-metal hydride batteries or dry batteries, (IATA DGR Manual section 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with spillable batteries or with lithium-ion batteries (IATA DGR Manual section 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with lithium-ion batteries where the design of the mobility aid does not provide adequate protection for the battery(ies) (IATA DGR Manual section 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hairsprays, perfumes, colognes and medicines containing alcohol; and non-flammable, non-toxic (Division 2.2) aerosols, with no subsidiary hazard, for sporting or home use (IATA DGR Manual section 2.3.5.1).  The total net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic (Division 2.2) aerosols must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	NO	YES	YES	NO

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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Matches, safety (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage. <i><b>Note:</b> “Strike anywhere” matches, “Blue flame” or “Cigar” lighters or lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden (IATA DGR Manual section 2.3.5.8.4(e)).</i>	NO	ON ONE'S PERSON		NO
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with non-spillable wet batteries, nickel-metal hydride batteries or dry batteries, (IATA DGR Manual section 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with spillable batteries or with lithium-ion batteries (IATA DGR Manual section 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with lithium-ion batteries where the design of the mobility aid does not provide adequate protection for the battery(ies) (IATA DGR Manual section 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hairsprays, perfumes, colognes and medicines containing alcohol; and non-flammable, non-toxic (Division 2.2) aerosols, with no subsidiary hazard, for sporting or home use (IATA DGR Manual section 2.3.5.1).  The total net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic (Division 2.2) aerosols must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	NO	YES	YES	NO

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The Pilot-in-Command must be informed of the location				
Permitted in or as carry-on baggage				
Permitted in or as checked baggage				
The approval of the operator is required				
Oxygen or air, gaseous, cylinders required for medical use. The cylinder must not exceed 5 kg gross weight. Note: Liquid oxygen systems are forbidden for transport.	YES	YES	YES	YES
Permeation devices, must meet A41 (IATA DGR Manual section 2.3.5.13 for details).	NO	YES	NO	NO
Radio isotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person, or fitted externally.	NO	ON ONE'S PERSON		NO
Security-type equipment (IATA DGR Manual section 2.3.2.6 for details).	YES	YES	NO	NO
Security-type attaché cases, cash boxes, cash bags, etc., incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, except as provided in IATA DGR Manual section 2.3.2.6 are totally forbidden. See entry in 4.2 – List of Dangerous Goods.	FORBIDDEN			
Specimens, non-infectious, packed with small quantities of flammable liquid, must meet A180 (IATA DGR Manual section 2.3.5.11 for details).	NO	YES	YES	NO
Thermometer, medical or clinical, which contains mercury, one (1) per person for personal use, when in its protective case.	NO	YES	NO	NO
Thermometer or barometer, mercury filled, carried by a representative of a government weather bureau or similar official agency (IATA DGR Manual section 2.3.3.1 for details).	YES	NO	YES	YES

Table 24: Provisions for Carriage Pg 7 of 7

*Note: The provisions of IATA DGR Subsection 2.3 and Table 2.3.A may be limited by State or operator variations.*





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9.8	DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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## 9.8.5 Goods Acceptable with Operator Approval as Carry-on Baggage Only

Mukamalah Aviation permits spare lithium metal and lithium ion batteries to be carried in carry-on baggage under the following conditions:

1. No more than 2 lithium ion batteries with a Watt-hour rating exceeding 100Wh but not exceeding 160Wh are allowed.
2. No more than 2 lithium metal batteries with lithium content exceeding 2g but not exceeding 8g are allowed. Lithium metal batteries are only permitted for portable medical devices.
3. Each spare battery must be individually protected from short circuiting through insulation of the terminals (e.g. by taping or placing in a plastic bag).
4. The batteries must meet the requirements in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air.
5. No more than two individually protected spare batteries per person may be carried.

Mukamalah Aviation will ensure passengers are informed of the limitations and requirements concerning spare lithium batteries in carry-on baggage. Batteries not fulfilling the conditions outlined above will not be permitted.



## 9.9 PROVISION OF INFORMATION TO PIC

GACAR 109.87

### 9.9.1 Notification to Captain (NOTOC)

Mukamalah Aviation will issue a NOTOC whenever dangerous goods requiring a Shipper's Declaration or dry ice are being transported as cargo. A NOTOC is not required for dangerous goods in excepted quantities, goods accepted with passengers or excepted packages of radioactive material.

The **cargo department** is responsible for completing all required information on the NOTOC, except for the loading position. The loading position will be inserted by the ramp agent based on instructions from the load planner.

The ramp agent will confirm by signature that the stated loading position matches the actual loading position and that there is no evidence of damage or leakage from the loaded packages.

The original NOTOC and a copy will be provided to the pilot-in-command as early as possible prior to departure to allow time for review. The original remains on board the aircraft and the copy signed by the pilot is kept on file at the departure station.

The NOTOC enables the pilot-in-command to verify the loading and identify the presence of any dangerous goods on board the aircraft. This supports the pilot's ability to respond effectively to any in-flight emergencies involving dangerous goods.

Refer to chapter 1313.

### 9.9.2 Timely Provision of Information

Mukamalah Aviation ground operations team will provide the pilot-in-command with accurate written information concerning any dangerous goods to be transported as cargo as early as possible before departure, and no later than when the aircraft begins taxiing under its own power.

The same dangerous goods information will also be provided to personnel responsible for operational control of the aircraft, such as the flight dispatcher.

For dangerous goods permitted in passenger or crew baggage, the following notification procedures apply:

1. Passenger handling staff will inform load planning of details on accepted items, including the description, passenger name, seat number, and if it is carry-on or checked baggage.
2. Load planning will add a supplementary information entry to the load sheet indicating the dangerous goods details, passenger name, seat number, and loading location if in checked baggage.
3. Load planning will communicate the loading location to ramp personnel for dangerous goods loaded in the cargo hold



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## 9.10 ACCEPTANCE AND HANDLING OF DANGEROUS GOODS CARGO

### 9.10.1 Classification of Dangerous Goods and Hazardous Materials

Dangerous goods are substances that pose risks to personnel, aircraft, and the environment during air transport based on the hazards they present. Dangerous goods are assigned to one of nine hazard classes or divisions based on the type of predominant risk. The classes, divisions, and associated hazards are:

1. Class 1 - Explosives
  - a. Division 1.1 - Mass explosion hazard
  - b. Division 1.2 - Projection hazard
  - c. Division 1.3 - Fire, blast or projection hazard
  - d. Division 1.4 - Minor explosion hazard
  - e. Division 1.5 - Very insensitive explosives
  - f. Division 1.6 - Extremely insensitive articles
2. Class 2 - Gases
  - a. Division 2.1 - Flammable gases
  - b. Division 2.2 - Non-flammable, non-toxic gases
  - c. Division 2.3 - Toxic gases
3. Class 3 - Flammable liquids
4. Class 4 - Flammable solids, spontaneously combustible, dangerous when wet
  - a. Division 4.1 - Flammable solids
  - b. Division 4.2 - Spontaneously combustible substances
  - c. Division 4.3 - Water-reactive substances
5. Class 5 - Oxidizers and organic peroxides
  - a. Division 5.1 - Oxidizers
  - b. Division 5.2 - Organic peroxides
6. Class 6 - Toxic and infectious substances
  - a. Division 6.1 - Toxic substances
  - b. Division 6.2 - Infectious substances
7. Class 7 - Radioactive material
8. Class 8 - Corrosives
9. Class 9 - Miscellaneous dangerous goods



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The classification is based on assessment of a substance's properties against technical criteria for each class/division as provided in the ICAO Technical Instructions and other regulations.

Mukamalah Aviation will ensure dangerous goods are properly classified based on technical guidance and national authority requirements before acceptance for transport by air. Correct classification allows selection of appropriate packaging, marking, labelling, handling, and segregation procedures.

### 9.10.2 Cargo Facility Signage and Documentation

1. Notice signs indicating general DG acceptance policies must be posted at cargo intake areas. Signs should be visible to shippers during acceptance processes.
2. DG restriction summaries, quantity limits, package size and weight restrictions should be posted and copies available for shippers.
3. Emergency response procedures and contact information should be posted at cargo facilities.
4. Acceptance personnel must have the latest DG regulation documents available for reference along with carrier variations and exemptions.

### 9.10.3 Acceptance Procedures

*GACAR 109.61*

1. The PIC shall ensure the ground handling team has followed the acceptance instructions established in the Dangerous Goods Manual (DGM).
2. Shipments must be verified against DG regulations to determine if the materials are permitted, forbidden, or require approval.
3. All packages must be inspected for proper shipping names, UN numbers, labels, markings, and documentation.
4. Quantity limitations per package and per shipment must be confirmed. Net weights of DG must be obtained.
5. Proper packaging, authorized container types, and adequate cushioning/absorbent materials must be verified.
6. Completed DG declarations for each shipment must be obtained from the shipper.
7. For hazardous cargo, permissions must be granted before acceptance and secured loading coordination arranged.
8. Any undeclared or suspect DG shipments must be refused. Procedures for rejecting unauthorized cargo must be followed.
9. After acceptance, dangerous goods cargo must be stored and handled according to segregation and compatibility requirements.



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## 9.10.4 Labelling and Placarding

Articles and substances meeting the dangerous goods classification criteria are assigned a “UN Number” under the United Nations classification system. This consists of a four-digit number preceded by the capital letters “UN”. Packages of dangerous goods must be marked with the UN Number(s) applicable to their contents.

Packages containing dangerous goods can also be identified by labels indicating the hazard of the goods by their class or division or by the presence of certain handling labels/marks.



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## Class 1 - Explosives



Division and Compatibility Group



Compatibility Group



## Class 2 - Gases



Flammable Gas  
Division 2.1



Non-flammable Gas  
Division 2.2



Toxic Gas  
Division 2.3

## Class 3 - Flammable Liquid



## Class 4 - Flammable Solids; Substances Liable to Spontaneous Combustion; Substances which, in Contact with Water, Emit Flammable Gases





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## Class 5—Oxidizing Substances and Organic Peroxides



Oxidizing Substance  
Division 5.1



Organic peroxides  
Division 5.2

## Class 6—Toxic and Infectious Substances



Toxic Substance  
Division 6.1



Infection Substance  
Division 6.2

## Class 7—Radioactive Material







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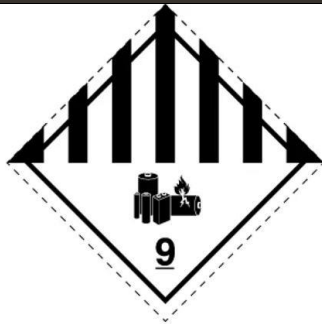
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## Class 8—Corrosives

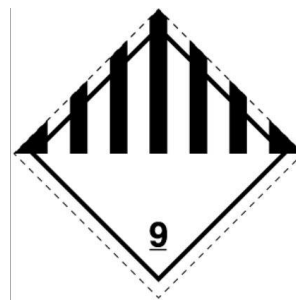


Corrosive Material

## Class 9—Miscellaneous Dangerous Substances and Articles, Including Environmentally Hazardous Substances



Lithium Battery



Miscellaneous Dangerous Goods

Table 25: Dangerous Goods Packaging Labels





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## 9.10.5 Handling Labels

Handling Labels		
 <p>Magnetized Material Label</p>	 <p>Cargo Aircraft Only</p>	
 <p>Cryogenic Liquid</p>	 <p>Package Orientation</p>	 <p>Keep away from Heat</p>

Table 26: Dangerous Goods Handling Labels

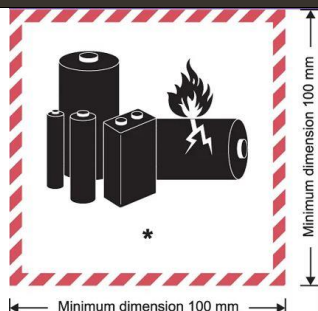


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## Lithium Battery Mark

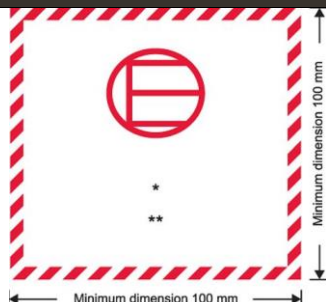


This mark is applied to packages of lithium batteries which, whilst still regulated, are excepted from a number of the requirements.

