Revision: 23.1
15 MAR 25

OM A

OPERATIONS MANUAL PART A

EL AL Israel Airlines

General/Basic

LIST OF EFFECTIVE SECTIONS/SUBSECTIONS

	Page No.	Section No.	Section Title	Rev. Date
	LESS-1	LESS	List of Effective Sections/Subsections	14 MAR 21
	TOC-1	TOC	Table of Contents	14 MAR 21
	ABBR-1	ABBR	Abbreviations	14 MAR 21
	0-TOC-1	0	Administration and Control of the Operations Manual	14 MAR 21
*	0-1-1	0.1	Highlight of Changes	15 MAR 25
*	0-2-1	0.2	Significant Changes	15 MAR 25
*	0-3-1	0.3	Preamble	15 MAR 25
	0-4-1	0.4	Introduction	29 AUG 24
*	0-4-3	0.4.1	Record of Revisions	15 MAR 25
	0-4-4	0.4.2	Record of Temporary Revisions	29 AUG 24
*	0-4-4	0.4.3	Terms and Definitions	15 MAR 25
	0-4-28	0.4.4	Annotation of Page Layout	14 MAR 21
	0-4-28	0.4.5	Annotation of Chapters and Changes	14 MAR 21
*	0-5-1	0.5	System of Amendment and Revision	15 MAR 25
	1-TOC-1	1	Organization and Responsibilities	14 MAR 21
	1-1-1	1.1	Organizational Structure	14 MAR 21
	1-1-1	1.1.1	General Rules for Air Operator Certification	1 JUN 24
	1-1-1	1.1.2	Facilities	14 MAR 21
	1-1-2	1.1.3	Organizational Chart	1 JUN 24
	1-2-1	1.2	Nominated Postholders	14 MAR 21
	1-2-1	1.2.1	General	14 MAR 21
	1-2-1	1.2.2	Change of Postholders	29 AUG 24
	1-2-1	1.2.3	Nominated Postholders	1 JUN 24
*	1-2-3	1.2.4	Deputies to Postholders	15 MAR 25
	1-2-3	1.2.5	Main Functions of the Management	14 MAR 21
	1-2-4	1.2.6	Competence	14 MAR 21
	1-3-1	1.3	Responsibilities and Duties of Operations Management Personnel	14 MAR 21
	1-3-1	1.3.1	Accountable Manager	14 MAR 21
	1-3-1	1.3.2	Director of Flight Operations	29 AUG 24
	1-3-3	1.3.2.1	VP Customers & Service	29 AUG 24
	1-3-3	1.3.2.2	COO – Chief Operating Officer	5 MAY 23
	1-3-3	1.3.3	Operations Control Centre	29 AUG 24
	1-3-4	1.3.4	Crew Assignment	14 MAR 21
	1-3-5	1.3.5	Chief Pilot and Director of Standards	29 AUG 24
	1-3-6	1.3.5.1	Standards Pilot	29 AUG 24
	1-3-7	1.3.5.2	Flight Crew Training	20 FEB 24
	1-3-8	1.3.5.3	Fleet Manager	29 AUG 24
	1-3-9	1.3.5.4	Fleet Technical Manager	20 FEB 24
	1-3-10	1.3.6	Safety and Quality	14 MAR 21
	1-3-10	1.3.7	Director of Continuous Airworthiness	1 JUN 24
	1-3-11	1.3.8	In-Flight Service Division Manager	5 MAY 23
	1-3-11	1.3.8.1	Director of Cabin Operations	20 FEB 24
	1-3-12	1.3.9	Ground Operations	29 AUG 24
	1-3-13	1.3.10	Security	20 FEB 24
	1-3-14	1.3.11	SAG – Safety Action Group	29 AUG 24

	Page No.	Section No.	Section Title	Rev. Date
	1-3-15	1.3.12	SAGAH – Safety Action Group Ad-hoc	29 AUG 24
	1-4-1	1.4	Authority and Responsibilities of the PIC	14 DEC 22
	1-4-2	1.4.1	Prior to Flight	29 AUG 24
	1-4-4	1.4.2	In Flight	29 AUG 24
*	1-4-7	1.4.3	After Flight	15 MAR 25
	1-5-1	1.5	Responsibilities of the Co-pilot	14 MAR 21
	1-5-1	1.5.1	Prior to Flight	14 MAR 21
	1-5-1	1.5.2	In Flight	14 MAR 21
	1-5-2	1.5.3	After Flight	14 MAR 21
	1-6-1	1.6	Duties and Responsibilities - FOO	14 MAR 21
	1-7-1	1.7	Joint Responsibility and Authority	20 FEB 24
	1-8-1	1.8	Duties and Responsibilities of the Cabin Crew Members	14 MAR 21
	1-9-1	1.9	Crew Regulations and Administrative Procedures	14 MAR 21
	1-9-1	1.9.1	Behaviour in Public	14 MAR 21
	1-9-1	1.9.2	Personal Documents	14 MAR 21
	1-9-2	1.9.2.1	Crew Member Certificate	20 FEB 24
	1-9-2	1.9.2.2	Company Identity Card	14 MAR 21
	1-9-2	1.9.3	Uniform	14 MAR 21
	1-9-2	1.9.3.1	Regulations for Wearing the Uniform	14 MAR 21
	1-9-3	1.9.3.2	Dress Code for Pilots	14 MAR 21
	1-9-3	1.9.4	Crew Baggage	14 MAR 21
	1-9-3	1.9.4.1	Crew Baggage Security	14 MAR 21
	1-9-4	1.9.4.2	Security Inspection of Purchases Made Abroad	14 MAR 21
	1-9-4	1.9.5	Mail Box	14 MAR 21
	1-9-4	1.9.6	Tips	14 MAR 21
	1-9-4	1.9.7	Customs and Currency Regulations	14 MAR 21
	1-9-4	1.9.7.1	Violation of Customs or Currency Regulations	14 MAR 21
	1-9-5	1.9.8	Duty Free Shopping	14 MAR 21
	1-9-5	1.9.9	Handling of Company Material	14 MAR 21
	1-9-5	1.9.10	Accidents / Illness	14 MAR 21
	1-9-5	1.9.11	Crew Hotels	14 MAR 21
	1-9-6	1.9.12	Night Stops / Stop Over away from Home Base	14 MAR 21
	1-9-6	1.9.12.1	Crew Transport to/from the Airport	14 MAR 21
	1-9-6	1.9.12.2	Crew Contact During Layover	14 MAR 21
	1-9-6	1.9.13	Crew Information Sheet (CIS) Abroad	14 MAR 21
	1-9-7	1.9.13.1	Notification of Current Assignment Information	14 MAR 21
*	1-9-7	1.9.13.2	Administration	15 MAR 25
	1-9-7	1.9.14	Crew Boarding Times	14 MAR 21
	1-10-1	1.10	Appendix 1 - Flight Crew Uniform Specifications	14 MAR 21
	1-10-1	1.10.1	Rank Markings	14 MAR 21
	1-10-1	1.10.2	Composition of Uniform	14 MAR 21
	2-TOC-1	2	Operational Control and Supervision	14 MAR 21
	2-1-1	2.1	Supervision of the Operation by the Operator	14 MAR 21
	2-1-1	2.1.1	Qualification for Employment	14 MAR 21
	2-1-1	2.1.2	Training/Examination/Licences	14 MAR 21
	2-1-2	2.1.3	License and Qualification Validity	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	2-1-3	2.1.4	Competence of Operations Personnel	14 MAR 21
	2-1-3	2.1.5	Supervisory Staff	14 MAR 21
	2-1-4	2.1.6	Control, Analysis and Storage of Records, Flight Documents and Data	14 MAR 21
	2-1-4	2.1.6.1	Documents Used for the Preparation and Execution of the Flight	29 AUG 24
*	2-1-5	2.1.6.2	EFB Class I	15 MAR 25
	2-1-9	2.1.6.2.1	EFB Class III	20 FEB 24
*	2-1-9	2.1.6.3	Journey Log Procedure	15 MAR 25
	2-1-10	2.1.6.4	Reports	14 MAR 21
	2-1-10	2.1.6.5	Analysis and Retention of Documents and Records, Quality Control of EDP	14 MAR 21
	2-1-11	2.1.6.6	Documents Storage Periods - Information Used for the Preparation and Execution of the Flight	29 AUG 24
	2-1-12	2.1.6.7	Documents Storage Periods - Reports	1 JUN 24
	2-1-12	2.1.6.8	Documents Storage Periods - Flight Crew Records	14 MAR 21
	2-1-12	2.1.6.9	Documents Storage Periods - Cabin Crew Records	14 MAR 21
	2-1-13	2.1.6.10	Documents Storage Periods - FOO Records	5 MAY 23
	2-1-13	2.1.6.11	Flight, Duty and Rest Time Records (Flight Crew and Cabin Crew)	14 MAR 21
	2-1-13	2.1.6.12	Documents Storage Periods - Records for other Operations Personnel	14 MAR 21
*	2-1-13	2.1.6.13	Flight Recorder Records	15 MAR 25
	2-1-13	2.1.6.14	Other Records	14 MAR 21
*	2-2-1	2.2	System of Promulgation of Additional Operational Instruction and Information	15 MAR 25
	2-3-1	2.3	Reserved	14 MAR 21
	2-4-1	2.4	Operational Control	1 JUN 24
	2-4-1	2.4.1	Chief Pilot and Director of Standards	1 JUN 24
	2-4-2	2.4.2	Operations Control Center	14 MAR 21
	2-4-3	2.4.3	PIC	14 MAR 21
	2-4-3	2.4.3.1	General	14 MAR 21
	2-4-3	2.4.3.2	OOOI Times	20 FEB 24
	2-4-3	2.4.3.3	Early Departures	14 MAR 21
	2-4-3	2.4.3.4	ATC Departure Times	14 MAR 21
	2-4-4	2.4.3.5	Diversion	14 MAR 21
	2-4-5	2.4.3.6	Delays	14 DEC 22
	2-5-1	2.5	Powers of Authority	14 MAR 21
	2-5-1	2.5.1	Access	14 MAR 21
	2-5-1	2.5.2	Ramp Inspection	14 MAR 21
	2-5-2	2.5.3	Crew Action	29 AUG 24
	3-TOC-1	3	The Operators Quality System	14 MAR 21
	3-1-1	3.1	Description of the Quality System	14 MAR 21
	3-2-1	3.2	Accident Prevention and Flight Safety Program	14 MAR 21
	3-2-1	3.2.1	Accident Prevention	14 MAR 21
	3-2-1	3.2.1.1	Human Factors	14 MAR 21
	3-2-2	3.2.1.2	Communication Aspects	14 MAR 21
	3-2-2	3.2.1.3	Accident Prevention Organization	14 MAR 21
	3-2-3	3.2.2	Flight Safety Program	14 MAR 21
	3-2-3	3.2.2.1	Main Aspects of the Flight Safety Program	14 MAR 21
	3-2-3	3.2.3	Flight Data Monitoring	14 MAR 21
	3-2-4	3.2.4	Occurrence Reporting	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	3-2-4	3.2.4.1	Just Culture	1 JUN 24
	4-TOC-1	4	Crew Composition	14 MAR 21
	4-1-1	4.1	Crew Composition	14 MAR 21
	4-1-1	4.1.1	Minimum Flight Crew	14 MAR 21
	4-1-1	4.1.2	Flight Crew Stations and Relief of Flight Crew in Flight	5 MAY 23
	4-1-2	4.1.2.1	Relief of Flight Crew in Flight	14 MAR 21
	4-1-2	4.1.2.2	Right-Hand Seat Restrictions for Captains	14 MAR 21
	4-1-2	4.1.3	Inexperienced Flight Crew Members	29 AUG 24
	4-1-3	4.1.4	Crew Composition during IOE & LQC and SOE & LC	29 AUG 24
	4-1-6	4.1.5	Relief of Cabin Crew in Flight	14 MAR 21
	4-1-6	4.1.6	Minimum Cabin Crew	14 MAR 21
	4-1-6	4.1.6.1	Minimum Number of Cabin Crew to be on Board an Aircraft during Ground Operations	14 MAR 21
	4-1-6	4.1.7	Incapacitation of the ISM or CCM	14 MAR 21
	4-1-7	4.1.8	Personnel Assigned to Specialist Duties	14 MAR 21
	4-1-7	4.1.9	Supernumeraries	14 MAR 21
	4-1-7	4.1.10	Crewing of Family Members	14 MAR 21
*	4-2-1	4.2	Designation of the PIC	15 MAR 25
	4-3-1	4.3	Flight Crew Incapacitation	14 MAR 21
	4-3-1	4.3.1	Consideration as an Emergency	14 MAR 21
	4-4-1	4.4	Operation on more than one Type	14 MAR 21
	4-4-1	4.4.1	Flight Crew Scheduling	14 MAR 21
	4-4-1	4.4.2	Cabin Crew Scheduling	14 MAR 21
	4-5-1	4.5	Summary – Crew Composition	14 MAR 21
	5-TOC-1	5	Qualification Requirements	14 MAR 21
*	5-1-1	5.1	General	15 MAR 25
*	5-1-1	5.1.1	Period of Validity	15 MAR 25
	5-2-1	5.2	Flight Crew	14 MAR 21
	5-2-1	5.2.1	General	14 MAR 21
	5-2-1	5.2.1.1	Minimum Qualification Requirements	29 AUG 24
	5-2-2	5.2.1.2	Captain's Qualification to Operate in Either Pilot's Seat	14 MAR 21
*	5-2-2	5.2.2	Recency of Experience	15 MAR 25
	5-2-2	5.2.2.1	MFF Additional Recency of Experience	14 MAR 21
	5-2-3	5.2.3	Operation on More Than One Variant or Type	14 MAR 21
	5-2-3	5.2.4	Language Proficiency	14 MAR 21
	5-2-3	5.2.5	All-Weather Operations, Training and Qualifications	14 MAR 21
	5-2-4	5.2.6	Route and Airport Competence Qualification	29 AUG 24
	5-2-5	5.2.7	Degradation of Competence	20 FEB 24
	5-3-1	5.3	Cabin Crew	14 MAR 21
	5-3-1	5.3.1	Minimum Requirements	14 MAR 21
	5-3-1	5.3.2	In-Flight Safety/Service Manager	14 MAR 21
	5-3-1	5.3.3	Cabin Crew Members During IOE Flights	14 MAR 21
	5-3-1	5.3.4	Operation On More Than One Variant	14 MAR 21
	5-3-1	5.3.5	Recency of Experience	14 MAR 21
	5-4-1	5.4	Flight Operations Officer - FOO	14 MAR 21
	5-4-1	5.4.1	Basic Qualification Requirements	14 MAR 21
	5-4-1	5.4.2	Eligibility Requirements	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	7-3-4	7.3.6	Duty and Flight Time Exceedance	1 JUN 24
	7-4-1	7.4	Aircraft Rest Facility Class	14 MAR 21
	8-TOC-1	8	Operating Procedures	14 MAR 21
	8-0-1	8.0	Operational Philosophy	14 MAR 21
	8-0-1	8.0.1	Operational Priorities	14 MAR 21
	8-0-1	8.0.2	Safety Policy	14 MAR 21
	8-0-2	8.0.3	Standard Operating Procedures	14 MAR 21
	8-0-2	8.0.4	Chief Pilot and Standards Division Philosophy	1 JUN 24
	8-0-2	8.0.4.1	Conduct of Flight Crew Members	14 MAR 21
	8-0-2	8.0.4.2	Two-Man Cockpit	14 MAR 21
	8-0-2	8.0.4.3	Pilot Flying and Pilot Monitoring Priorities	14 MAR 21
	8-0-3	8.0.4.4	Automatic and Manual Flight Philosophy	14 MAR 21
	8-0-3	8.0.4.5	Professional Development	20 FEB 24
	8-1-1	8.1	Flight Preparation Instructions	14 MAR 21
	8-1-1	8.1.1	Flight Planning	14 MAR 21
	8-1-1	8.1.1.1	General	14 MAR 21
	8-1-2	8.1.1.2	Selection of Destination Alternates	14 MAR 21
	8-1-3	8.1.1.3	Non-Standard Planning	14 MAR 21
	8-1-4	8.1.1.4	NAT HLA Flight Levels	14 MAR 21
	8-1-4	8.1.1.5	RAIM Prediction	14 MAR 21
	8-1-4	8.1.1.6	Limiting Weight	14 MAR 21
	8-1-4	8.1.1.7	Shabbat/Jewish Holiday	14 MAR 21
	8-1-4	8.1.1.8	Severe Weather	14 MAR 21
	8-1-5	8.1.1.9	Minimum and Maximum Flight Altitudes	14 MAR 21
	8-1-6	8.1.1.9.1	Inoperative Engines – Performance Requirements	14 MAR 21
	8-1-6	8.1.1.9.2	Maximum Flight Levels	14 MAR 21
	8-1-7	8.1.1.10	Tankering Fuel	14 MAR 21
	8-1-7	8.1.1.11	Medical Evacuation Flights	14 MAR 21
	8-1-7	8.1.2	Criteria and Responsibilities for the Authorization of the Use of Airports	14 MAR 21
*	8-1-7	8.1.2.1	General	15 MAR 25
	8-1-8	8.1.2.2	Rescue and Fire Fighting Services	14 MAR 21
*	8-1-9	8.1.2.3	Minimum Acceptable Airport RFFS Category	15 MAR 25
	8-1-10	8.1.2.4	Airport Categorization for Flight Crew Competence	29 AUG 24
	8-1-11	8.1.2.5	Performance Considerations	14 MAR 21
	8-1-13	8.1.3	Methods for Establishing of Airport Operating Minima	14 MAR 21
	8-1-13	8.1.3.1	Selection of Airports – AOM Requirements at the Planning Stage	14 MAR 21
	8-1-13	8.1.3.1.1	Take-off Alternate Airport	14 MAR 21
	8-1-14	8.1.3.1.2	En-route Alternate Airports	14 MAR 21
	8-1-14	8.1.3.1.3	Destination Airport(s)	14 MAR 21
	8-1-14	8.1.3.1.4	Destination Alternate Airport(s)	14 MAR 21
	8-1-15	8.1.3.1.5	Alternate Airport Planning Minima	29 AUG 24
	8-1-17	8.1.4	Interpretation of Meteorological Information	14 MAR 21
	8-1-17	8.1.4.1	En-route Meteorological Data	14 MAR 21
	8-1-17	8.1.4.2	Airport Meteorological Data	14 MAR 21
	8-1-18	8.1.4.3	Non-Routine Aeronautical Information	14 MAR 21
	8-1-19	8.1.4.4	Application of Airport Forecasts (TAF & TREND)	29 AUG 24

	Page No.	Section No.	Section Title	Rev. Date
	8-1-72	8.1.10.1	Flight Log and Aircraft Release	14 MAR 21
	8-1-72	8.1.10.2	Aircraft Technical Log (ATL) and Cabin Technical Log	14 MAR 21
	8-1-73	8.1.10.3	Follow Up Sheet	14 MAR 21
	8-1-73	8.1.10.4	Flight Log Procedures	20 FEB 24
	8-1-73	8.1.10.5	Malfunction Report to MCC	14 MAR 21
	8-1-74	8.1.11	List of Documents, Forms and Additional Information to be Carried	20 FEB 24
	8-1-75	8.1.11.1	Loss or Theft of Documents	14 MAR 21
	8-2-1	8.2	Ground Handling Instructions	14 MAR 21
	8-2-1	8.2.1	Aircraft Release by Flight Crew	20 FEB 24
	8-2-1	8.2.1.1	Engine Run Up by Flight Crew	14 MAR 21
	8-2-1	8.2.2	Fueling	14 MAR 21
	8-2-1	8.2.2.1	Procedures	14 MAR 21
	8-2-2	8.2.2.2	Limitations	14 MAR 21
	8-2-2	8.2.2.3	General Safety Rules	14 MAR 21
	8-2-3	8.2.2.4	Crew Checks	14 DEC 22
	8-2-3	8.2.2.5	Fueling with Passengers on Board and during Embarkation/Disembarkation	14 MAR 21
	8-2-6	8.2.2.6	Supervision of Fueling by Flight Crew	14 MAR 21
	8-2-6	8.2.2.7	Fueling with an Engine Running (Hot Refueling)	14 MAR 21
	8-2-6	8.2.2.8	Fuel Contamination	29 AUG 24
	8-2-6	8.2.3	Aircraft, Passengers and Cargo Handling Procedures Related to Safety	14 MAR 21
	8-2-7	8.2.3.1	Ground Operations with Passengers on Board	14 MAR 21
	8-2-7	8.2.3.2	Embarkation/Disembarkation	29 AUG 24
	8-2-7	8.2.3.2.1	Tipping Prevention (B737 Only)	5 MAY 23
	8-2-8	8.2.3.3	Allocation of Seats for Adults, Children and Infants	29 AUG 24
	8-2-8	8.2.3.3.1	Non-Discriminatory Seating Policy	14 MAR 21
	8-2-8	8.2.3.4	Emergency Equipment for Extended Overwater Operations	14 MAR 21
	8-2-9	8.2.3.5	Sick Passengers and Persons with Reduced Mobility (PRMs)	29 AUG 24
	8-2-10	8.2.3.5.1	Use of Safety and Emergency Items	20 FEB 24
	8-2-11	8.2.3.5.1.1	Portable Oxygen Concentrators	14 MAR 21
	8-2-11	8.2.3.5.2	Foldable Wheelchairs On Board	14 MAR 21
	8-2-11	8.2.3.6	Transportation of Inadmissible Passengers, Deportees or Persons in Custody	14 MAR 21
*	8-2-13	8.2.3.7	Permissible Size and Weight of Hand Baggage	15 MAR 25
	8-2-13	8.2.3.8	Loading and Securing of Items in the Aircraft	14 MAR 21
	8-2-13	8.2.3.8.1	Loading	14 MAR 21
	8-2-14	8.2.3.8.2	Unloading	14 MAR 21
	8-2-14	8.2.3.8.3	Securing of Loads in the Cabin	29 AUG 24
	8-2-14	8.2.3.8.4	Securing of Load in the Holds	14 MAR 21
	8-2-15	8.2.3.9	Special Loads	14 MAR 21
	8-2-15	8.2.3.9.1	Items Exempted from Dangerous Goods Requirements	14 MAR 21
	8-2-15	8.2.3.9.2	Battery Operated Wheelchairs (as Baggage)	14 MAR 21
	8-2-16	8.2.3.9.3	Wet Cargo	14 MAR 21
*	8-2-17	8.2.3.9.4	Live Animals	15 MAR 25
	8-2-18	8.2.3.9.5	Perishable Cargo	29 AUG 24
	8-2-18	8.2.3.9.6	Human Remains	14 MAR 21
	8-2-18	8.2.3.9.7	Carriage of Mail, Valuables and Weapons	14 MAR 21
	8-2-19	8.2.3.10	Classification of Load Compartments	1 JUN 24