It can range in size from 105mm x 74mm to 120mm x 100mm

*Note: the mark is for the 2021-2022 edition of the Technical Instructions. And continues to be applied until 31 December 2026.*

## Excepted Quantities



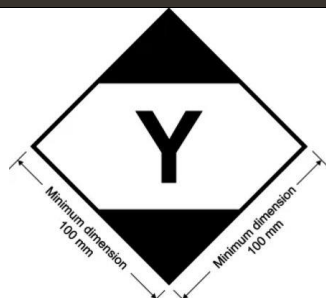
Hatching and symbol of the same color, black or red, on white or suitable contrasting background.

\* Place for class or, when assigned, the division number(s).

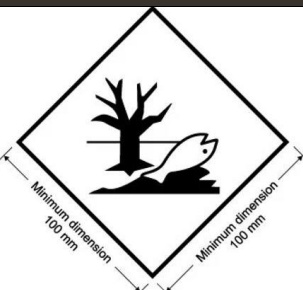
\*\* Place for name of shipper or consignee, if not shown elsewhere on the package.

## Limited Quantities

### Limited Quantities Label



## Environmentally Hazardous Substance



Packages containing environmentally hazardous substances (UN No. 3077 and 3082) must be durable marked with this label with the exception of packages containing a net quantity per single or inner packaging of 5L or less for liquids or having a net mass per single or inner packaging of 5 kg or less of solids.

Table 27: Other Dangerous Goods Labels



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## 9.11 EMERGENCY PROCEDURES

*GACAR 109.81, GACAR 109.91*

Occurrences related to the air transport of hazardous materials that do not meet the criteria for an accident are classified as dangerous goods incidents. These can occur at any stage, including after the check-in or security screening process.

In accordance with Mukamalah Aviation's Emergency Response Manual, all incidents and accidents involving dangerous goods must be reported and thoroughly documented.

Accidents are incidents involving dangerous goods that result in fatality, serious injury, or significant property damage during air transport.

As per GACAR Part 109.81(a), Saudi Arabia's GACA requires Saudi Registered Aircraft (SRA) to be equipped with information to enable flight crew members to respond appropriately to emergencies involving dangerous goods.

### 9.11.1 Emergency Procedures for Dangerous Goods

Dangerous goods incidents onboard can pose additional hazards during aircraft emergencies. If a dangerous goods emergency or incident occurs inflight, the Mukamalah Aviation operations control center must be notified immediately.

The following general procedures apply:

1. Follow standard aircraft emergency procedures as appropriate. Try to identify the source of any smoke, fumes, or fire.
2. Turn on all no smoking signs.
3. Consider landing at the nearest suitable airport as soon as possible.
4. Consider turning off non-essential electrical systems.
5. Consult the emergency response drill code and chart to determine actions for the specific incident type.
6. For incidents in the passenger cabin, coordinate actions between flight crew and cabin crew using established cabin procedures.
7. Notify air traffic control of the situation and intentions.
8. Provide required information to the Mukamalah Aviation operations center.
9. After landing, notify emergency services of the presence of any dangerous goods on board.

The pilot-in-command will take actions as necessary for the safety of the aircraft and occupants. Having information on the presence and location of any dangerous goods on board allows appropriate emergency procedures to be followed.



## 9.11.2 Emergency Response Contacts - Recommended List

In-flight emergencies shall be reported to the ATC without a delay.

Contact	Phone Number
GACA DG Office	
Local fire Department	
Center of Disease Control	
Radioactive Emergencies	

Table 28: Dangerous Goods Emergency Contacts

## 9.11.3 Emergency Response for Dangerous Goods Incidents

ICAO Doc 9481

For managing dangerous goods incidents during flight, Mukamalah Aviation utilizes the ICAO Document 9481 - Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods.

This document provides emergency response drill codes associated with specific dangerous goods and hazards. The drill codes link to recommended emergency procedures for that dangerous goods type.

To determine the appropriate response procedures:

1. Identify the specific dangerous goods involved in the incident using available information and resources.
2. Consult the Emergency Response drill codes and letters to identify hazard letter assigned to that dangerous goods item.
3. Refer to the Emergency Response Drills table which provides the recommended emergency procedure for that drill code.
4. Take actions as outlined for the specific drill code.

Having established emergency procedures for all drill codes in the ICAO guidance allows flight crew to respond effectively to dangerous goods incidents based on the type of goods involved.

Mukamalah Aviation provides flight crew with the requisite training and resources to use the Emergency Response Guidance when dealing with in-flight dangerous goods incidents.



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Drill Code	Inherent Risk	Risk to Aircraft	Risk to Occupant	Spill or Leak Procedures	Firefighting Procedures	Additional Consideration
1	Explosion may cause structural failure.	Fire and/or explosion	As indicated by the drill letter(s)	Use 100% oxygen; no smoking	All agents according to availability; use standard fire procedure	Possible abrupt loss of pressurization
2	Gas, nonflammable, pressure may create hazard in fire	Minimal	As indicated by the drill letter(s)	Use 100% oxygen; establish and maintain maximum ventilation for "A", "i" or "P" drill letter	All agents according to availability; use standard fire procedure	Possible abrupt loss of pressurization
3	Flammable liquid or solid	Fire and/or explosion	Smoke, fumes, and heat, and as indicated by the drill letter(s)	Use 100% oxygen; establish and maintain maximum ventilation; no smoking; minimum electrics	All agents according to availability; no water on "W" drill Letter	Possible abrupt loss of pressurization
4	Spontaneously combustible or pyrophoric when exposed to air	Fire and/or explosion	Smoke, fumes, and heat, and as indicated by the drill letter(s)	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurization; minimum electrics if "F" or "H" drill letter
5	Oxidizer, may ignite other materials, May explode in heat of a fire	Fire and/or explosion, possible corrosion damage	Eye, nose, and throat irritation; skin damage on contact	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurization

Table 29: Emergency Procedure for Drill code Pg 1 of 3



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Drill Code	Inherent Risk	Risk to Aircraft	Risk to Occupant	Spill or Leak Procedures	Firefighting Procedures	Additional Consideration
6	Poison, may be fatal if inhaled, ingested, or absorbed by skin	Contamination with poisonous liquid or solid	Acute poisoning, effects may be delayed	Use 100% oxygen; establish and maintain maximum ventilation; do not touch without gloves	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurization; minimum electrics if "F" or "H" drill letter
7	Radiation from broken/unshielded packages	Contamination with spilled radioactive material	Exposure to radiation, and personnel contamination	Do not move packages; avoid contact	All agents according to availability	Call for a qualified person to meet the aircraft
8	Corrosive, fumes disabling if inhaled or in contact with skin	Possible corrosion damage	Eye, nose, and throat irritation; skin damage on contact	Use 100% oxygen; establish and maintain maximum ventilation; do not touch without gloves	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurization; minimum electrics if "F" or "H" drill letter
9	No general inherent risk	As indicated by the drill letter	As indicated by the drill letter	Use 100% oxygen; establish and maintain maximum ventilation; if "A" drill letter	All agents according to availability; no water on "W" drill letter	None
10	Gas, flammable, high fire risk if any ignition source present	Fire and/or explosion	Smoke, fumes and heat, and as indicated by the drill letter	Use 100% oxygen; establish and maintain maximum ventilation; no smoking; minimum elects	All agents according to availability	Possible abrupt loss of pressurization

Table 30: Emergency Procedure for Drill code Pg 2 of 3



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Drill Code	Inherent Risk	Risk to Aircraft	Risk to Occupant	Spill or Leak Procedures	Firefighting Procedures	Additional Consideration
11	Infectious substances may affect humans or animals it inhaled, ingested or absorbed through the mucous membrane or an open wound	Contamination with infectious substances	Delayed infection to humans or animals	Do not touch. Minimum recirculation and ventilation in affected area	All agents according to availability; no water on "Y" drill letter	Call for a qualified person to meet the aircraft
12	Fire, heat, smoke, flammable vapour, explosion	Fire and/or explosion	Smoke, fumes, heat	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; Use of water if available	Consider landing immediately

Table 31: Emergency Procedure for Drill code Pg 3 of 3



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## 9.11.4 Emergency Drill Letters

Drill Letter	Additional Hazard	Drill Letter	Additional Hazard
A	Anesthetic	S	Spontaneously combustible or pyrophoric
C	Corrosive	W	If wet gives off toxic or flammable gas
E	Explosive	X	Oxidizer
F	Flammable	Y	Depending on the type of infectious substance, the appropriate national authority may be required to quarantine individuals, animals, cargo, and the aircraft
H	Highly ignitable	Z	Aircraft cargo fire suppression system may not extinguish or contain the fire; consider landing immediately
I	Irritant/tear producing		
L	Other hazard low or none		
M	Magnetic		
N	Noxious		
P	Toxic (poison)		

Table 32: Emergency Drill Letters





## 9.12 REPORTING OF INCIDENTS AND ACCIDENTS

### 9.12.1 Incidents and Accidents

*GACAR 109.121*

Any dangerous goods incident or accident that occurs during the transport of cargo, passenger baggage, or mail by Mukamalah Aviation must be reported in writing to the GACA. If the incident or accident occurred in another state, the aviation authority of that state must also be notified.

The report must follow the format approved by the GACA and contain all required information. Initial reports must be submitted within 72 hours of the event unless exceptional circumstances prevent this. Follow up reports can provide additional details not available for the first report.

### 9.12.2 Undeclared or Misdeclared Dangerous Goods

The discovery of any undeclared or misdeclared dangerous goods in cargo, passenger baggage, or mail must also be reported in writing to the GACA as well as to the authority of the affected state. These reports will follow the specified format and content requirements.

### 9.12.3 Dangerous Goods Discrepancies

*GACAR 109.123*

Discrepancies related to improper documentation, certification, labelling, or packaging of dangerous goods that are found after the shipment has been accepted must be reported immediately by telephone or electronically to the GACA. The report must provide details of the discrepancy, location of the shipment, and contact information for entities involved.

Mukamalah Aviation will comply with all GACAR Part 109 reporting requirements for occurrences related to the transport of dangerous goods. This enables appropriate follow up and response by relevant authorities to enhance safety and prevent recurrences.



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## 10.SECURITY

These policies, procedures and instructions for flight crew are extracted from Mukamalah Aviation Airline Operator Security Program (AOSP). All crew members should use this information to guide the performance of their security duties.