	Page No.	Section No.	Section Title	Rev. Date
	8-3-1	8.3	Flight Procedures	14 MAR 21
	8-3-1	8.3.1	General	14 MAR 21
	8-3-1	8.3.2	Navigation	14 MAR 21
*	8-3-2	8.3.2.1	NAT HLA	15 MAR 25
*	8-3-2	8.3.2.1.1	NAT HLA Navigation	15 MAR 25
	8-3-2	8.3.2.1.2	NAT HLA Airspace	29 AUG 24
*	8-3-2	8.3.2.1.3	Technical Requirements	15 MAR 25
*	8-3-3	8.3.2.1.3.1	Data Link Requirements	15 MAR 25
	8-3-6	8.3.2.1.4	Flight Planning in NAT HLA Airspace	29 AUG 24
*	8-3-7	8.3.2.1.5	Loading of Waypoint and OFP Annotation	15 MAR 25
	8-3-8	8.3.2.1.6	ATS Communications	29 AUG 24
	8-3-13	8.3.2.1.7	Inter-Pilot Air-to-Air VHF Facility 123.450 MHZ and Emergency Frequency 121.500 MHZ	29 AUG 24
*	8-3-13	8.3.2.1.8	Position Reporting	15 MAR 25
	8-3-15	8.3.2.1.9	"When Able Higher" (WAH) Reports	29 AUG 24
	8-3-15	8.3.2.1.10	Meteorological Reports	29 AUG 24
	8-3-16	8.3.2.1.11	Communications Failure	29 AUG 24
	8-3-17	8.3.2.1.11.1	Operational Procedures following Loss of HF Communications Prior to Entry into the NAT	29 AUG 24
	8-3-18	8.3.2.1.12	Flight Operations and Navigation Procedures	29 AUG 24
	8-3-18	8.3.2.1.12.1	Flight Planning	29 AUG 24
	8-3-20	8.3.2.1.12.2	Pre-flight	29 AUG 24
	8-3-22	8.3.2.1.12.3	Taxi and Prior to Take-off	29 AUG 24
*	8-3-23	8.3.2.1.12.4	Prior to Oceanic Entry	15 MAR 25
	8-3-26	8.3.2.1.12.5	After Oceanic Entry	29 AUG 24
	8-3-27	8.3.2.1.12.6	Approaching Waypoints	29 AUG 24
	8-3-27	8.3.2.1.12.7	Waypoint Crossing	29 AUG 24
	8-3-28	8.3.2.1.12.8	10-Minutes after Waypoint Passage	29 AUG 24
	8-3-28	8.3.2.1.12.9	Midway between Waypoints	29 AUG 24
	8-3-28	8.3.2.1.12.10	Oceanic Exit	29 AUG 24
	8-3-28	8.3.2.1.12.11	Destination / Block In	29 AUG 24
	8-3-29	8.3.2.1.13	In-flight Contingencies and Emergencies in NAT HLA Airspace	29 AUG 24
	8-3-33	8.3.2.1.14	Special Procedures for In-flight Contingencies in NAT HLA	14 MAR 21
*	8-3-34	8.3.2.1.14.1	Loss or Sudden Withdrawal of Air Traffic Control Services in the NAT Region	15 MAR 25
*	8-3-37	8.3.2.1.15	Performance Based Communication and Surveillance (PBCS)	15 MAR 25
*	8-3-39	8.3.2.1.15.1	Required Reports	15 MAR 25
*	8-3-39	8.3.2.1.15.2	PBCS Monitoring	15 MAR 25
*	8-3-40	8.3.2.1.16	NAT GNSS Interference Procedures	15 MAR 25
	8-3-42	8.3.2.2	Performance-Based Navigation (PBN)	14 MAR 21
	8-3-42	8.3.2.3	General Navigation Procedures	20 FEB 24
	8-3-45	8.3.2.4	Contingency Procedures	14 MAR 21
	8-3-46	8.3.2.5	Future Air Navigation System (FANS)	14 MAR 21
	8-3-46	8.3.2.5.1	General	14 MAR 21
	8-3-46	8.3.2.5.2	Communication	14 MAR 21
	8-3-46	8.3.2.5.3	Navigation	14 MAR 21
	8-3-47	8.3.2.5.4	Surveillance	14 MAR 21
	8-3-47	8.3.2.5.5	Air Traffic Management (ATM)	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	8-3-69	8.3.10.9	Crosswind Operation	14 MAR 21
	8-3-69	8.3.10.10	Volcanic Ash Clouds	14 MAR 21
	8-3-69	8.3.10.10.1	Description of Hazard	14 MAR 21
	8-3-70	8.3.10.10.2	Ash Encounter Indicators and Effects	14 MAR 21
	8-3-70	8.3.10.10.3	Recommended Actions	14 MAR 21
	8-3-71	8.3.10.10.4	Flights in or into Areas where a Risk of the Presence of Volcanic Ash Clouds does Exist – Risk Assessment	29 AUG 24
	8-3-72	8.3.10.10.5	Information Promulgation	14 MAR 21
	8-3-72	8.3.10.10.5.1	Volcanic Ash Concentration Charts	14 DEC 22
	8-3-74	8.3.10.10.5.2	Volcanic Alert Level System	14 MAR 21
	8-3-74	8.3.10.10.6	Advice to the Flight Crew	14 MAR 21
	8-3-74	8.3.10.10.7	Report of Volcanic Ash Activity During Flight	14 MAR 21
	8-3-75	8.3.10.10.8	Records	14 MAR 21
	8-3-75	8.3.10.11	Heavy Precipitation	14 MAR 21
	8-3-75	8.3.10.12	Sand Storms	14 MAR 21
	8-3-76	8.3.10.13	Mountain Waves	14 MAR 21
	8-3-76	8.3.10.14	Significant Temperature Inversions	14 MAR 21
	8-3-76	8.3.10.15	Directional Control / Braking Assessment Criteria	20 FEB 24
	8-3-77	8.3.11	Wake Turbulence	14 MAR 21
	8-3-77	8.3.11.1	General	14 MAR 21
	8-3-79	8.3.11.2	Wake Turbulance Categories and Groups of Aircraft	14 MAR 21
	8-3-80	8.3.11.3	Distance-based Separation Minima Based on ATS Surveillance	14 MAR 21
	8-3-81	8.3.11.4	Time-based Wake Turbulence Longitudinal Separation Minima	14 MAR 21
	8-3-81	8.3.11.4.1	Applicability	14 MAR 21
	8-3-82	8.3.11.4.2	Arriving Aircraft	14 MAR 21
	8-3-82	8.3.11.4.3	Departing Aircraft	14 MAR 21
	8-3-84	8.3.11.4.4	Departing Aircraft - Take-off from Intermediate Part of the Runway	14 MAR 21
	8-3-85	8.3.11.4.5	Displaced Landing Threshold	14 MAR 21
	8-3-86	8.3.11.4.6	Opposite Direction	14 MAR 21
	8-3-88	8.3.11.5	RECAT-EU Wake Turbulence Separation	14 MAR 21
	8-3-90	8.3.12	Crew Members at their Stations	14 MAR 21
*	8-3-90	8.3.12.1	Controlled Rest on the Flight Deck	15 MAR 25
	8-3-91	8.3.12.2	Sterile Flight Deck	14 MAR 21
	8-3-91	8.3.13	Use of Safety Belts for Crew and Passengers	14 MAR 21
	8-3-91	8.3.13.1	Crew Members and Occupants of the Flight Deck	14 MAR 21
	8-3-92	8.3.13.2	Passengers	14 MAR 21
	8-3-92	8.3.13.3	“Fasten Seat Belt” Signs	14 MAR 21
	8-3-92	8.3.14	Flight Deck Related Items	14 MAR 21
	8-3-92	8.3.14.1	Admission to the Flight Deck	29 AUG 24
	8-3-94	8.3.14.2	Flight Deck Door Principles	14 MAR 21
	8-3-94	8.3.14.3	Drinks on the Flight Deck	14 MAR 21
	8-3-94	8.3.14.4	Reading on the Flight Deck	14 MAR 21
	8-3-95	8.3.14.5	Eating on the Flight Deck	14 DEC 22
	8-3-95	8.3.14.6	Using WIFI on the Flight Deck	20 FEB 24
	8-3-95	8.3.15	Use of Vacant Crew Seats	14 MAR 21
	8-3-95	8.3.15.1	Vacant Crew Seat on the Flight Deck	14 MAR 21
	8-3-96	8.3.16	Incapacitation of Crew Members	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	8-3-158	8.3.25.2	Qualification	14 MAR 21
	8-3-158	8.3.25.3	Procedures	14 MAR 21
	8-4-1	8.4	All Weather Operations	14 MAR 21
	8-5-1	8.5	Extended Diversion Time Operation (EDTO)	14 MAR 21
*	8-5-1	8.5.1	EDTO Operation	15 MAR 25
*	8-5-1	8.5.2	The EDTO Capability	15 MAR 25
	8-5-2	8.5.3	Equitime Point (ETP)	14 MAR 21
	8-5-3	8.5.4	EDTO Segment	14 MAR 21
	8-5-3	8.5.4.1	Monitoring Weather	29 AUG 24
	8-5-3	8.5.5	EDTO Entry Point (EEP) and Exit Point (EXP)	14 MAR 21
	8-5-3	8.5.6	EDTO Significant Systems	14 DEC 22
*	8-5-4	8.5.6.1	Verification Flight Procedures	15 MAR 25
	8-5-4	8.5.7	Granted EDTO Area of Operations	14 MAR 21
	8-5-4	8.5.7.1	Maximum Diversion Time	29 AUG 24
	8-5-4	8.5.7.2	Diversion Speeds One Engine Inoperative (OEI)	14 MAR 21
	8-5-4	8.5.7.3	Maximum Diversion Distance	14 MAR 21
	8-5-5	8.5.7.4	Area of Operations	14 MAR 21
	8-5-5	8.5.8	EDTO Critical Fuel	14 MAR 21
	8-5-6	8.5.9	Maintenance Release of an Aircraft for an EDTO Sector	14 MAR 21
	8-5-6	8.5.9.1	Re-grading to “NON-EDTO” Status	1 JUN 24
	8-5-6	8.5.10	EDTO Flight Dispatch	14 MAR 21
	8-5-7	8.5.10.1	EDTO Alternate Planning Weather Minima	29 AUG 24
	8-5-7	8.5.10.2	Validity Period	14 MAR 21
	8-5-8	8.5.11	EDTO In-Flight	14 MAR 21
	8-5-8	8.5.11.1	Before Passing the EEP	29 AUG 24
	8-5-8	8.5.11.2	After Passing the EEP	14 DEC 22
	8-5-9	8.5.11.3	Fuel Monitoring	14 MAR 21
	8-5-9	8.5.11.4	Diversion	1 JUN 24
	8-6-1	8.6	Use of the Minimum Equipment List(s) and the Configuration Deviation List(s)	14 MAR 21
	8-6-1	8.6.1	Minimum Equipment List (MEL)	1 JUN 24
*	8-6-2	8.6.1.1	MEL Procedures	15 MAR 25
	8-6-3	8.6.2	Configuration Deviation List (CDL)	14 MAR 21
	8-7-1	8.7	Non-Passenger-Revenue-Flights – Procedures and Limitations	14 MAR 21
	8-7-1	8.7.1	General	14 MAR 21
	8-7-1	8.7.1.1	Waivers and Additional Requirements	20 FEB 24
	8-7-2	8.7.1.2	Crew	14 MAR 21
	8-7-2	8.7.1.3	Passengers	14 MAR 21
	8-7-2	8.7.1.4	Flight Conduct	14 MAR 21
	8-7-3	8.7.1.5	Acceptance and Seating	14 MAR 21
	8-7-3	8.7.1.6	Aircraft Door Operation	14 MAR 21
	8-7-3	8.7.1.7	Passenger/Supernumeraries Briefing	14 MAR 21
	8-7-4	8.7.2	All Cargo Flights	1 JUN 24
	8-7-4	8.7.2.1	Definitions	1 JUN 24
	8-7-4	8.7.2.1.1	Supernumeraries and Passengers Restrictions and Requirements	29 AUG 24
	8-7-5	8.7.2.2	Dangerous Goods	1 JUN 24
	8-7-5	8.7.2.3	Safety Requirements – Supernumerary Area	1 JUN 24