1. Protecting Mukamalah Aviation passengers, employees, aircraft, property and equipment is the shared responsibility of every employee. Crew should remain vigilant for any situations that may threaten or compromise the airline's security measures, and immediately report such occurrences to the Mukamalah Aviation **Security Manager** for prompt remedial action.
2. The personal safety of individual employees on duty, as well as the security of their belongings, will be safeguarded from unlawful interference, dangerous acts, or negligence by unauthorized individuals and fellow employees.
3. It is imperative that any instances of loss, theft, damage, trespassing or other violations are reported promptly to the Security department for thorough investigation and corrective action, in order to prevent recurrence.
4. Any wilful or negligent acts contrary to these security policies will lead to reporting of responsible parties to law enforcement authorities by Mukamalah Aviation, to establish accountability and enable prosecution as required by law.

### 10.1 **CORPORATE SECURITY POLICY AND COMMITMENT**



## 10.2 CREW RESPONSIBILITIES

### 10.2.1 Pilot-in-command Responsibilities

The pilot in command (PIC) has ultimate responsibility for the safety and security of the aircraft and its passengers and crew. PIC security responsibilities include:

1. Adhering to all aviation security regulations and airline security policies/procedures.
2. Completing mandated security awareness training to recognize and respond to threats.
3. Conducting thorough pre-flight inspections and ensuring proper sealing of all panels/doors.
4. Order the removal of disruptive, unruly or suspicious passengers if their conduct could endanger effects the safe operations of the flight.
5. Declaring in-flight security emergencies and requesting assistance from authorities.
6. Making notifications per established protocols for bomb threats or discovery of suspicious objects.
7. Being prepared to execute appropriate diversion, landing, and emergency evacuation procedures.
8. Reporting all security concerns, threats, incidents or violations to airline Security immediately.
9. Safeguarding sensitive flight documentation.

### 10.2.2 Lead Cabin Crew Responsibilities

The lead cabin crew oversees flight attendants and has key security duties including:

1. Adhering to all aviation security regulations, policies and procedures.
2. Overseeing the securing of the passenger cabin prior to flight departure.
3. Maintaining vigilance and reporting of suspicious behavior or items.
4. Responding immediately to security threats in the cabin per established protocols.
5. Coordinating with the pilot in command during inflight security emergencies.
6. Briefing flight attendants on security measures and emergency procedures.
7. Conducting security checks of lavatories, galleys, and cabin during flight are conducted.
8. Safeguarding sensitive airline documentation.
9. Ensuring completion of written incident reports detailing security events.
10. Assisting authorities in managing disruptive, unruly or aggressive passengers.

Ensure official identification of all passengers against the manifest before boarding has been completed.



## 10.3 CREW BAGGAGE

### 10.3.1 Crew Baggage Security

Crew members are responsible for safeguarding their personal baggage against interference or tampering from the time it is packed until handed over for aircraft loading. Baggage should remain locked at all times when unattended.

All crew baggage must display identification tags with full name and position. Bags should never be left unattended in public areas.

Crew members cannot accept carriage of any sealed parcels or packages from third parties. Any sealed items belonging to a crew member must be kept in their possession at all times when onboard the aircraft.

To maintain baggage security, crew should adhere to the following:

1. Never leave baggage unattended, maintain line of sight.
2. Keep baggage locked at all times with TSA-approved locks when not in use.
3. Exercise vigilance over carry-on bags at all times, do not place overhead or under seat.
4. Inspect baggage before departure to ensure no unauthorized items have been introduced.
5. Keep baggage in view in public spaces like lobbies, lounges, restaurants, restrooms.
6. Do not accept any unchecked parcels, letters or items from unknown parties for carriage.
7. Review luggage handling and conveyor belt policies at each station.
8. Clearly identify crew baggage with airline ID tags.
9. Report any tampering or security concerns to airline Security.

### 10.3.2 Crew Baggage in Passenger Cabin

When security searches are conducted prior to departure with crew members on board, all stowed crew baggage in the passenger cabin must be removed and identified.

Search personnel will approach flight crew and cabin crew to request the removal of all stowed crew baggage for individual inspection. This allows comprehensive searching of the stowage areas and accounting of crew bags.

During crew departure checks, positive identification and validation of labeling must be made on all crew baggage in stowage areas. This ensures no unauthorized bags have been concealed alongside crew luggage.

Crew members should cooperate fully and remove personal baggage during pre-departure sweeps and inspections when requested by security teams. This facilitates thorough screening for prohibited items or suspicious baggage.



## 10.4 ADDITIONAL SECURITY PROCEDURES

### 10.4.1 Heightened Security Procedures

For flights identified as operating under an increased threat level, the station manager and the lead cabin crew member must coordinate with the Pilot-in-command (PIC) to ensure the following measures are taken:

1. All passengers shall be deplaned during transit stops, and the cabin should be thoroughly searched.
2. In scenarios where transit passengers cannot disembark:
  - a. Passengers must be called upon to identify their cabin baggage during the search to pinpoint any unclaimed items.
  - b. Unidentified articles should be deemed suspicious and the station management at the airport must be notified immediately.
3. The baggage of all originating and transfer passengers shall undergo a manual search by security personnel.

Refer to section 010.6.

### 10.4.2 International Station with High-Risk Security Alert

Whenever a high-risk security alert is received, the PIC is to brief all cabin crew on the security concern, advising them to:

1. Heighten their vigilance, awareness, and caution during the security check and passenger boarding processes.
2. Strengthen onboard security measures to avoid any potential threats.



## 10.5 PREVENTIVE MEASURES AND TRAINING

### 10.5.1 Routine Searches of the Aircraft

Mukamalah Aviation crew conducts required routine searches of aircraft interiors and compartments prior to passenger boarding. The purpose is to ensure:

1. Only authorized personnel are present on the aircraft.
2. No prohibited items have been introduced on board.

To achieve this, routine pre-boarding searches must thoroughly cover:

1. Passenger cabin, overhead bins, lavatories, crew rest areas.
2. Flight deck, pilot/co-pilot seat areas, storage compartments.
3. Galleys, sinks, ovens, food/beverage carts, storage areas.
4. Electronic/avionics compartments, circuit breaker panels.
5. Cargo holds - visually inspected or physically searched based on risk.
6. Carry-on baggage placed in cabin by ground staff during cleaning.
7. Relevant aircraft search checklist is followed step-by-step. Refer to section **Error! Reference source not found..**
8. Confirm no unattended bags, luggage or personal belongings are on board.
9. Any tampering, damage or unauthorized items found during routine searches must be immediately reported per security protocols.

### 10.5.2 Access to Aircraft

Local Customs/Immigration/Security staff in uniform with a valid picture ID are to be allowed to go on board and search the aircraft:

#### Out of Base:

Local government personnel may be accompanied by a Ground Security Agency (GSA) representative when requesting to search aircraft at destination stations. If a GSA is unavailable, the Lead Cabin Crew will escort.

Ground staff are allowed on board the aircraft when their presence is required to conduct a specific duty related to the aircraft and flight.

#### At Base:

1. Local authorities are permitted onboard without obtaining prior permission. The lead cabin crew will escort if required.
2. After searches are completed, Mukamalah Aviation staff or GSAs will control access to aircraft until doors are closed for departure.



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**10.5 PREVENTIVE MEASURES AND TRAINING**

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3. Only authorized persons who have assigned duties are allowed entry to aircraft exterior and interior. Access is controlled by verifying ID cards, passes or other approved identification.
4. Aircraft cleaners and their equipment must also be subjected to security controls.

In all cases, Mukamalah Aviation shall coordinate with requesting authorities while maintaining responsibility for supervising access to its aircraft. Safety and security protocols will be always followed.

## **10.5.3 Admission to Flight deck**





## 10.6 HIGH RISK SECURITY MEASURES (HRSMS)

HRSMS refer to enhanced security protocols implemented in response to increased threat levels at airports or on specific flight routes. Crew members should be prepared to comply with appropriate HRSMS as instructed by security agencies. Some potential measures include:

### Pre-Flight:

1. Additional screening of crew and baggage, including questioning and physical searches.
2. Extra scrutiny of flight deck, cabin, cargo areas during aircraft security checks.
3. Mandatory presence of sky marshals and/or armed escorts.
4. Modifying or suspending catering, cleaning, and ground handling services.
5. Relocating aircraft parking areas with increased perimeter security.

### Boarding/Inflight:

1. More thorough passenger and baggage screening, extra rounds of clearance checks.
5. Increased onboard security presence, undercover air marshals.
6. Stricter protocols for lavatory access, movement in the cabin during critical phases.
7. Temporary restrictions on certain passenger privileges or carry-on items.
8. Avoiding unnecessary loitering in exposed areas like the galley during high risk phases.

Crew should expect delays and be prepared to answer security questions during implementation of HRSMS. Safety, security and vigilance are paramount concerns.



## 10.7 DISRUPTIVE/UNRULY PASSENGERS

GACAR 91.15

### 10.7.1 Definitions

The following definitions shall only apply for the handling of unruly/disruptive passengers.

**Aircraft in flight:** From the time of door closure after passenger boarding for the purpose of departure, until the time of opening the aircraft door for the purpose of deplaning passengers.

**Aircraft on Ground:** From the time of opening any of the aircraft doors for the purpose of deplaning passengers, until the time of closing all doors after boarding passengers for the purpose of departure.

### 10.7.2 Classifications

Classification of criminal and offensive acts are in accordance with the national regulation for controlling and punishing unruly passengers onboard civil aircraft, as shown in the following tables:

Offensive Act
Refusing to comply with the written instructions issued by the company, PIC, or his delegate such as:
1. Refusing to be seated in the assigned seat or fasten seat belt.
9. Refusing to adhere to air safety instructions, which are internationally accepted.
10. Using portable electronic devices (PEDS) on board the aircraft
Refuses to refrain from smoking.
Smoking inside lavatories.
Causing damage or defect to aircraft contents or equipment.
Causing damage or defect to smoke detectors and other devices on board the aircraft.

Table 33: List of Offensive Acts

Criminal Act
Launching an assault, intimidation, or participation in an assault on one of the crewmembers or passengers, that will endanger the safety and security of the aircraft and/or passengers.
Launching an assault or sexual harassment on one of the crewmembers and/or passengers.
Committing acts under intoxication or drugs (narcotics) that will jeopardize the safety and security of the aircraft, crewmembers and/or passengers.
Causing damage or tampering with the aircraft property or attempt to hijack the aircraft.
Stealing from the aircraft, passengers and/or crewmembers while on board the aircraft.

Table 34: List of Criminal Acts



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## 10.7.3 Levels of Unruly Acts

To more accurately reflect the gravity of offensive or criminal actions, unlawful interference categorized in Table 33: List of Offensive Acts and Table 34: List of Criminal Acts is segmented according to the level of severity as follows:

Level	Explanation
1	All offenses mentioned in Table 33: List of Offensive Acts will be under this level. It can be controlled verbally by using behavioral skills and by making reasonable judgment and assessment of the situation to ease the passenger's anger. In case the passenger continues his/her offensive misconduct, verbal warning with a notification of the next actions that would be taken against them if they continue their misconduct.
2	An extension of level 1. Continuation of the same behavior after trying all possible means of communications and behavioral skills including verbal warning.
3	The following acts will be under this level: All criminal acts mentioned in Table 34: List of Criminal Acts. All offensive acts committed by the passenger after issuing him/her a written warning

## 10.7.4 Procedures

GACAR 121.1173

- Crew members must vigilantly oversee any criminal or disruptive behavior by passengers that could threaten the safety of the aircraft, its passengers, and/or crew.
- Should cabin crew witness any suspect activities or security compromises within the cabin, they are instructed to discreetly communicate with the flight crew using the code established during the cabin crew briefing, through the interphone system. They must also inform the lead cabin crew and fellow cabin crew members to coordinate an appropriate response. For guidelines on dealing with a hijacking, refer to section 10.8.2 (Hijack).
- Passengers who are clearly causing a disturbance or discomfort to others, particularly if under the influence of alcohol, drugs, or other intoxicating substances, will not be allowed to board Mukamalah Aviation flights.