	Page No.	Section No.	Section Title	Rev. Date
	8-7-6	8.7.2.4	Cabin and Main Deck Cargo Doors Operations	1 JUN 24
	8-7-6	8.7.2.5	Aircraft Fueling	1 JUN 24
	8-7-7	8.7.2.6	Smoking On Board	1 JUN 24
	8-7-7	8.7.3	Delivery Flights	14 MAR 21
	8-7-8	8.7.4	Positioning Flights	14 MAR 21
	8-7-8	8.7.5	Demonstration Flights	14 MAR 21
	8-7-8	8.7.6	Ferry Flights	14 MAR 21
	8-8-1	8.8	Oxygen Requirements	1 JUN 24
	8-8-1	8.8.1	First Aid Oxygen	14 MAR 21
	8-8-2	8.8.2	Supplemental Oxygen	14 MAR 21
	8-8-2	8.8.2.1	Oxygen Equipment and Supply Requirements	14 DEC 22
	8-8-4	8.8.3	Use of Oxygen Masks by Flight Crew Members	14 MAR 21
	8-8-4	8.8.4	Detailed Description of the Different Systems and the PBE	14 MAR 21
	8-9-1	8.9	Flight Monitoring	14 MAR 21
	8-9-1	8.9.1	Definitions	1 JUN 24
	8-9-2	8.9.2	Authority and Responsibility	14 MAR 21
	8-9-3	8.9.3	Tasks	14 MAR 21
	8-9-3	8.9.4	Dispatch Operations	14 MAR 21
	8-9-3	8.9.5	Reliable Meteorological and Airport Information	14 MAR 21
	8-9-4	8.9.6	Communication Systems	14 MAR 21
	8-9-4	8.9.7	Aircraft Tracking	29 AUG 24
	8-9-5	8.9.7.1	4D/15 Tracking Requirements	14 MAR 21
	8-9-5	8.9.7.2	Temporary Lack of Aircraft Tracking Data	14 MAR 21
*	8-10-1	8.10	Approved Airports, USA Special PIC Airports, Category B, C and Q Airports	15 MAR 25
	8-11-1	8.11	8.33 kHz Channel Spacing	14 MAR 21
	8-11-1	8.11.1	General	14 MAR 21
	8-11-1	8.11.2	Mandatory Carriage	14 MAR 21
	8-11-1	8.11.3	Aircraft Equipment	14 MAR 21
	8-11-1	8.11.4	Exemptions	14 MAR 21
	8-11-1	8.11.5	Flight Plan	14 MAR 21
	8-11-1	8.11.5.1	General Procedures	14 MAR 21
	8-11-2	8.11.6	Communication Failure	14 MAR 21
	8-11-2	8.11.7	Indication of VHF Communication Channels	14 MAR 21
	8-12-1	8.12	RVSM – Operational Procedures	14 MAR 21
	8-12-1	8.12.1	Area of Applicability	14 MAR 21
	8-12-2	8.12.2	Definitions	1 JUN 24
	8-12-3	8.12.3	Flight Planning	14 MAR 21
	8-12-4	8.12.4	Pre-flight Procedures at the Aircraft for Each Flight	14 DEC 22
	8-12-4	8.12.5	Prior to RVSM Airspace Entry	29 AUG 24
	8-12-5	8.12.6	In-Flight Procedures	14 MAR 21
	8-12-6	8.12.7	Post Flight	14 MAR 21
	8-12-6	8.12.8	Special Emphasis Items	14 MAR 21
	8-12-7	8.12.9	Contingency Procedures after Entering RVSM Airspace	14 MAR 21
	8-12-7	8.12.9.1	General	14 MAR 21
	8-12-7	8.12.9.2	Equipment Related	14 MAR 21
	8-12-7	8.12.9.3	Severe Turbulence	14 MAR 21

	Page No.	Section No.	Section Title	Rev. Date
	8-12-7	8.12.9.4	Severe Turbulence – Forecast	14 MAR 21
	8-12-8	8.12.9.5	Regional Procedures	14 MAR 21
	8-12-9	8.12.10	Phraseology	14 MAR 21
	8-12-10	8.12.11	References	14 MAR 21
	8-13-1	8.13	Passenger Injury / Illness / Death Report	14 MAR 21
	8-14-1	8.14	List of Approved Portable Oxygen Concentrators	14 MAR 21
	9-TOC-1	9	Dangerous Goods and Weapons	14 MAR 21
*	9-1-1	9.1	Definitions and Hazard Classes	15 MAR 25
*	1		Definitions	15 MAR 25
*	9-1-4	9.1.1	Information, Instructions and General Guidance on the Carriage of Dangerous Goods	15 MAR 25
	9-1-4	9.1.2	Operator’s Responsibility	14 MAR 21
*	9-1-5	9.1.3	General	15 MAR 25
*	9-1-6	9.1.4	Categories of Dangerous Goods	15 MAR 25
*	9-1-6	9.1.5	Forbidden Goods and Company Exceptions (Marked with *)	15 MAR 25
*	9-1-7	9.1.5.1	Shipping and Transport of Spare Parts (COMAT)	15 MAR 25
*	9-1-8	9.1.5.2	Dangerous Goods in EL AL's Property	15 MAR 25
*	9-1-9	9.1.5.3	Passenger Awareness on the Hazards of Lithium Batteries	15 MAR 25
*	9-1-9	9.1.5.4	Handling, Labelling, Stowage and Segregation of Dangerous Goods	15 MAR 25
*	9-1-9	9.1.5.4.1	Handling of Dangerous Goods	15 MAR 25
*	9-1-10	9.1.5.4.2	Dangerous Goods Acceptable as Cargo by EL AL	15 MAR 25
*	9-1-10	9.1.5.4.3	Labelling of Dangerous Goods	15 MAR 25
*	9-1-10	9.1.5.4.4	Segregation of Dangerous Goods	15 MAR 25
*	9-1-10	9.1.6	Dangerous Goods in Limited Quantities	15 MAR 25
*	9-1-10	9.1.7	Markings	15 MAR 25
*	9-1-10	9.1.8	Loading and Stowage of Dangerous Goods	15 MAR 25
*	9-1-11	9.1.8.1	Treatment of Dangerous Goods in the Cabin	15 MAR 25
*	9-1-12	9.1.9	Dangerous Goods Security	15 MAR 25
*	9-1-12	9.1.10	Information to the PIC and to the FOO	15 MAR 25
*	9-1-14	9.1.10.1	NOTOC Form	15 MAR 25
*	9-2-1	9.2	Hidden Dangerous Goods	15 MAR 25
*	9-3-1	9.3	Provisions for Dangerous Goods Carried by Passengers or Crew	15 MAR 25
*	9-3-3	9.3.1	Goods Acceptable with Operator Approval as Checked Baggage Only	15 MAR 25
*	9-3-3	9.3.1.1	Wheelchairs/Mobility Aids with Non-spillable Wet Batteries, Nickel-Metal Hydride Batteries or Dry Batteries	15 MAR 25
*	9-3-4	9.3.1.2	Wheelchairs/Mobility Aids with Spillable Batteries	15 MAR 25
*	9-3-5	9.3.1.3	Wheelchairs/Mobility Aids with Lithium Batteries	15 MAR 25
*	9-3-6	9.3.1.4	Security-Type Equipment	15 MAR 25
*	9-3-7	9.3.2	Goods Acceptable with Operator Approval as Carry-on Baggage Only	15 MAR 25
*	9-3-7	9.3.2.1	Mercury Barometer or Thermometer	15 MAR 25
*	9-3-7	9.3.2.2	Spare Lithium Batteries	15 MAR 25
*	9-3-7	9.3.3	Goods Acceptable with Operator Approval as Baggage	15 MAR 25
*	9-3-8	9.3.3.1	Medical Oxygen	15 MAR 25
*	9-3-8	9.3.3.2	Small Non-flammable Gas Cartridges	15 MAR 25
*	9-3-8	9.3.3.3	One Avalanche Rescue Backpack	15 MAR 25
*	9-3-8	9.3.3.4	Chemical Agent Monitoring Equipment	15 MAR 25
*	9-3-9	9.3.3.5	Carbon Dioxide	15 MAR 25

	Page No.	Section No.	Section Title	Rev. Date
*	9-3-9	9.3.3.6	Lithium Battery-powered Electronic Devices	15 MAR 25
*	9-3-9	9.3.4	Dangerous Goods Acceptable without the Approval of the Operator	15 MAR 25
*	9-3-9	9.3.4.1	Medicinal or Toiletry Articles and Aerosols in Division 2.2	15 MAR 25
*	9-3-10	9.3.4.2	Aerosols in Division 2.2	15 MAR 25
*	9-3-10	9.3.4.3	Cylinders for Mechanical Limbs	15 MAR 25
*	9-3-10	9.3.4.4	Cardiac Pacemakers/Radio-pharmaceuticals	15 MAR 25
*	9-3-10	9.3.4.5	Medical/Clinical Thermometer	15 MAR 25
*	9-3-10	9.3.4.6	Safety Matches or Cigarette Lighter	15 MAR 25
*	9-3-10	9.3.4.7	Alcoholic Beverages	15 MAR 25
*	9-3-11	9.3.4.8	Hair Styling Equipment	15 MAR 25
*	9-3-11	9.3.4.9	Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries	15 MAR 25
*	9-3-12	9.3.4.10	Fuel Cells Contained in Portable Electronic Devices	15 MAR 25
*	9-3-13	9.3.4.11	Insulated Packages Containing Refrigerated Liquid Nitrogen (Dry Shipper)	15 MAR 25
*	9-3-13	9.3.4.12	Portable Electronic Devices Containing Non-spillable Batteries	15 MAR 25
*	9-3-14	9.3.4.13	Non-Infectious Specimens Packed with Small Quantities of Flammable Liquids	15 MAR 25
*	9-3-14	9.3.4.14	Internal Combustion or Fuel Cell Engines	15 MAR 25
*	9-3-14	9.3.4.15	Permeation Devices	15 MAR 25
*	9-3-15	9.3.4.16	Classification of Articles Containing Dangerous Goods	15 MAR 25
*	9-4-1	9.4	Training	15 MAR 25
*	9-4-1	9.4.1	Training of Crew Members and Ground Staff for Handling Dangerous Goods	15 MAR 25
*	9-5-1	9.5	DG Related Emergencies	15 MAR 25
*	9-5-1	9.5.1	Procedures for Responding to Emergency Situations or Incidents Involving Dangerous Goods	15 MAR 25
*	9-5-2	9.5.2	Dangerous Goods Occurrence Report	15 MAR 25
*	9-5-2	9.5.3	Undeclared or Mis-declared Dangerous Goods	15 MAR 25
*	9-6-1	9.6	Carriage of Weapons, Munitions of War and Sporting Weapons – Conditions of Carriage	15 MAR 25
	10-TOC-1	10	Security	14 MAR 21
	10-1-1	10.1	Definitions	1 JUN 24
	10-2-1	10.2	General	14 MAR 21
	10-2-1	10.2.1	Authority and Responsibilities: Authority of the PIC	14 MAR 21
	10-2-1	10.2.2	Crime on Board	29 AUG 24
	10-2-2	10.2.3	Sabotage	14 MAR 21
	10-2-2	10.2.4	Communication with Ground Security — Passenger Flights	14 MAR 21
	10-2-2	10.2.5	Acts of Unlawful Interference	14 MAR 21
	10-2-2	10.2.6	Reporting	1 JUN 24
	10-2-2	10.2.7	Unplanned Landing — Passenger Aircraft	14 MAR 21
	10-2-3	10.2.8	Unplanned Landing — Cargo Aircraft	14 MAR 21
	10-3-1	10.3	Preventative Measures	14 MAR 21
	10-3-1	10.3.1	General	14 MAR 21
	10-3-1	10.3.1.1	In-flight Security Inspections	14 MAR 21
	10-3-1	10.3.2	Company Permits	14 MAR 21
	10-3-1	10.3.3	Supervision of Aircraft Cleaning	14 MAR 21
	10-3-1	10.3.4	Access to the Aircraft	14 MAR 21
	10-3-2	10.3.5	Security Check	29 AUG 24

	Page No.	Section No.	Section Title	Rev. Date
	10-3-2	10.3.6	Passenger Count	14 MAR 21
	10-3-2	10.3.7	Flight Deck Door Procedures	14 MAR 21
*	10-3-2	10.3.7.1	Closing and Locking of Flight Deck Door	15 MAR 25
	10-3-3	10.3.7.2	Entering and Exiting the Flight Deck after the Door has been Locked	14 MAR 21
	10-3-3	10.3.8	Visitors to the Flight Deck During Flight	14 MAR 21
	10-3-3	10.3.8.1	Filming Inside the Cockpit	14 MAR 21
	10-4-1	10.4	Disruptive/Unruly Passengers	14 MAR 21
	10-4-1	10.4.1	Definitions	29 AUG 24
	10-4-2	10.4.2	Categorization of Incidents	14 MAR 21
	10-4-2	10.4.3	Background	14 MAR 21
	10-4-2	10.4.4	Policy	14 MAR 21
	10-4-3	10.4.4.1	Sexual Harassment	14 MAR 21
	10-4-3	10.4.5	Before Boarding	14 MAR 21
	10-4-3	10.4.6	During and After Embarkation	20 FEB 24
	10-4-4	10.4.7	During Taxi	5 MAY 23
	10-4-4	10.4.8	During Flight	29 AUG 24
	10-4-5	10.4.8.1	Enforcement of Civil Offenses	29 AUG 24
	10-5-1	10.5	Threats Against Aircraft	14 MAR 21
	10-5-1	10.5.1	General	14 MAR 21
	10-5-1	10.5.2	Threat on Ground	14 MAR 21
	10-5-1	10.5.3	Bomb Threat during Flight	5 MAY 23
	10-5-2	10.5.4	Suspicious Objects	14 MAR 21
	10-6-1	10.6	Hijacking	14 MAR 21
	10-6-1	10.6.1	Hijacker on the Flight Deck	14 MAR 21
	10-7-1	10.7	Crew Member Security	14 MAR 21
	10-7-1	10.7.1	General	14 MAR 21
	10-7-1	10.7.2	Hotels	14 MAR 21
	10-7-1	10.7.3	Crew Transport	14 MAR 21
	10-8-1	10.8	Appendix	14 MAR 21
	10-8-1	10.8.1	Violent Passenger Report	14 MAR 21
	10-8-2	10.8.2	Warning Form	14 MAR 21
	11-TOC-1	11	Handling, Notifying and Reporting Occurrences	14 MAR 21
	11-1-1	11.1	General	29 AUG 24
*	11-1-1	11.1.1	Flight Resumption after an Accident / Incident	15 MAR 25
	11-2-1	11.2	Definitions	1 JUN 24
*	11-3-1	11.3	Accident - Notification and Responsibilities	15 MAR 25
	11-4-1	11.4	Safety Occurrences	14 MAR 21
	11-4-1	11.4.1	General	14 MAR 21
*	11-4-1	11.4.2	Notification and Reporting	15 MAR 25
	11-4-5	11.4.3	Reportable Occurrences	14 DEC 22
	11-5-1	11.5	Occurrence Combined with the Carriage of Dangerous Goods	14 MAR 21
	11-5-1	11.5.1	Removal of Contamination	14 MAR 21
	11-6-1	11.6	Forms	29 AUG 24
	12-TOC-1	12	Rules of the Air	14 MAR 21
	12-1-1	12.1	Presentation	14 MAR 21
	13-TOC-1	13	Leasing	14 MAR 21

Page No.	Section No.	Section Title	Rev. Date
13-1-1	13.1	Introduction	14 MAR 21
13-1-1	13.1.1	Definition	1 JUN 24
13-1-1	13.1.2	Leasing of Aircraft	14 MAR 21
13-2-1	13.2	Wet Lease In	14 MAR 21
13-3-1	13.3	Wet Lease Out	5 MAY 23
14-TOC-1	14	Functional Check Flights	14 MAR 21
14-1-1	14.1	Functional Check Flight Types	14 MAR 21
14-1-1	14.1.1	Test FCF	14 MAR 21
14-1-1	14.1.2	Acceptance / Demonstration FCF	14 MAR 21
14-1-1	14.1.3	Experimental Test FCF	14 MAR 21
14-2-1	14.2	FCF Operation	20 FEB 24
14-2-1	14.2.1	Persons on Board	20 FEB 24
14-2-1	14.2.2	Flight Test Areas	14 MAR 21
14-2-1	14.2.3	Operating Rules	14 MAR 21
14-2-1	14.2.4	Sortie Manager	14 MAR 21