Level	Procedure
Level 1 Minor Acts - Offensive	Lead Cabin Crew should be immediately notified of any offensive acts. Lead Cabin Crew should assess the situation accurately and exert all possible effort to calm the passenger. If the passenger does not respond, the Lead Cabin Crew shall warn him/her verbally and notify them with the next action that would be taken against them. If the passenger continues to act unruly, the lead cabin crew should immediately notify the PIC.



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Level 2 Moderate Acts – Offensive	<p><b>Aircraft on ground</b>, PIC, shall notify the station manager, or his delegate, who will exert all effort to convince the passenger to behave. If the passenger continues his/her offensive act, the station manager, or his delegate, shall coordinate with the PIC to deplane the passenger from the aircraft. Report on the incident shall be submitted through the security reporting system.</p> <p><b>Aircraft in flight</b>, the PIC shall make an accurate assessment of the situation and direct the Lead Cabin Crew to issue warning to the passenger.</p>
Level 3 Serious Acts - Offensive	<p><b>Aircraft on ground</b>, the station manager, or his delegate, shall coordinate with Mukamalah Aviation security supervisor or with the airport Security Authority to deplane the passenger. Report on the incident shall be submitted through the security reporting system.</p> <p><b>Aircraft in flight</b>, and the passenger continues his/her misconduct after issuing the written warning, and the PIC has decided to deplane the passenger, he should coordinate with the Lead Cabin Crew the possibility of continuing the flight to destination or to make a landing at the nearest suitable airport. Security report shall be submitted through the security reporting system.</p>
Level 3 Serious Acts - Criminal	<p><b>Aircraft on ground</b>, the station manager, or his delegate, shall coordinate with the PIC to deplane the passenger. Security report shall be submitted through the security reporting system.</p> <p><b>Aircraft in flight (before takeoff)</b>, the PIC shall return to the gate and notify the station manager, or his delegate, to deplane the passenger. Report on the incident shall be submitted through the security reporting system</p> <p><b>Aircraft in flight (after takeoff)</b>, the PIC shall assess the situation and make the decision either to return to the departure station or to make a landing at the nearest suitable airport which he designates or continue to destination if possible. Security report shall be submitted through the security reporting system.</p>

Table 35: Procedures for Addressing Unruly Behavior

## 10.7.5 PIC Responsibilities

1. The PIC has full authority to take all necessary actions to maintain the safety and security of the aircraft, passengers, and crewmembers. This authority includes landing at the nearest suitable airport designated by PIC to deplane the unruly passenger.
2. The PIC will exert all possible effort to contain the situation in case of unruly occurrences that do not affect safety and/or security of the aircraft, passengers, and crewmembers. The PIC will direct the lead cabin crew to convince the passenger to remain calm and comply with the safety instructions to avoid his/her deplaning.
3. Assess and evaluate the situation accurately and coordinate with lead cabin crew regarding the issue at hand. Discuss the consequences in order to reach a sound decision on the possibility of continuing the flight to its final destination.



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- Any time an unruly passenger is offloaded, whether the incident occurred when the aircraft was in flight or on ground, the PIC must submit a security incident report through the reporting system.

## 10.7.6 Cabin Crew Responsibilities

- Cabin crew should accurately evaluate the situation and use all necessary behavioral skills to convince the unruly passenger to be calm and to comply with the air safety regulations so as to prevent an escalation of the situation.
- After all efforts are made to contain the situation, lead cabin crew must immediately inform the PIC about the situation accurately and objectively.
- After being instructed by the PIC, lead cabin crew shall report the incident according to the applicable procedures and ensure the accuracy of the information. The incident should be reported in detail as committed by the passenger and described by the witnesses if possible.

If the PIC decides to deplane the unruly/disruptive passenger when the incident occurred while the aircraft was in flight, the lead cabin crew shall fill a security incident report for the deplaning.



## 10.8 SECURITY PROTECTION IN THE AIR

An aircraft is under the full authority of the pilot-in-command when in the air.

### 10.8.1 BOMB THREAT

#### 10.8.1.1 General

1. Bomb threats vary from a most casual or off-hand remark to a very direct and specific message aimed at a particular aircraft. The following procedures have been developed to help deal with the use or the threat of bombs and incendiary devices aboard any aircraft. In keeping with our primary responsibility to provide safe and dependable air transportation to our passengers, nothing can substitute for sound crew judgment in this most difficult situation.
2. The following procedures are recommended guidelines; the PIC may elect to implement alternatives if he sees fit. All other parties must inform the PIC of any actions that may need to take.

#### 10.8.1.2 Classification of Bomb Threat

##### 10.8.1.2.1 Non-Specific Threat

Definition: The most abstract situation is one of a general nature, a threat which could apply to any airline, aircraft, or route sector.

Procedure: If the PIC, on the advice of competent authority (OCC, law enforcement or other relative authorities) regards a threat to be an obvious hoax or of such a general nature that specific deviations from normal procedures are not required, he is authorized to notify OCC and proceed as scheduled.

##### 10.8.1.2.2 Specific Threat

#### 1. Definition

A Bomb Threat is considered "Specific" if:

- a. The airline and the specific flight is identified; or
- b. The exact date or time is stated; or
- c. The origin or destination of the flight is given; or
- d. A telephone threat is received at a telephone number other than the airline's published information or reservations numbers.

#### 2. Procedure

Inflight:

- a. Maintain existing cabin altitude, and if terrain and fuel requirements permit, descend aircraft to cabin pressure altitude and reduce pressure differential to zero.
- b. Reduce to turbulence penetration airspeed, however, if the time of detonation is known, take the appropriate action to land before that time.



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- c. Notify ATC and OCC.
- d. Prepare for landing at the nearest suitable airport. The PIC will brief the lead cabin crew of the situation.
- e. Consider lowering the landing gear earlier than normal.
- f. As time permits, prior to landing, request the parking site and the provision of stairs.
- g. Assure the passengers that there is no need for concern and that the cabin crew are fully trained to deal with the situation, and if passengers do as they are advised, everything will be under control.

On ground:

- h. When parked, deplane passengers immediately.
- i. If stairs are not available, then deplaning by use of slides should be used. It is advisable to make a PA announcement informing passengers that it will be necessary to leave the aircraft using the evacuation slides.
- j. If the passengers are to be deplaned using the escape slides, the PIC may command using less than all slides. It may be easier for cabin crew to retain control of the passengers if a restricted number of slides are used. The decision which slides are to be used will be influenced by wind speed and direction.
- k. Deadheading crewmembers should leave the aircraft first to assist passengers at the bottom of the slides.
- l. Positive commands from the flight crew using the PA system and megaphones will reduce panic and will allow an orderly evacuation without injury to passengers.
- m. Advise passengers to remove their shoes, leave their hand baggage behind, and proceed in an orderly way to the aircraft exits in use.

## **10.8.1.2.3 Bomb on Board**

An actual bomb or a suspicious object that cannot be confirmed “not to be an explosive device”, should be treated as a Bomb.

### **10.8.1.2.3.1 Procedure**

- 1. Same as specific Bomb Threat; except that if the detonation time is known, every effort should be made to land before that time.
- 2. Follow aircraft specific instructions stated in the applicable FCOM.
- 3. The crew should not:
  - a. Disconnect or cut any electrical wires.
  - b. Remove any string, tape, rope etc. that is under tension, or holding the Device together.
  - c. Open any closed containers.
- 4. The crew should:



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- a. Move passengers as far away from the Device as possible.
  - b. Stabilize the device with pillows, blankets, and seat cushions.
  - c. Reduce the explosive and fire potential by covering the device and stabilizing material with wet pillows and blankets, ensuring that there is a layer of waterproof material between the device and the wet articles so that an electrical short does not occur.
  - d. Move fire extinguishers and portable oxygen bottles from the area and disarm the slide/raft, if applicable.
  - e. Disconnect non-essential electric power in areas near the Device.
  - f. To minimize damage and hydraulic complications should an explosion appear imminent, lower the landing gear and reduce to approach speed if possible.
  - g. Land and deplane the passengers as appropriate.
5. After the passengers have deplaned, seek local security force's assistance for removal of the suspect device.
  6. All airports have a local procedure specific to Bomb Threats. Crew should adhere to local authority and ATC instruction.
  7. After the aircraft has been declared to be safe and cleared for flight by competent authority, inform OCC for further disposal of the flight.

## **10.8.1.2.3.2 Moving the Device in Flight**

If the device has to be moved to a least risk area:

1. Attempt to obtain expert advice from the ATC/OCC.
2. Inspect the device thoroughly making certain to check for anti-lift devices.
3. If possible, slide a flat surface object (e.g. cardboard etc.) under the device, and lift the device along with the flat surface object.

## **10.8.1.2.3.3 Least Risk Area**

Refer to Cabin Crew Manual.

## **10.8.1.3 Notification Procedure**

The PIC shall notify the ATC and OCC at the earliest.





## 10.8.2 HIJACKING

**WARNING: AT NO TIME SHALL A HIJACKER BE ALLOWED TO ACCESS THE FLIGHT DECK.**

### 10.8.2.1 General

Due to variable circumstances, specific hijack response procedures cannot be provided. The safety of aircraft and occupants is paramount, handled per the PIC's judgement of conditions.

Aircraft hijacking is a serious crime universally. Police/security forces have authority to take control using their powers of arrest and entry. The PIC's direct responsibility and command diminishes at this point.

Until authorities take over, the PIC solely commands the situation. Actions should aim to not aggravate risks to passengers/crew or meet hijacker demands if it endangers safety.

The PIC must follow lawful instructions of police/security to the extent it protects passengers/crew.

### 10.8.2.2 Hijacker Profile

Some hijackers may seek suicide through spectacle. They may seem confused, fail to name a destination, or insist on an impossible one.

Crew should attempt to determine the hijacker's intended destination. Lack of a firm or logical destination indicates higher risk of suicide intentions. A reasonable, feasible destination suggests lower immediate risk.

### 10.8.2.3 Communication Procedure

Cabin Crew will, where possible, use the phrase; **"A passenger DEMANDS access to the flight deck"** to identify an unlawful demand to gain access to the flight deck.

If possible, transmit a description of the hijacking to ATC. ATC will maintain normal responses without referencing the emergency while immediately activating procedures.

If clear radio transmissions are prevented, the following discrete communication methods can be used:

If hijackers are in the cockpit, VHF communication is set up as follows:

The PIC:	The Second in Command:
Ensure the PIC's speaker is off.	Monitor ATC on N°1 transceiver.
Use their headset.	Place their speaker ON to give the hijacker the impression that they are receiving all communications.
Monitor emergency frequency 121.5 on N°2 transceiver.	

Table 36: VHF Communication During Hijack



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Discrete code transponder is set as follows:

Situation Signal Cover Message	
Aircraft being hijacked or subjected to unlawful interference.	Transponder to code 7500 "Transponder seven five zero zero".

*Table 37: Discreet Code Transponder During Hijack*

A pilot, having selected Code 7500 and subsequently requested to confirm this code by ATC shall, according to circumstances, either confirm this or not reply at all. The absence of a reply from the pilot will be taken by ATC as an indication that the use of Code 7500 is not due to an inadvertent false code selection.



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**10**      **SECURITY**  
**10.9**    **CARRIAGE OF FIREARMS/WEAPONS**

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## 10.9 CARRIAGE OF FIREARMS/WEAPONS

1. The term 'weapons' encompasses a variety of apparatus including, but not limited to, firearms, cartridges, cutting implements, and any sharp instruments capable of being employed as a weapon, as well as any item that might be erroneously perceived as a weapon.
2. It is strictly prohibited for any individual, whether a passenger or a member of the airline's personnel, to carry any category of weapon within the confines of the flight deck or the cabin on any aircraft operated by Mukamalah Aviation.



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10.10 SECURITY CONTROL OF INADMISSIBLE PASSENGERS,  
DEPORTEES, AND PRISONERS

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## 10.10 SECURITY CONTROL OF INADMISSIBLE PASSENGERS, DEPORTEES, AND PRISONERS

### General Guidance for Pilots-in-Command

When Mukahmalah Aviation is engaged in the transport of passengers deemed inadmissible, prisoners, or deportees, it is imperative that the pilot-in-command is informed of all pertinent details concerning the individuals in question.

### 10.10.1 Inadmissible Passengers

#### General

Inadmissible passengers are individuals who are, or will be, denied entry into either the Kingdom or international ports.

#### Procedure

1. Inadmissible passengers typically do not present a specific threat to flight security and are often returned to their point of departure promptly. Nonetheless, the reasons for their inadmissibility should be thoroughly reviewed prior to arranging their return transportation. Escorts are not usually necessary for such passengers unless extraordinary circumstances arise.
2. Unless the assessment of inadmissible passengers suggests a need for heightened security measures, these passengers and their belongings should undergo standard security screening processes. The pilot-in-command must be notified of any inadmissible passengers on board, as well as their seating arrangements.

### 10.10.2 Deportees

#### General

Deportees are individuals mandated by Saudi Arabian authorities to leave the nation due to infractions of labor or residency laws or other stipulated reasons and must be transported by Mukahmalah Aviation. Such individuals are subject to a security inspection by authorized personnel and may be accompanied by Government Security Officials.

#### Procedures

Deportees are categorized based on the following 3 categories:

1. First Category: Individuals who are in violation of KSA labor and residency law.
  - a. Must be escorted by official guard as estimated by official guard force.
2. Second Category "Low Risk": Individuals who have committed criminal or security offenses in KSA.
  - a. Maximum of eight (8) deportees on each flight and accompanied by one (1) official guard for every four (4) deportees.
3. Third Category "High Risk": Prisoners being extradited to governmental authorities abroad.



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## 10 SECURITY

### 10.10 SECURITY CONTROL OF INADMISSIBLE PASSENGERS, DEPORTEES, AND PRISONERS

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- a. Maximum of one (1) deportee in each flight and accompanied by three (3) official guards.

No baggage belonging to deportees, including hand-carried items, is permitted within the passenger cabin. When flights are exclusively allocated for transporting male deportees, the Flight Operations and crew scheduling departments should coordinate to assign male Cabin Crew Members. Deportees and their official guard escorts should be prioritized for boarding and disembarkation.

#### 10.10.3 Prisoners and Passengers Under Judicial or Administrative Detention

##### General

Dangerous prisoners are those who pose a threat to aircraft and passenger safety due to associations with terrorist or political groups or involvement in serious criminal activities potentially leading to severe legal penalties.

##### Procedures

1. No more than one High-Risk Prisoner may be transported on an aircraft.
2. High-Risk Prisoners must not be transported concurrently with other prisoners.
3. A minimum of three official guards must accompany a High-Risk Prisoner.
4. Up to eight Low-Risk Prisoners may be on board for domestic transfers.
5. One official guard is required for each Low-Risk Prisoner.
6. Prisoners' baggage, excluding medically necessary items, must not enter the passenger cabin.
7. Prisoners and their guards should board first and disembark last.
8. Seating arrangements for prisoners and guards must include an escort between the prisoner and the aisle.
9. Guards must wear official attire and store their weapons in the checked baggage compartment.

#### 10.10.4 Transit of Inadmissible Passengers, Deportees, and Escorted Prisoners

All inadmissible individuals, deportees, and escorted prisoners must remain aboard the aircraft during transit, along with their respective escorts, as required.



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11.1	DEFINITIONS

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## 11.HANDLING OF ACCIDENTS / INCIDENTS / OCCURRENCES

### 11.1 DEFINITIONS

The following definitions are taken from ICAO annex 13 "Aircraft Accident and Incident Investigation".

#### ACCIDENT

An occurrence associated with the operation of an aircraft which takes place between the times any person boards the aircraft with the intention of flight until such time as all persons have disembarked, in which:

1. A person is fatally or seriously injured as a result of:
  - Being in the aircraft; or
  - Direct contact with any part of the aircraft, including parts which have become detached from the aircraft; or
  - Direct exposure to jet blast; except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew.
4. The aircraft sustains damage or structural failure which:
  - Adversely affects the structural strength, performance or flight characteristics of the aircraft;
  - Would normally require major repair or replacement of the affected component; except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin.
5. The aircraft is missing or is completely inaccessible.

#### INCIDENT

An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

#### SERIOUS INCIDENT

An incident involving circumstances indicating that an accident nearly occurred and/or:

- Has jeopardized the safety of the crew, passengers or aircraft and has avoided being an accident only by exceptional handling of the aircraft or by good fortune;
- Has serious potential technical or operational implications;
- Causes trauma to crew, passengers or third parties;
- Could be of interest to the press and news media.



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Examples include:

- Loss of engine cowlings, portions of flap or control surfaces, items of ancillary equipment or fuselage panels; a significant altitude excursion; a minor taxiing accident; damage due to collision with ground equipment, take-off from or landing on the wrong runway, declaration of emergency, etc...

## SERIOUS INJURY

Serious injury means an injury which is sustained by a person in an accident and which:

- Requires hospitalization for more than 48 hours commencing within seven days from the date on which the injury was received;
- Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- Involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
- Involves injury to any internal organ; or
- Involves second or third degree burns or any burns affecting more than five percent of the body surface; or
- Involves verified exposure to infectious substances or injurious radiation.

## AIRPROX

A situation in which, in the opinion of a Pilot or controller, the distance between aircraft as well as their relevant positions and speed has been such that the safety of the aircraft involved was or may have been compromised, and a risk of collision existed.

Normally an AIRPROX will be accompanied by a TCAS RA alert.





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## 11 HANDLING OF ACCIDENTS / INCIDENTS / OCCURRENCES

### 11.2 Aircraft Accident/Serious Incident/ Incident Procedures

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## 11.2 AIRCRAFT ACCIDENT/SERIOUS INCIDENT/ INCIDENT PROCEDURES

### 11.2.1 General

In order to meet the aims of providing immediate assistance to victims and to minimize damages, Mukamalah Aviation shall establish an Emergency Team and be prepared to provide any aid or information, requested or unsolicited, which may prove helpful in containing injuries and damages in case of an Accident/Serious Incident.

The Mukamalah Aviation Emergency Team should normally consist of a representative of:

- A representative of Flight Operations (who should chair it),
- A representative of Ground Operations,
- A representative of the Maintenance Department,
- Commercial Department,
- Cargo Department,
- Public Relations Department,

However, never less than three persons.

For information about the emergency phases (uncertainty, alert and distress) and the establishment/duties of the Emergency Team, refer to the Mukamalah Aviation SMS Manual.

### 11.2.2 PIC/Crew Member Post Accident Procedures

Immediately after an accident, and following the evacuation of passengers from the aircraft, the Mukamalah Aviation PIC or senior surviving Crew Member must carry out the following duties subject to safety considerations and the prevailing situation:

- The aircraft must be secured in as safe a condition as possible;
- Any emergency transmitter must be activated and pyrotechnics, if available, prepared for immediate use;
- A headcount must be made to account for all persons on board the aircraft;
- The needs of any injured persons must be attended to;
- The remains of any deceased persons should be decently set apart and covered;
- If people, residences or communication facilities are close to the accident site, efforts must be made to obtain assistance, having regard to the local situation;
- The wreckage of the aircraft must be preserved and unauthorized persons shall not be allowed access to it.

*NOTE: An authorized person is any person nominated by the accident investigation Authority or regulatory Authority and usually includes police, fire and rescue services.*



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### 11 HANDLING OF ACCIDENTS / INCIDENTS / OCCURRENCES

#### 11.2 Aircraft Accident/Serious Incident/ Incident Procedures

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#### 11.2.3 Preservation of Flight Data

In the event of an accident or incident having occurred which may be subject to mandatory reporting or investigation, the Mukamalah Aviation PIC shall attempt to preserve all DFDR and CVR data and make it available to the investigating Authority. In such cases, the Mukamalah Aviation PIC must ensure that:

- Flight recorders' recordings are not intentionally erased and
- DFDR and/or CVR are deactivated immediately after the flight is completed; and
- Precautionary measures to preserve the recordings of flight recorders before leaving the cockpit.

All evidences shall be secured, originals and copies of documents (e.g. mass and balance documents, TLB, OFP, take-off data, passenger lists, cargo papers, manuals) to be seized and safe-guarded.



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## 11 HANDLING OF ACCIDENTS / INCIDENTS / OCCURRENCES

### 11.3 Accident/Serious Incident/Incident/ AIRPROX Reporting

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## 11.3 ACCIDENT/SERIOUS INCIDENT/INCIDENT/ AIRPROX REPORTING

### 11.3.1 Accident/Serious Incident Reporting

*GACAR § 4.11, § 4.13*

When a reportable accident/serious incident occurs, the Mukamalah Aviation PIC of the aircraft involved at the time of the accident or in cases where the PIC is dead or incapacitated then the Mukamalah Aviation operator of the aircraft and In the case of an accident occurring on or adjacent to a state airport, The airport authority, Shall give notice to GACA by the quickest means of communication available, Meanwhile the report shall be submitted to GACA within 48 hours of the time in the accident/serious incident was identified.

In addition to the above the Mukamalah Aviation PIC shall notify the nearest authority by the quickest available means of any accident or serious incident resulting in injury, death or substantial aircraft damage.

The report must include the following information:

1. Name of the operator/owner
2. Date, time, and place of the accident / serious incident; and
3. Type, nationality, and registration marks of the aircraft; and
4. Type of operation; and
5. Nature of the accident / serious incident
6. Position or last known position of the aircraft referring to an easily defined geographical point; and
7. Name of the pilot-in-command of the aircraft
8. The last point of departure of the aircraft
9. Next point of intended landing; and
10. Description of the sky condition, precipitation, wind velocity, visibility, and the number of persons on board the aircraft.
11. Number of fatalities and seriously injured including crew members
12. Number of fatalities and seriously injured on the ground due to the accident; and
13. Details of damage to the aircraft.



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## 11.3.2 Incident Reporting

The Mukamalah Aviation PIC shall:

- Notify the appropriate local Authority without delay in the event of any emergency situation that necessitated action in violation of local regulations and/or procedures; and
- Submit, if required by the State of occurrence, a report to the appropriate local Authority.