TABLE OF CONTENTS

14 Functional Check Flights

ABBREVIATIONS

Revision: 19 - 14 MAR 21

A/C	Aircraft/Air Conditioning
A/D	Airport
A/G	Air/Ground
A/I	Anti-ice
A/P	Autopilot
A/S	Airspeed
A/T	Autothrottle
AAL	Above Airport Level
ABP	Able Bodied Passenger
AC	Alternate Current
ACARS	Aircraft Communications Addressing and Reporting System
ACAS	Airborne Collision Avoidance System
ACAS II	Airborne Collision Avoidance System II
ACC	Area Control Centre
ACJ	Advisory Circular Joint
ADC	Air Data Computer
ADF	Automatic Direction Finding/Finder
ADI	Attitude Director Indicator
ADREP	Accident/Incident Reporting System
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance - Broadcast
ADS-C	Automatic Dependent Surveillance - Contract
ADS-C	Automatic Dependent Surveillance - Contract (same as ADS-A)
AEA	Association of European Airlines
AFCS	Automatic Flight Control System
AFIS	Airport Flight Information Service
AFM	Aircraft Flight Manual (or aircraft Flight Manual)
AFN	ATS Facilities Notification
AFS	Auto Flight System
AFT	Rear

AFTN	Aeronautical Fixed Telecommunication Network
AGL	Above Ground Level
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIREP	Air Report
AIS	Aeronautical Information Service
ALAP	Aerodrome Landing Analysis Programme
ALD	Actual Landing Distance
ALM	Above Landing Minima
ALS	Approach Lighting System
AMC	Acceptable Means of Compliance
AMC	Aeromedical Centre, Aviation Medical Centre
AME	Aviation Medical Examiner
AMM	Aircraft Maintenance Manual
AMO	Approved Maintenance Organization
AMS	Aeromedical Section
AMSL	Above Mean Sea Level
ANR	Israel Air Navigation Regulations
ANS	Air Navigation Services
AOC	Air Operator's Certificate
AOC	Airline Operational Centre
AOM	Airport Operating Minima
AOV	Area of Vulnerability
APP	Approach
APS	Accident Prevention Specialist
APU	Auxiliary Power Unit
APV	Approach Procedure with Vertical Guidance
ARINC	Aeronautical Radio Incorporated
ARPT	Airport
ASC	Airport Suitability Check
ASD	Accelerate Stop Distance
ASDA	Accelerate Stop Distance Available

ASEPS	Advanced Surveillance-Enabled Separation
ASHTAM	Special series NOTAM notifying a change in activity of a volcano, a volcanic eruption and/or volcanic ash cloud that is of significance to aircraft operations
ASI	Airspeed Indicator
ASR	Air Safety Report
ASU	Air Start Unit
ATA	Actual Time of Arrival
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATIS	Automatic Terminal Information Service
ATL	Aircraft Technical Log
ATM	Air Traffic Management
ATO	Actual Time Over
ATP	Airline Transport Pilot
ATPL	Airline Transport Pilot Licence
ATS	Air Traffic Services
ATSU	Air Traffic Service Unit
AVGAS	Aviation Gasoline
AVT	Audio Visual Training
AWM	Airway Manual
AWO	All Weather Operations
BAM	Below Alternate Minima
BC	Back Course
BCF	Bromochlorodiflouromethane (=Halon)
BECMG	Becoming (METAR code)
BKN	Broken
BL	Blank (Intentionally)
BLM	Below Landing Minima
C	Celsius (Temperature)
C/C	Cabin Crew
CAA	Civil Aviation Authority
CAAI	Civil Aviation Authority - Israel

CAME	Continuing Airworthiness Management Exposition
CAMO	Continuing Airworthiness Management Organisation
CAO	Cargo Aircraft Only
CAPT	Captain
CAPT-RHS	Captain with Right Hand Seat qualification (“RHS Check” in EFOS)
CAT	Category
CAT	Clear Air Turbulence (METAR code)
CAT I	Category I Landing Aerodrome Operating Minima (DH 200 feet and above, RVR 550 metres and above)
CAT I, II, III	Category I, II, III All Weather Operations
CAVOK	Ceiling and Visibility OK
CB	Cumulonimbus
CB(s)	Circuit Breaker(s)
CBT	Computer-Based Training
CCA	Check Cabin Attendant
CCM	Cabin Crew Member
CDFA	Continuous Descent Final Approach
CDL	Configuration Deviation List
CDM	Collaborative Decision Making
CDU	Control and Display Unit
CEO	Chief Executive Officer
CFI	Certified Flight Instructor
CFIT	Controlled Flight Into Terrain
CFMU	Central Flow Management Unit
CFSM	Cabin Flight Safety Manual
CFT	Certificated Flight Trainer
CG	Centre of Gravity
CIS	Crew Information Sheet
CL	Centreline
CL	Centreline Lights
CLC	Centralized Load Control
CM	Crew Member

CM	Centimeter
CMA	Company Medical Advisor
CMD	Command
CMDR	Commander
CMPTR	Computer
CMV	Converted Meteorological Visibility
CNS/ATM	Communications, Navigation and Surveillance/Air Traffic Management
CO_2	Carbon Dioxide
COM	Communications/-Equipment
COMAT	Company Material
CP	Co-pilot
CPDLC	Controller Pilot Data Link Communication
CPDM	Chief Pilot Division Manual
CPL	Commercial Pilot Licence
CPR	Cardiopulmonary Resuscitation
CPS	Chief Pilot and Director of Standards Division
CPT	Cockpit Procedures Trainer
CRD	Child Restrain Device
CRM	Crew Resource Management
CS	Certification Specifications
CSD	Constant Speed Drive
CSI	Cabin Service Instructor
CSOM	Chief Steward Operations Manual
CST	Cabin and Safety Trainer
CTL	Cabin Technical Log
CVR	Cockpit Voice Recorder
CWS	Control Wheel Steering
DA/H	Decision Altitude/Height
DC	Direct Current
DDG	Dispatch Deviation Guide
DDM	Dispatch Deviation Manual
DDPG	Dispatch Deviations Procedures Guide

DEG	Degree(s)
DEP	Direct Entry Pilots
DEPT	Department
DEV	Deviation
DFDR	Digital Flight Data Recorder
DGR	Dangerous Goods Regulations
DH	Decision Height
DHOA	Dead Head Own Account
DIST	Distance
DME	Distance Measuring Equipment
DMO	Designated Medical Officer
DOC	Document
DOI	Dry Operating Index
DOM	Dry Operating Mass
DRM	Dispatch Resource Management
EADI	Electronic Attitude Deviation Indicator
EAS	Equivalent Airspeed
EASA	European Union Aviation Safety Agency
EC	European Community
ECAC	European Civil Aviation Conference
EDP	Electronic Data Processing
EDTO	Extended Diversion Time Operation
EFB	Electronic Flight Bag
EFF	Electronic Flight Folder
EFI	Electronic Flight Instruments
EFIS	Electronic Flight Instrument System
EFOS	Electronic Flight Operations System
EGT	Exhaust Gas Temperature
EHSI	Electronic Horizontal Situation Indicator
EIS	Engine Instrument System
ELEC	Electrical, Electronical
ELEV	Elevator

ELT	Emergency Locator Transmitter
EMBD	CBs embedded in layers of other clouds or concealed by haze
ENG	Engine
ETA	Estimated Time of Arrival
ETO	Estimated Time Over
ETP	Equal Time Point
EUR/NAT	Europe and North Atlantic
EVS	Enhanced Vision System
F	Degrees Fahrenheit
F/D	Flight Director
F/O	First Officer
FAA	Federal Aviation Administration
FAA	Federal Aviation Administration (USA)
FAF	Final Approach Fix
FANS	Future Air Navigation System
FBS	Fixed Base Simulator
FCC	Flight Control Computer
FCF	Functional Check Flight(s)
FCL	Flight Crew Licensing
FCOM	Flight Crew Operations Manual
FCT	Flight Crew Training
FCTM	Flight Crew Training Manual
FCU	Fuel Control Unit
FDP	Flying Duty Period
FDR	Flight Data Recorder
FDS	Flight Data System
FFS	Full Flight Simulator
FIC	Flight Information Centre
FIR	Flight Information Region
FIS	Flight Information Service
FL	Flight Level
FLAR	Flight Log and Aircraft Release

FLAS	Flight Level Allocation Scheme
FLT	Flight
FMA	Flight Mode Annunciations
FMC	Flight Management Computer
FMCS	Flight Management Computer System
FMS	Flight Management System
FNPT	Flight and Navigation Procedures Trainer
FOB	Fuel On Board (Endurance)
FOO	Flight Operations Officer
FPM	Feet per Minute
FR	Flight Report
FRMS	Fatigue Risk Management System
FRQ	Frequent CBs with little or no separation
FS	Flight Simulator
FSM	Flight Safety Manual
ft	Feet
FTD	Flight Training Device
FTL	Flight Time Limitations
FTO	Flight Training Organisation
G	Gusts
G/B(s)	Generator Breaker(s)
G/S	Glideslope
GA	Go-around
GAL	Gallon
GBAS	Ground-Based Augmentation System
GEN	Generator
GenDec	General Declaration
GHS	Globally Harmonized System
GLS	Ground Based Augmentation System [GBAS] Landing System
GLS	GNSS Landing System
GMT	Greenwich Mean Time (equal to UTC)
GND	Ground

GNSS	Global Navigation Satellite System
GOM	Ground Operations Manual
GPS	Global Positioning System
GPU	Ground Power Unit
GPWS	Ground Proximity Warning System
GRF	Global Reporting Format
GS	Ground Speed
GW	Gross Mass
H	Heavy
H/W	Headwind
HAA	Height Above Airport
HAT	Height Above Touchdown/Threshold
HF	High Frequency
HI	High Intensity Light
HIRL	High Intensity Runway Lights
HLA	High Level Airspace
HP; H/P	Handling Pilot
hPa	Hectopascal
hrs	Hours
HSI	Horizontal Situation Indicator
HUD	Head-up Display
HUDLS	Head-up Display Landing System
HUDLS	Head-up Guidance Landing System
i.e.	Id Est
I/C	Intercom
IAF	Initial Approach Fix
IAL	Instrument Approach and Landing Chart
IANR	Israel Air Navigation Regulations
IAS	Indicated Airspeed
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICE	Dry Ice

ICUS	In Command Under Supervision
ID	Identity (number)
ID	Industry Discount
IDG	Independent Drive Generator
IE	Immediate Effective
IEM	Interpretative and Explanatory Material
IEP	Intermediate Entry Pilot
IFPS	Integrated Flight Planning System
IFR	Instrument Flight Rules
IGN	Ignition
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
in	Inch(es)
IN2	Square Inch
INAD	Inadmissible
Incl	Including
INOP	Inoperative
INST(s)	Instrument(s)
INT	Interphone
Intr	Introduction
IOE	Initial Operating Experience
IOSA	IATA Operational Safety Audit
IRP	In-flight Re-planning Point
IRS	Inertial Reference System
IRU	Inertial Reference Unit
ISA	International Standard Atmosphere
ISA	Individual Safety Assignment
ISM	In-flight Safety/Service Manager
ISO	International Standard Organization
ISOL	Individual, isolated CBs
ITCZ	Intertropical Convergence Zone
IVSI	Instantaneous Vertical Speed Indicator

JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirement(s)
JAR-AWO	Joint Aviation Requirements – All-Weather Operations
JDM	Jeppesen Distribution Manager
KCAS	Knots Calibrated Airspeed
KG(s)	Kilogram(mes)
kg/Kg/KG	Kilogram
KGPH	Kilogramme(s) Per Hour
KIAS	Knots Indicated Airspeed
km	Kilometers
KM	Kilometres
km/h	Kilometers Per Hour
kPA	Kilopascal
kt	Knot
KTS/kts	Knots
L	Light
L (LTR)	Liter
L/H	Left Hand
LAW	Landing Mass/Weight
LBC	List Booked for Crew
LBS	Pounds
LC	Line Check
LCT	Line Continuation Training
LD	Landing Distance
LDA	Landing Distance Available
LDF	Landing Distance Factor
LDG	Landing
LDTA	Landing Distance at Time of Arrival
LEP	List of Effective Pages
LFUS	Line Flying Under Supervision
LGW	Landing Gross Mass
LHS	Left Hand Seat

LIDO	Lufthansa Integrated Dispatch Operation
LITOW	Loaded Index Take-off Mass
LIZFW	Loaded Index Zero Fuel Mass
LLZ	Localizer
LMC	Last Minute Change
LMM	Locator Middle Marker
LNAV	Lateral Navigation
LOC	Localiser
LOFST	Line Orientated Flight Safety Training
LOFT	Line-oriented Flight Training
LOM	Locator Outer Marker
LOUT	Lowest Operational Use Temperature
LQC	Line Qualification Check
LRC	Long Range Cruise
LTRS	Liters
LVO	Low Visibility Operations
LVP	Low Visibility Procedures
LVTO	Low Visibility Take-off
m	Metric, metres
M	Medium
m or mt	Metre(s)
MAC	Mean Aerodynamic Chord
MAG	Magnetic, Magnetized
MAINT	Maintenance
MALS	Medium Intensity Approach Lighting System
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MAP	Aeronautical Maps and Charts
MAP	Missed Approach Point
MAPt	Missed Approach Point
MASPS	Minimum Aircraft System Performance Specification
MAX	Maximum

MB	Millibar
MCA	Minimum Control Speed Air
MCC	Multi-crew Cooperation
MCG	Minimum Control Speed Ground
MCM	Maintenance Control Manual
MCP	Mode Control Panel
MDA/H	Minimum Descent Altitude/Height
MEA	Minimum En-route Altitude
MEA	Minimum En-route IFR Altitude
MEL	Minimum Equipment List
MET	Meteorological, Meteorology
MET	Meteorological (Office)
METAR	Aviation Routine Weather Report
MFA	Minimum Flight Altitude
MFF	Mixed Fleet Flying
MGA	Minimum Grid Altitude
MHz	Megahertz
MI	Medium Intensity (lights)
MIL	Military
MIN	Minimum
MLM	Maximum Landing Mass (Structural Limit)
MLS	Microwave Landing System
MLW	Maximum Landing Mass
MM	Middle Marker
MMEL	Master Minimum Equipment List
MMO	Maximum Operating Speed in Mach Number
MNPS	Minimum Navigation Performance Specifications
MOCA	Minimum Obstruction Clearance Altitude
MORA	Minimum Off-route Altitude
MPSC	Maximum Passenger Seat Configuration
MRA	Minimum Reception Altitude
MRS	Minimum Radar Separation

MRVA	Minimum Radar Vectoring Altitude
MSA	Minimum Sector Altitude
MSA	Minimum Safe Altitude
MSL	Mean Sea Level
MTOM	Maximum Take-off Mass (Structural Limit)
MTOW	Maximum Take-off Mass (Structural Limit)
MVA	Minimum Vectoring Altitude
MZFM	Maximum Zero Fuel Mass
N	Norway
N/A	Not Applicable, Not Available
N1	Low Pressure Compressor
N2	High/Intermediate Pressure Compressor
NAA	National Aviation Authority
NAT	North Atlantic (region)
NAT HLA	North Atlantic High Level Airspace (formerly known as MNPSA)
NAV	Navigation
NAVAID	Navigational Aid
NDB	Non-directional Beacon
NFP	Net Flight Path
NHP	Non-handling Pilot
NIL	No Items Listed (Nothing)
NM	Nautical Mile
No	Number
NOTAM	Notice to Air Mission
NOTAM	Notice to Airmen
NOTOC	Special Load Notification To Captain
NPA	Non-Precision Approach
NSC	No Significant Clouds
NSW	No Significant Weather
NTPD	Normal Temperature, Pressure, Dry, i.e. 21 °C, 760 mmHg and no water vapor.
O_2	Oxygen

OAS	Obstacle Assessment Surface
OAT	Outside Air Temperature
OBS	Observer
OCA	Oceanic Control Area
OCA/H	Obstacle Clearance Altitude/Height
OCC	Operations Control Centre
OCH	Obstacle Clearance Height
OCL	Obstruction Clearance Limit
OCNL	Well separated, occasional CBs
OFP	Operational Flight Plan
OM	Operations Manual
OM	Outer Marker
OM Part B	Operations Manual Part B
OPC	Operator Proficiency Check
OPS	Operations
OPT	Onboard Performance Tool
OSG	Operation Standard Group
OTS	Organized Track System (over the North Atlantic)
OVC	Overcast
OWE	Operating Mass Empty
OXY	Oxygen
P/C	Pressure Correction
PA	Public/Passenger Address System
PANS OPS	Procedures for Air Navigation Services – Aircraft Operations (ICAO Doc 8168)
PAR	Precision Approach Radar
PASS	Passenger
PAX	Passenger(s)
PBE	Protective Breathing Equipment
PCN	Pavement Classification Number
PCU	Power Control Unit
PEM	Performance Engineer Manual

PET	Point of Equal Time
PF	Pilot Flying
PFC	Porous Friction Course
PIC	Pilot-in-Command
PIREP	Pilot In-flight Weather Report
PL	Payload
PLC	Passenger Locator Card
PM	Pilot Monitoring
PMC	Performance Management Computer
PMED	Portable Medical Electronic Device(s)
PNF	Pilot Non-Flying
POC	Portable Oxygen Concentrator
POH	Pilot's Operating Handbook
POI	Principal Operation Inspector
PRM	Person(s) of Reduced Mobility
PRM	Precision Runway Monitor System
PROB	Probably
PSI	Pounds per Square Inch
PSU	Passenger Service Unit
Pt	Pint
PT	Procedures Training
PTO	Planned Time Over
PTU	Power Transfer Unit
QA	Quality Assurance
QAR	Quick Access Recorder
QDM	Magnetic Heading (Zero Wind)
QFE	Height above Airport Elevation (Based on local station pressure)
QM	Quality Manager
QMM	Quality Management Manual
QMS	Quality Management System
QNH	Altitude above Sea Level (Based on local station pressure)
Qt	Quart

QTY	Quantity
R/H	Right Hand
R/T	Radio-transmit
RA	Radio Altimeter Setting Height
RA	Resolution Advisory (TCAS)
RAC	Air Traffic Routes and Services
RAIM	Receiver Autonomous Integrity Monitoring
RCAM	Runway Condition Assessment Matrix
RCF	Reduced Contingency Fuel
RCL	Restricted Cryogenic Liquid
RCL	Deeply Refrigerated Gas
RCLL	Runway Centre Line Lights
RCLM	Runway Centreline Marking
RCLS	Runway Centreline Light System
RCM	Corrosive Material
RCR	Runway Condition Report
RDMI	Radio Distance Magnetic Indicators
RECIR	Recirculation
Ref	Refer to
REG	Registration
REIL	Runway End Indicator Lights
REP	Reported
REQ	Required, Requirement
RES	Reserve
REV	Revision
RFF	Rescue and Fire Fighting
RFFS	Rescue and Fire Fighting Service (Category)
RFG	Flammable Gas
RFL	Flammable Liquid
RFS	Flammable Solid
RFW	Substances which in contact with water emit Flammable Gases
RHS	Right Hand Seat or Side

RIS	Infectious Substance(s)
RLAW	Regulated Landing Mass
RLD	Required Landing Distance
RM	Route Manual
RMD	Miscellaneous Dangerous Goods
RMZ	Radio Mandatory Zone
RNAV	Area Navigation
RNG	Non-flammable Non-toxic Gas
RNP	Required Navigation Performance
ROP	Organic Peroxide
RoR	Record of Revisions
ROX	Oxidizing Substances
RPB	Poisonous (Toxic) Substances
RPG	Toxic Gas
RRW	Radioactive Material, Category I-white
RRY	Radioactive Material, Categories II and III-yellow
RSB	Polystyrene (Polymeric) Beads or Granules
RSC	Substances liable to Spontaneous Combustion
RTC	Route Training Captain
RTO	Rejected Take-off
RTOW/M	Regulated Take-off Weight (Mass)
RUD	Rudder
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minima
RWYCC	Runway Condition Code
RZFW	Regulated Zero Fuel Weight
S/N	Serial Number
SAE	Society of Automotive Engineers
SAG	Safety Action Group
SAGHA	Safety Action Group Ad-Hoc
SAp	Stabilized Approach
SAR	Search and Rescue

SARPs	Standards and Recommended Practices (ICAO)
SAT	Static Air Temperature
SBAS	Satellite-based Augmentation System
SCT	Scattered
SELCAL	Selective Calling System
SEP	Safety Equipment and Procedures
SFE	Synthetic Flight Examiner
SG	Symbol Generator
SG	Specific Gravity
SIC	Second-in-Command
SID	Standard Instrument Departure Route
SIGMET	Significant Meteorological Information
SIM	Simulator
SITA	Société Internationale de Télécommunications Aeronautiques
SKC	Sky Clear
SM	Statute Mile(s)
SMM	Safety Management Manual
SMS	Safety Management System
SNOWTAM	Snow Notice to Airmen
SOE	Supervised Operating Experience
SOP	Standard Operating Procedure(s)
SPECI	Special Report Amending a METAR
SPIC	Student Pilot-in-Command
SRA	Surveillance Radar Approach
SRE	Surveillance Radar Equipment
SRE	Surveillance Radar Element
SSA	Sector Safe Altitude
SSALS	Simplified Short Approach Lighting System
SSALSR	Simplified Short Approach Light System with Runway Alignment Indicator Lights
SSEC	Static Source Error Correction
SSR	Secondary Surveillance Radar