*NOTE: A report shall be submitted to the GACA within 48 hours of the time when the incident was identified.*

All Mukamalah Aviation Crew Members must:

- Report to the PIC any fault, failure, malfunction or defect which they believe may affect the airworthiness or safe operation of the aircraft or its emergency systems/equipment;
- Report to the PIC any incident that endangered or could have endangered the safety of operation;
- Make full use of Mukamalah Aviation' Air Safety Reporting System.

*NOTE: In all cases a copy of the report must be passed to the Mukamalah Aviation PIC concerned.*

## 11.3.3 AIRPROX Reporting

An AIRPROX report must be filed whenever a Mukamalah Aviation Pilot considers that the aircraft may have been endangered during flight by the proximity of another aircraft to the extent that a risk of collision existed.

An initial report of the incident must be made by radio to the ATC unit with which the aircraft is in communication at the time.

The following format should be used:

- Call sign;
- "AIRPROX report";
- Position and time of the incident;
- Altitude/flight level;
- Heading;
- Weather conditions

If it is not possible to report the incident by radio, a report should be made by telephone or fax to any ATC unit immediately after landing.

The initial report must be confirmed as soon as possible by submitting a Mukamalah Aviation ASR.



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#### 11.3.4 Reporting Hazardous Flight Conditions To ATC

The Mukamalah Aviation PIC shall without delay verbally report any hazardous flight condition to the appropriate ATC facility; such required reports may include types of hazards, as described in the following table:

##### Generic Hazard Report Description

Generic Hazard	Report Description
Meteorological Conditions	Un-forecast or severe weather, icing, windshear, severe turbulence
Geophysical Events	Volcanic ash observed or encountered
Security Breaches	Air Piracy or other hostile acts that threaten the safety of the aircraft or its passengers
Wildlife	Birds or large animals in the vicinity of the airport or runways
Facilities and Infrastructure	Inadequacy of navigational facilities or undesirable navigation aid performance, braking action or other irregularity in navigational or ground facilities
Aircraft Performance	Unable to accept or maintain RVSM and reason (e.g. turbulence, mountain wave, wake turbulence, etc.) loss of navigational capability
Lasers	Illumination activities, events or exposure
Other	Unmanned free balloons, downed aircraft observation or ELT broad-cast



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## 11 HANDLING OF ACCIDENTS / INCIDENTS / OCCURRENCES

### 11.4 INVESTIGATION OF ACCIDENTS, SERIOUS INCIDENTS AND INCIDENTS

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## 11.4 INVESTIGATION OF ACCIDENTS, SERIOUS INCIDENTS AND INCIDENTS

In case of an accident, the National Authorities of the State on whose territory the accident occurs will decide how and by whom the investigation is to be conducted. Although it is possible that a Mukamalah Aviation representative (e.g. nominated potholders and/or senior company personnel) will be invited to observe the official investigation, it is assumed that Mukamalah Aviation will be excluded to preserve independence of interest.

For incidents and serious incidents in Saudi Arabia, Mukamalah Aviation shall normally investigate the cause.

The objective of an investigation is to discover the facts and, if possible, establish the cause of an incident. It is not the function of investigators to decide whether any person has been negligent or to allocate blame. The presence or absence of negligence has to be decided by others after the investigators have finished their work and all the facts are known. Disciplinary proceedings are outside the realm of flight safety and beyond the scope of this manual.

### 11.4.1 State Investigations

When an aircraft accident/serious incident occurs in a foreign State, the procedures involving investigation are described in ICAO Annex 13 - "Aircraft Accident and Incident Investigation".

### 11.4.2 Investigations within the Saudi Arabia

The International procedures involving aircraft accident or serious incident investigations are described in ICAO Annex 13 - "Aircraft Accident and Incident Investigation" and to be performed by the Central Directorate of Air Accident Investigation.

### 11.4.3 Mukamalah Aviation Air Safety Investigations

Air Safety investigation is a non-disciplinary process that is undertaken by the nominated Mukamalah Aviation managers. The primary purpose of such investigations is to determine the facts surrounding an event and make safety recommendations where appropriate to prevent a recurrence.

Mukamalah Aviation Crew Members will be removed from flying duties pending investigation, if the aircraft on which they are acting as members of the crew is involved in an accident/serious incident while in motion which results in:

- Death or serious injury to any person;
- Damage to property, either company or a third party;
- Structural damage to the aircraft;
- A serious breach of air safety or security.

This initial removal from duty following an incident does not have any disciplinary connotation and is solely to facilitate the investigation.



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The Mukamalah Aviation Director of Operation and/or the Safety Manager, will decide if a hearing is required or helpful in order to uncover the course of events which led to the accident.

If a hearing is called, the participation of the Mukamalah Aviation PIC is mandatory. The Mukamalah Aviation Director of Operation will decide the composition of the hearing panel; the PIC is entitled to have a Pilot of his confidence to attend the hearing. The Mukamalah Aviation PIC of an aircraft involved in an accident or serious incident resulting in damage to the aircraft shall not commence another flight until he receives authorization from Mukamalah Aviation.







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## 12. RULES OF THE AIR

### 12.1 INTRODUCTION

The ICAO Rules of the Air are published in ICAO Annex 2. Compliance is mandatory for member states unless differences are filed.

Refer to the Jeppesen Airway Manual ATC Section for the ICAO Rules of the Air.

Adherence to ICAO Rules of the Air is imperative for flight safety and standardized global operations, unless specific differences are filed. Mukamalah Aviation mandates compliance by flight crew.



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12.2	RULES OF THE AIR OF THE KINGDOM OF SAUDI ARABIA

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## 12.2 RULES OF THE AIR OF THE KINGDOM OF SAUDI ARABIA

The Saudi application of the Rules of the Air is published in GACA regulation section 2.

### 12.2.1 Saudi Application of the Rules of the Air

*GACAR Part 91.475*

The Rules of the Air apply to Mukamalah Aviation aircraft wherever operated, unless conflicting with the rules of an overflown state's jurisdiction.

Compliance with the published Saudi application of the ICAO Rules of the Air is mandatory for Mukamalah Aviation flight crews, except where differences with an overflown state's rules apply. Adherence is essential for standardized flight safety and operations.



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12.3 ICAO CLASSIFICATION OF AIRSPACES

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## 12.3 ICAO CLASSIFICATION OF AIRSPACES

ICAO classifies airspace into seven classes (A-G). Class A represents the highest level of control, Class G is uncontrolled. States implement appropriate classes for their needs.

Services provided and flight requirements for each class are shown in the table.

Differences between airspace rules of intended use, local rules, and ICAO rules are published in the Jeppesen Air Traffic Control section.

*Note: Where airspaces adjoin vertically, flights at common levels comply with the less restrictive class requirements and are provided those services. Class B is less restrictive than A, etc.*

Adherence to airspace classification procedures and requirements is essential for flight safety. Mukamalah Aviation flight crews must comply with all applicable airspace classes globally, referencing Jeppesen materials for any differences from ICAO standards.

### 12.3.1 Classification of Airspaces

Class	Type of Flight	Separation Provided	Service Provided	Speed Limitation <sup>a</sup>	Radio communication requirement	Subject to an ATC clearance
A	IFR only	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
B	IFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
C	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	Air traffic control service for separation from IFR; VFR/VFR traffic information (and traffic avoidance advice on request).	250 kts IAS below	Continuous two-way	Yes
	IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)		Continuous two-way	Yes



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D	VFR	NIL	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	3.050 m (10000 ft) AMSL	Continuous two-way	Yes
E	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights		Continuous two-way	Yes
	VFR	NIL	Traffic information as far as practical		No	No
F	IFR	IFR from IFR as far as practical	Air traffic advisory service; flight information service	250 kts IAS below	Continuous two-way	No
	VFR	NIL	Flight information service		No	No
G	IFR	NIL	Flight information service	3.050 m (10000 ft)	Continuous two-way	No
	VFR	NIL	Flight information service	AMSL	No	No

Table 38: ICAO Classification of Airspaces



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## 12.3.2 Operating on or in the Vicinity of an Aerodrome in Class G Airspace.

*GACAR Part 91.121*

Each person operating an aircraft on or in the vicinity of an aerodrome in a Class G airspace area must comply with the following requirements:

1. When approaching land at an aerodrome without an operating control tower in a Class G airspace area, all turns of the airplane shall be made to the left unless right hand patterns have been established for that aerodrome.
2. Each PIC of an aircraft must follow Traffic Information Broadcasts by Aircraft (TIBA) procedures and broadcast relevant collision avoidance information to other pilots and ground vehicles.

## 12.3.3 Operating on or in the Vicinity of an Aerodrome in Class E and F Airspace.

*GACAR Part 91.123, GACAR Part 91.125*

Unless otherwise required by local procedures or otherwise authorized/required by the ATC facility having jurisdiction over the Class F airspace area, the PIC operating an aircraft on or in the vicinity of an aerodrome in a Class F airspace area must comply with the requirements of section 12.3.1.

## 12.3.4 Operations in Class A, B, C and D Airspace

*GACAR Part 91.127, Part 91.129, Part 91.131, Part 91.135*

The services provided to and requirements for flights within each class of airspace have been summarized and are shown in the table on previous page.



## 12.4 COMPLIANCE WITH THE RULES OF THE AIR

### 12.4.1 Operations in Restricted, Danger, and Prohibited Areas

*GACAR 91.133*

1. Aircraft may not operate in restricted areas contrary to restrictions.
2. Aircraft may only operate in prohibited areas with administering authority permission.
3. Aircraft conducting approved operations within restricted areas creating the same hazards may deviate from incompatible rules.
4. Aircraft observing projectiles discharged in a specific pattern must take prompt remedial action.

### 12.4.2 Flight Restrictions for VIPs

*GACAR 91.145*

The PIC may not operate an aircraft over or in the vicinity of any area to be visited or travelled by the Custodian of the Two Holy Mosques, or other public figures contrary to the restrictions established by GACA and published in a NOTAM.

### 12.4.3 Temporary Flight Restrictions

*GACAR 91.141*

Mukamalah Aviation shall comply with disaster/hazard area restrictions, only operating in the area if:

1. Conducting approved hazard relief activities under official emergency direction.
2. Operating under an IFR flight plan or when necessary to avoid the area.
3. Following notification procedures and not hampering relief activities.

When a NOTAM has been issued, The PIC may not operate an aircraft within the designated area unless at least one of the following conditions is met:

1. The aircraft is operating under an ATC approved IFR flight plan.
2. The operation is conducted directly to or from an aerodrome within the area or is necessitated by the impracticability of VFR flight above or around the area due to weather, or terrain; notification is given to the FIS or ATC facility specified in the NOTAM to receive advisories concerning disaster relief aircraft operations; and the operation does not hamper or endanger relief activities and is not conducted for the purpose of observing the disaster.



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## 12.4.4 Restrictions During High Barometric Pressure Conditions

GACAR 91.147

When any information indicates that barometric pressure on the route of flight currently exceeds or will exceed 1050 hPa, The PIC may not operate an aircraft or initiate a flight contrary to the requirements established by the Authority and published in a NOTAM issued under this section.

## 12.4.5 Operations Near Aerial Demonstrations

GACAR 91.149

Aircraft shall not operate in demonstration airspace except in accordance with authorization terms in the NOTAM.

When a NOTAM has been issued in accordance with this section, The PIC may not operate an aircraft or device, or engage in any activity within the designated airspace area, except in accordance with the authorizations, terms, and conditions of the temporary flight restriction published in the NOTAM, unless otherwise authorized by:

1. ATC or
2. A Certificate of Waiver or Authorization issued for the demonstration or event.

## 12.4.6 Avoidance of Collisions

GACAR Part 91.59(a)(c), 91.61

Nothing in these rules shall relieve the pilot-in-command of an airplane from the responsibility of taking such action, including collision avoidance maneuvers based on resolution advisories provided by Traffic Alert and Collision Avoidance System (TCAS) equipment, as will best avert collision.

*Note: It is important that vigilance for the purpose of detecting potential collisions be not relaxed on board an airplane in flight, regardless of the type of flight or the class of airspace in which the airplane is operating and while operating on the movement area of an aerodrome.*

Proximity:

1. An airplane shall not be operated in such proximity to other airplanes as to create a collision hazard.
2. The PIC may not operate an aircraft carrying passengers for hire in formation flight. Right-of-way:

When weather conditions permit, regardless of whether an operation is conducted under IFR vigilance must be maintained by each person operating an aircraft so as to see and avoid other aircraft. When a rule of this section gives another aircraft the right of way, the PIC must give way to that aircraft and may not pass over, under, or ahead of it unless well clear, and take into account the effect of wake turbulence.



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## 12.4.7 Uncertainty of Position on Maneuvering Area

*GACAR 91.111*

A PIC in doubt as to the position of the aircraft on the maneuvering area must immediately:

1. Stop the aircraft; and
2. Simultaneously notify the appropriate Air Traffic Service unit of the circumstances (including the last known position).

In those situations where a PIC is in doubt as to the position of the aircraft on the maneuvering area, but recognizes the aircraft is on a runway, the PIC must immediately:

1. Notify the appropriate Air Traffic Service unit of the circumstances (including the last known position).
2. If able to locate a nearby suitable taxiway, vacate the runway as expeditiously as possible, unless
3. otherwise instructed by the Air Traffic Service unit; and then Stop the aircraft.

*Note: For runway-holding position markings and related signs, refer to the Jeppesen Airway Manual*

## 12.4.8 Emergency Air Traffic Rules

*GACAR 91.143*

Mukamalah Aviation shall comply with emergency rules in NOTAMs, When a NOTAM has been issued under this section, the PIC may not operate an aircraft, or other device governed by the regulation concerned, within the designated airspace except in accordance with the authorizations, terms, and conditions prescribed in the regulation covered by the NOTAM.

## 12.4.9 Separation by Visual Reference

A visual approach may be initiated by ATC to ensure separation requirements. The aircraft must then be instructed to follow and maintain own separation from the preceding aircraft. When both aircraft are of a heavy wake turbulence category, or the preceding aircraft is of a heavier wake turbulence category than the following, and the distance between the aircraft is less than the appropriate wake turbulence minimum, the controller must issue a caution of possible wake turbulence. The PIC of the aircraft concerned is responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable and if it is determined that additional spacing is required the flight crew must inform ATC accordingly and state their requirements.

When conducting a visual approach, the Mukamalah Aviation crew responsibilities include the following:

1. Terrain clearance,
6. Navigation by means of visual ground cues (including any available and valid electronic and visual slope guidance),
7. Traffic and wake turbulence separation,
8. Establishing the go-around requirements when accepting the visual approach.





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12.4 Compliance with the Rules of the Air

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## 12.4.10 Aircraft Speed

*GACAR Part 91.65*

1. Unless otherwise authorized by the GACA, Mukamalah Aviation shall not operate an aircraft below 10000 ft mean sea level (MSL) at an indicated airspeed of more than 250 kt.
2. Unless otherwise authorized or required by ATC, Mukamalah Aviation shall not operate an aircraft at or below 2500 ft above ground level (AGL) within 4 NM of the primary aerodrome of a Class C or Class D airspace area at an indicated airspeed of more than 200 kt.
3. Mukamalah Aviation shall not operate an aircraft in the airspace underlying a Class B airspace area designated for an aerodrome at an indicated airspeed of more than 200 kt.
4. Mukamalah Aviation shall not operate aircraft in the traffic circuit of an aerodrome at an airspeed greater than 200kt.
5. If the minimum safe airspeed for any particular operation is greater than the maximum speed prescribed in this section, the aircraft may be operated at that minimum speed.

Here is my rewrite of the example text with GACAR references maintained:



## 12.5 ATC COMMUNICATIONS

### 12.5.1 General Rules

*GACAR Part 91.95, 91.97*

1. Mukamalah Aviation crew must ensure that all communications follow:
  - a. The highest standard of discipline at all times and will conform to current radiotelephony procedures.
  - b. ICAO standardized phraseology and protocols, including word spelling, the transmission of numbers, calling, and exchange of messages.
  - c. Plain language only when the standardized phraseology cannot serve an intended transmission.
  - d. Any special requirements as specified by the controlling authority. (e.g. communication instructions issued by NOTAM).
9. Mukamalah Aviation flight crew shall identify themselves by the call sign "Mukamalah Aviation" on all contacts to reduce the possibility of error.
10. The VHF Comm. No 1/(Left) will normally be used for all ATC communication. VHF No. 2/(Right) is used for monitoring emergency frequency 121.5 or used for company communication when needed. VHF No. 3/(Centre) is used for ADS/data communication. During Operation in uncontrolled airspace VHF no. 2/(Right) is used for TIBA frequency and VHF no. 3/(Centre) for monitoring emergency frequency.
11. During HF communication ensure the HF transmitter is keyed after a frequency change.
12. The emergency frequency, 121.5 MHz, shall be continuously monitored during flight operations unless the VHF Comm. radio is temporarily required for other communications.
13. If the SELCAL system is not available in areas requiring HF, the primary HF frequency shall have to be monitored.
14. Mukamalah Aviation flight crew shall report the cleared flight level on first contact with ATC, unless specifically requested not to do so by ATC.

#### 12.5.1.1 Call Sign Confusion Avoidance

To mitigate any potential call sign confusion incidents, the Mukamalah Aviation crew shall comply with the following:

1. Always use full RTF call signs.
2. Always use headsets during times of high RTF loading. Always wear a headset and take extra care when members of the flight crew are involved in other tasks and may not be monitoring the RTF.
3. Do not clip transmissions.
4. If in doubt about an ATC instruction, positively confirm instructions requesting "SAY AGAIN" to ATC, instead of using readback for confirmation. This procedure should also be followed if any doubt about a clearance exists between flight crew members.



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5. Advise ATC if any of the following situations is observed:
  - a. Two or more aircraft with similar call signs are on the RTF frequency.
  - b. It is suspected that an aircraft has taken a clearance not intended for it.
  - c. It is suspected that another aircraft has misinterpreted an instruction.
  - d. A blocked transmission is observed.

## 12.5.1.2 Communications Between Aircraft

*GACAR Part 91.97(c)(d)*

1. In communications between aircraft, the duration of communication must be controlled by the aircraft which is receiving the communication.
2. If communications between aircraft occur on an Air Traffic Service frequency, prior permission of the Air Traffic Service facility must be obtained.
3. The inter-pilot air-to-air frequency 123.45 MHz shall be used to exchange significant operational information with other aircraft, especially in remote and oceanic areas.

## 12.5.2 ATC Communication Procedures

*GACAR Part 91.95, 91.97, 91.99*

### 12.5.2.1 Establishing Communication with ATC

*GACAR Part 91.97(b), 91.127 (c)*

The PIC must establish two-way communication with the appropriate Air Traffic Service unit for departure, enroute and arrival or through flights prior to entering that airspace and maintain communications while within that airspace.

The initial call to any ATC facility must contain, unless specifically requested not to do so, the following elements:

1. Designation of the station being called.
2. Call sign and, for aircraft in the heavy wake turbulence category, the word "HEAVY".
3. Level, including passing and cleared levels if not maintaining the cleared level.
4. Speed, if assigned by ATC; and
5. Any additional elements, as required by ATS.
6. If two-way communication cannot be established after changing frequencies, the transferring controller (or if not successful, another frequency appropriate to the route) should be re- contacted to obtain an alternate frequency or further instructions.



## 12.5.2.2 ATC Clearances

Air Traffic Control (ATC) clearances are a crucial element of flight operations and serve as a contract between ATC and a flight crew regarding the planned execution of the flight. This section outlines key principles related to ATC clearances, emphasizing the importance of communication, safety, and adherence to established policies.

### 12.5.2.2.1 ATC Clearances as a Contract

ATC clearances represent a formal agreement between the flight crew and ATC regarding the intended route, altitude, and other aspects of the flight. This contract is based on the current flight plan and may be subject to changes or modifications during the course of the flight.

### 12.5.2.2.2 Communication of Deviations

Any Mukamalah Aviation flight crew-initiated change from the agreed-upon flight plan, including changes in routing, climb, descent, or approach, must be communicated to ATC before such changes occur. This ensures that ATC is aware of the aircraft's intentions and can provide appropriate instructions or clearances as necessary.

### 12.5.2.2.3 Safety and Compliance

Mukamalah Aviation flight crews shall not accept clearances from ATC if they cannot be safely complied with. This includes routing, climb, descent, and approach and landing clearances. The safety of the flight and adherence to established Mukamalah Aviation policies take precedence over ATC clearances. Any confusion or ambiguity in ATC instructions must be promptly clarified with ATC.

### 12.5.2.2.4 Entering Restricted or Prohibited Airspace

Mukamalah Aviation flight crew shall note that direct routings provided by ATC do not authorize the flight crew to enter restricted or prohibited airspace. Mukamalah Aviation flight crews remain responsible at all times for avoiding such airspace, and they must adhere to the regulations governing such areas.

*Note: ATC will not be aware of company-imposed airspace restrictions.*

### 12.5.2.2.5 Exercise of Emergency Authority

In the interest of safety, for example, when facing severe weather or unforeseen circumstances, the Mukamalah Aviation PIC may exercise their emergency authority to deviate from any ATC clearance or Mukamalah Aviation policy. This authority allows the PIC to take actions necessary to ensure the safety of the aircraft, passengers, and crew. However, any deviations made under emergency authority should be reported to ATC as soon as practicable and an ASR must be filed.



## 12.5.2.3 Departure Clearance

ATC clearances to an aircraft on a Standard Instrument Departure (SID) with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or are cancelled. The following phraseology is used by ATC with the following meanings:

1. CLIMB VIA SID TO (level):
  - a. Climb to the cleared level and comply with published level restrictions;
  - b. Follow the lateral profile of the SID; and
  - c. Comply with published speed restrictions or ATC issue speed control instructions as applicable.
2. CLIMB VIA SID TO (level), CANCEL LEVEL RESTRICTION(S):
3. Climb to the cleared level; published level restrictions are cancelled.
4. Follow the lateral profile of the SID; and
5. Comply with published speed restrictions or ATC issue speed control instructions as applicable.

## 12.5.2.4 Route Clearance

Route clearances are essential instructions provided by ATC to guide aircraft through the planned route of a flight. This section outlines the key aspects of route clearances, including procedures when the flight's route differs from the filed plan or when operating in oceanic airspace, specifically the North and South Atlantic High-Level Airspace (HLA).

### 12.5.2.4.1 Route Deviations from Filed Plan

In some instances, the route specified in the ATC clearance may differ from the originally filed flight plan. Mukamalah Aviation flight crews should be prepared to follow the route provided in the ATC clearance, even if it deviates from the filed route. This may occur for various reasons, including air traffic management requirements and weather conditions.

### 12.5.2.4.2 Oceanic Airspace and HLA Routes

When operating in oceanic airspace, particularly the North and South Atlantic High-Level Airspace (HLA), route clearances must include a detailed description of the latitude and longitude waypoints, or specific routing to be followed. Mukamalah Aviation flight crews are expected to adhere to these instructions to ensure safe and orderly operations in these areas.

*Note: Mukamalah Aviation flight crew shall refer to OM Part C for detailed North and South Atlantic HLA procedures.*

### 12.5.2.4.3 Mach Number or Indicated Airspeed (IAS)

In certain cases, ATC may issue a Mach number or Indicated Airspeed (IAS) as part of the route clearance. Mukamalah Aviation flight crews must adhere to this assigned speed as closely as possible. Any deviation from the specified Mach number or IAS requires prior approval from ATC.



## 12.5.2.4.4 ETA Amendments

Mukamalah Aviation flight crews are responsible for monitoring Estimated Time of Arrival (ETA) closely. If the ETA is expected to vary by more than plus or minus three (3) minutes from the originally filed ETA, it is essential to communicate this amendment promptly to ATC. Accurate ETA information is critical for traffic management and coordination.

Note that some countries might publish different rules and require the crew to communicate an ETA update when it varies by a different time than the standard 3 minutes. The Mukamalah Aviation crew shall refer to the Jeppesen Airway Manual to ensure compliance with each country's requirements.

## 12.5.2.4.5 Compliance and Communication

Mukamalah Aviation flight crews are expected to comply fully with the route clearance provided by ATC. Deviations from the assigned route or speed should not occur without prior approval. Clear and effective communication with ATC is essential, especially in cases of non-compliance or when significant changes to ETA are anticipated.

## 12.5.2.4.6 Altitude and Level Clearances

Altitude and level clearances are vital instructions provided by Air Traffic Control (ATC) to regulate an aircraft's vertical flight profile. This section outlines the key aspects of altitude and level clearances, including special considerations in regions like China where clearances are provided in meters.

### 12.5.2.4.6.1 Altitude Clearances in Meters

In specific regions, such as China, altitude clearances are provided in meters. Mukamalah Aviation flight crews operating in these areas should be aware of this difference and be prepared to receive altitude clearances in meters from ATC.

To assist Mukamalah Aviation flight crews in regions where altitude clearances are provided in meters, reference to conversion tables for feet to meters can be found in OM Part C. These tables facilitate the accurate interpretation and application of altitude clearances, ensuring safe and precise vertical navigation.

### 12.5.2.4.6.2 Block Flight Level Clearances

When requested by flight crew, ATC may issue block flight level clearances. These clearances provide flight crews with a range of altitudes or flight levels within which they can operate. Mukamalah Aviation flight crews should exercise care to maintain their altitude within the specified block while in communication with ATC, ensuring that they remain safely separated from other aircraft.

### 12.5.2.4.6.3 Compliance and Communication

Mukamalah Aviation flight crews are expected to fully comply with altitude and level clearances issued by ATC. Additionally, effective communication with ATC is vital, particularly in cases where maintaining the assigned altitude becomes challenging due to turbulence, conflicting traffic, or other factors. In such instances, timely communication with ATC is crucial for safe operations.



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## 12.5.2.5 Holding

Holding clearances are vital instructions issued by ATC to facilitate the orderly flow of air traffic and ensure safe separation between aircraft, particularly during periods of congestion or as part of prescribed procedural requirements. These clearances typically encompass specific details, including the designated holding fix, the radial or course to be followed, the direction of the holding pattern (whether right or left turns are required), the leg length (standard or non-standard), and the expected further clearance time (EFC).

One noteworthy distinction in holding clearances lies in the variation between ICAO recommended holding speeds and those defined by the FAA (Federal Aviation Administration). It is imperative for flight crews to observe and adhere to the holding speed guidelines outlined by the relevant aviation authority, in accordance with the specific State procedures governing the airspace they are operating within.

## 12.5.2.6 Arrival and Approach Clearances

Many airports around the world have published Standard Terminal Arrival Routes (STARs) in place. STARs are predefined and standardized routes designed to facilitate the efficient and orderly flow of arriving aircraft into terminal airspace. These routes help streamline air traffic management and guide aircraft to the initial approach fixes for their intended runways.

Clearances to aircraft on a STAR with remaining published level and/or speed restrictions shall indicate if such restrictions are to be followed or cancelled. The following phraseologies are used by ATC with the following meanings:

1. DESCEND VIA STAR TO (level):
    - a. Descend to the cleared level and comply with the published restrictions;
    - b. Follow the lateral profile of the STAR; and
    - c. Comply with the published speed restrictions or ATC-issued speed control instructions as applicable
  2. DESCEND VIA STAR TO (level), CANCEL LEVEL RESTRICTION(S):
  3. Descend to the cleared level; published level restrictions are cancelled;
  4. Follow the lateral profile of the STAR; and
  5. Comply with the published speed restrictions or ATC-issued speed control instructions as applicable
  6. DESCEND VIA STAR TO (level), CANCEL LEVEL RESTRICTION(S) AT (point(s)):
  7. Descend to the cleared level; published level restriction(s) at the specified point(s) are cancelled;
  8. Follow the lateral profile of the STAR; and
  9. Comply with the published speed restrictions or ATC-issued speed control instructions as applicable
- Separation in the Vicinity of Aerodromes / Procedures for Departing Aircraft / Clearance on a STAR





## 12.5.2.6.1 Approach Clearance

Mukamalah Aviation flight crew shall note that an approach clearance does not grant authorization to land. Even after receiving an approach clearance, Mukamalah Aviation flight crews are not authorised to land until receiving a landing clearance from ATC.

## 12.5.2.7 Landing Clearance

Landing clearances issued by ATC are authorizations that permit aircraft to land on a designated runway. Mukamalah Aviation flight crews must strictly adhere to the requirement of not landing without a valid clearance from ATC, except in emergency situations where the PIC exercises emergency authority in the interest of safety.

*Note: If by 200 ft AAL the Mukamalah Aviation PIC has not received a landing clearance and the designated runway remains occupied, the PIC should execute a missed approach.*

## 12.5.2.8 Recording ATC Clearances

Documenting ATC clearances on the operational flight plan (OFP) is a critical practice to improve situational awareness, communication, and compliance with ATC instructions. This ensures that Mukamalah Aviation flight crews have an accurate and up-to-date record of all ATC instructions received throughout the flight, aiding in effective coordination among crew members and promoting safe and efficient flight operations.

*Note: All ATC departure (SID), enroute (e.g., NAT HLA) and arrival (STAR) clearances must be clearly documented on the OFP.*

## 12.5.2.9 Position Reporting

*GACAR Part 91.103, 91.105*

The Mukamalah Aviation PIC shall ensure that position reports are made to appropriate ATS unit at each designated compulsory reporting points, unless exempted by ATS to do so. However, when exempted, the Mukamalah Aviation PIC must resume reporting when:

1. Instructed by an Air Traffic Service unit.
2. Advised that Air Traffic Service surveillance service has been terminated; or
3. Advised that identification is lost.

Refer to Jeppesen "ATC" section 4.11 (Position Reporting) for more details.

## 12.5.3 Light Signal

*GACAR Part 91.107*

Refer to Jeppesen "ATC" In case of communication failure the ATC may use light signals that Mukamalah Aviation PIC must comply with and acknowledge as prescribed in Jeppesen ATC, 4.1 SIGNALS FOR AERODROME TRAFFIC LIGHT AND PYROTECHNIC SIGNALS.





## 12.5.4 Use of ADS-B Out.

*eBook 5.1.7.7, Part 91.239*

1. Each Mukamalah Aviation PIC operating an aircraft equipped with ADS-B Out must operate this equipment in the transmit mode at all times unless otherwise instructed by the ATC.
2. When the ATC requests to terminate ADS-B transmissions, the Mukamalah Aviation PIC must comply with the ATC instructions if the flight deck control capabilities allow the flight crew to disable ADS-B OUT functions without affecting or disabling the operation of the aircraft transponder.
3. Requests for ATC authorized deviations from the requirements of this section must be made to the ATC facility having jurisdiction over the concerned airspace within the time periods specified as follows:
  - a. For operation of an aircraft with an inoperative ADS-B OUT, to the aerodrome of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made or both, the request may be made at any time.
  - b. For operation of an aircraft that is not equipped with ADS-B Out, the request must be made at least 24 hours before the proposed operation.

## 12.5.5 Two Way Radio Communication Failure

Refer to OM C

## 12.5.6 Distress and Urgency Communications

Effective distress and urgency communications are critical for the safety of Mukamalah Aviation flight operations. Mukamalah Aviation flight crews should be well-versed in the procedures for MAYDAY and PAN PAN calls, understand when to upgrade or downgrade calls, and be prepared to cancel distress or urgency calls when the situation permits. The Jeppesen Airways Manual (JAWM) serves as a valuable resource for in-depth information on this topic.

### 12.5.6.1 Distress Communication - MAYDAY

A Mayday call is used to indicate a distress situation requiring immediate assistance due to a critical and life-threatening emergency. This call should be made when the safety of the flight is in jeopardy, and there is an imminent threat to life, aircraft, or property.

### 12.5.6.2 Urgency Communication - PAN PAN:

A PAN PAN call is used to indicate an urgency condition that requires assistance but is not an immediate life-threatening emergency. It is used when there is a situation that requires attention and assistance but does not pose an immediate danger to the aircraft or passengers.



## 12.5.6.3 Initiating a Mayday or PAN PAN Call:

To initiate a Mayday or PAN PAN call, Mukamalah Aviation flight crew must use the standard radiotelephony distress and urgency phraseology contained in the JAWM, including the:

1. Name of the station addressed;
2. Identification of the aircraft (call sign);
3. The nature of the distress or urgency condition;
4. Intention of the Mukamalah Aviation Pilot in Command; and
5. Present position, level (i.e., flight level, altitude, as appropriate) and heading.

## 12.5.6.4 Upgrading or Downgrading Calls

Mukamalah Aviation flight crews should be prepared to upgrade or downgrade a distress or urgency call as the situation evolves. If the initial distress call is made (MAYDAY) but the situation subsequently stabilises, the flight crew can consider downgrading the call to a PAN PAN to reflect the changed circumstances. Conversely, if a PAN PAN situation escalates, it may be upgraded to a MAYDAY call to indicate a more severe emergency.

## 12.5.6.5 Termination of Distress or Urgency Communications

When a Mukamalah Aviation aircraft is no longer in a state of distress or urgency, it is essential that the PIC transmit a message cancelling the distress or urgency condition. The Mukamalah Aviation PIC must inform ATC or the appropriate authorities promptly and clearly that the distress or urgency situation no longer exists.



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## 12.6 INTERCEPTION OF AIRCRAFT

In the event of an interception by military or civil authorities, Mukamalah Aviation flight crew must strictly adhere to established procedures for communication and cooperation. For detailed information on actions to be taken, aircraft signals, and phraseology to be used during an interception, Mukamalah Aviation flight crews are referred to the JAWM, which contains comprehensive guidance on these matters.



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## 13.AIRCRAFT LEASING

GACAR Part 119.53 and appendix A (Amr)





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## 14. OPERATIONS FORMS



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**Aramco Aviation Rd.**

**King Fahad Int. Airport**

**Dammam, Saudi Arabia 32552**