STA	Scheduled Time of Arrival
STAR	Standard Terminal Arrival Route
STCR	Stretcher Passenger
STD	Standard
STD	Standard Time of Departure
STD	Synthetic Training Devices
STPD	Standard Temperature Pressure Dry
T/C	Top of Climb
T/D	Top of Descent
T/O	Take-off
T/W	Tailwind
TA	Traffic Advisory (TCAS)
TAF	Terminal/Airport Forecast
TAG	Trans-Cockpit Authority Gradient
TAI	Thermal Anti-ice
TALPA ARC	Take-off and Landing Performance Assessment Aviation Rulemaking Committee
TAS	True Air Speed
TAT	Total Air Temperature
TAWS	Terrain Awareness Warning System
TCAS	Traffic (Alert and) Collision Avoidance System
TCU	Towering Cumulus
TDA	Temporary Danger Area
TDZ	Touchdown Zone
TDZL	Touchdown Zone Light
TEL	Telephone
TEM	Threat and Error Management
TEMPO	Temporary
TERPS	United States Standard for Terminal Instrument Procedure
TGL	Temporary Guidance Leaflet
TI	Transport Index
TL	Transition Level

TLB	Technical Log Book
TLC	Three-Letter-Code
TLD	Tailored (customized) Pages
TM	Training Manual
TMA	Terminal Control Area
TO	Take-off
TO/GA	Take-off/Go-around
TOB	Total On Board
ToC	Table of Contents
TOC	Top of Climb
TOD	Top of Descent
TOD	Take-off Distance
TODA	Take-off Distance Available
TOR	Take-off Run
TORA	Take-off Run Available
TOW/M	Take-Off Weight/Mass
TRE	Type Rating Examiner
TRI	Type Rating Instructor
TSO	Technical Standard Order
TURB	Turbulence
TURBL	Turbulence
TVOR	Terminal VOR
TWR	(Airport Control) Tower
TXY	Taxiway
U/S	Under Supervision or Unserviceable (Unusable)
U/T (u/t)	Under Training
UAD	Upper Air Data Chart
UK	United Kingdom
ULD	Unit Load Devices
UM	Unaccompanied Minor
UN	United Nations

UN/ID	UN numbers or UN IDs are four-digit numbers that identify hazardous substances, and articles (such as explosives, flammable liquids, toxic substances, etc.) in the framework of international transport.
UPK	Universal Precaution Kit
UPRT	Upset Prevention and Recovery Training
UTC	Universal Time Coordinated
V	Speed
V/S	Vertical Speed
V_1	Take-off Decision Speed
V_2	Scheduled Target Speed
V_2MIN	Minimum Take-off Safety Speed
V_3	Steady Initial Climb Speed with All Engines Operating
VAA	Volcanic Ash Advisory
VAAC	Volcanic Ash Advisory Centre
VASI	Visual Angle System Indicator
VB	Design Speed for Maximum Gust Intensity
VC	Design Cruise Speed
VD	Design Diving Speed
VD / MD	Design Diving Speed
VDF	VHF Direction Finding Equipment
VERT	Vertical
VF	Design Flap Speed
VF1	Design Flap Speed for Procedure Flight Conditions
VFC / MFC	Maximum Speed for Stability Characteristics
VFE	Maximum Flap Extended Speed
VFR	Visual Flight Rules
VFTO	Final Take-off Speed
VH	Maximum Speed in Level Flight with Maximum Continuous Power
VHF	Very High Frequency (30 to 300 MHz)
VIS	Visibility
VLE	Maximum Landing Gear Extended Speed
VLO	Maximum Landing Gear Operating Speed
VLOF	Lift-off Speed

VLV	Valve
VMC	Visual Meteorological Conditions
VMC	Minimum Control Speed
VMCA	The Minimum Control Speed, Take-off Climb
VMCG	Minimum Control Speed on the Ground
VMCL	The Minimum Control Speed, Approach and Landing
VMO	Maximum Operating Speed
VMU	Minimum Unstick Speed
VNAV	Vertical Navigation
VNE	Never Exceed Speed
VOR	VHF Omni-directional Radio Range
VOR	VHF (Very High Frequency) Omnirange Station
VOR LOC	VOR Localiser
VORTAC	VOR and TACAN Co-located
VPT	Visual Maneuvering with Prescribed Tracks
VR	Voice Recorder
VR	Rotation Speed
VRA	Rough Air Speed (Turbulence Penetration Speed)
VREF	Reference Speed (Knots)
VREF	Reference Landing Speed
VS	The stall speed or the minimum steady flight speed at which the aeroplane is controllable
VS1	Stalling Speed or Minimum Steady Flight Speed obtained in a Specific Configuration
VS1G	The One-G Stall Speed at which the Aircraft can Develop a Lift Force (Normal to the Flight Path) Equal to its Mass
VSI	Vertical Speed Indicator
VSO	The Stall Speed or the Minimum Steady Flight Speed in the Landing Configuration
VT	Threshold Speed
VTK	Vertical Track
VTMAX	Maximum Threshold Speed
VX	Speed for Angle Rate of Climb

VY	Speed for Best Rate of Climb
W(M)AT	Weight (Mass), Altitude and Temperature
W/C	Wind Component
WARN	Warning
WCHC	See Chapter 8.2.3.5 "Sick Passengers and Persons with Reduced Mobility (PRMs)"
WCHP	See Chapter 8.2.3.5 "Sick Passengers and Persons with Reduced Mobility (PRMs)"
WCHR	See Chapter 8.2.3.5 "Sick Passengers and Persons with Reduced Mobility (PRMs)"
WCHS	See Chapter 8.2.3.5 "Sick Passengers and Persons with Reduced Mobility (PRMs)"
WGT	Mass
WHO	World Health Organization
WOCL	Window of Circadian Low
WPT	Waypoint
WT	Mass
WX	Weather
WXR	Weather Radar
XPNDR	Transponder
Y/D	Yaw Damper
ZFT	Zero Flight Time
ZFTT	Zero Flight Time Training
ZFW	Zero Fuel Weight

0 ADMINISTRATION AND CONTROL OF THE OPERATIONS MANUAL

0.1 HIGHLIGHT OF CHANGES

(*) Revision: 23.1 - 15 MAR 25

Chapter	Change	Reference
[0] Administration and Control of the Operations Manual		
0.4.3 Terms and Definitions: Aircraft Safety Investigation Authority Israel	Changed title from "Chief Investigator" to "Aircraft Safety Investigation Authority Israel".	
0.4.3 Terms and Definitions: Alternate Airport	Updated definition for En-route Alternate; added definition for EDTO alternate.	
0.5 System of Amendment and Revision	Added EFF as approved software application.	
[1] Organization and Responsibilities		
1.2.4 Deputies to Postholders	Chapter updated.	
1.4.3 After Flight	Revised "Chief Investigator" to "Aircraft Safety Investigation Authority Israel".	
1.9.13.2 Administration	Added EFF as approved software application.	
[2] Operational Control and Supervision		
2.1.6.2 EFB Class I	Added EFF as approved software application.	
2.1.6.3 Journey Log Procedure	Added EFF as approved software application.	
2.1.6.13 Flight Recorder Records	Revised "Chief Investigator" to "Aircraft Safety Investigation Authority Israel".	
2.2 System of Promulgation of Additional Operational Instruction and Information	Added EFF as approved software application.	
[4] Crew Composition		
4.2 Designation of the PIC	Added EFF as approved software application.	
[5] Qualification Requirements		
5.1 General	Added EFF as approved software application.	
5.1.1 Period of Validity	Added EFF as approved software application for flight crew relevant data; added period of validity to FOO.	
5.2.2 Recency of Experience	Added Fox application.	
[8] Operating Procedures		
8.1.2.1 General	Added AD-HOC operations.	
8.1.2.3 Minimum Acceptable Airport RFFS Category	Chapter updated.	
8.1.5 Airport Operating Minima - Presentation and Application	Chapter updated.	

Chapter	Change	Reference
8.1.5.3 All-Weather Operations	Updated flight crew composition in AWO.	
8.1.5.7 Take-off – Application and Minima	Removed non relevant content regarding airplane with more than 2 engines	
8.1.5.8.5. RNP / RNAV (GNSS) / RNAV (GPS) Approaches	Added company policy and requirement of operational ANP.	
8.1.5.8.7 Failed or Downgraded Ground Equipment	Chapter updated.	
8.2.3.7 Permissible Size and Weight of Hand Baggage	Chapter updated.	
8.2.3.9.4 Live Animals	Removed the list of animals which shall not be allowed in the cabin.	
8.2.5.2 Definitions	Chapter updated.	
8.2.5.8 Tables for Holdover Times	Added EFF as a confirmed source of calculating HOT.	
8.2.5.8.1 Active Frost Holdover Times for SAE Type I, Type II and Type IV Fluids	Chapter updated.	FAA Holdover Time Guidelines Winter 2024-2025
8.2.5.8.2 Holdover Times for SAE Type I Fluid on Critical Aircraft Surfaces Composed Predominantly of Aluminium	Chapter updated.	
8.2.5.8.3 Holdover Times for SAE Type I Fluid on Critical Aircraft Surfaces Composed Predominantly of Composites	Chapter updated.	
8.2.5.8.4 Generic Holdover Times for SAE Type II Fluids	Chapter updated.	
8.2.5.8.5 Generic Holdover Times for SAE Type IV Fluids	Chapter updated.	
8.2.5.8.6 Holdover Times for Snow Mixed with Freezing Fog for SAE Type I, Type II, and Type IV Fluids	*Chapter removed, subsequent chapters renumbered accordingly.*	
8.2.5.8.6 Allowance Times for SAE Type IV Fluids Ethylene Glycol (EG) Fluids	Chapter updated.	
8.2.5.8.7 Allowance Times for SAE Type IV Fluids Propylene Glycol (PG) Fluids	Chapter updated.	
8.3.2.1 NAT HLA	Chapter updated.	NAT Doc 007
8.3.2.1.1 NAT HLA Navigation	Chapter updated.	
8.3.2.1.3 Technical Requirements	Chapter updated.	
8.3.2.1.3. Data Link Requirements	Chapter updated.	
8.3.2.1.3.2 Altimetry Equipment required for Operation in RVSM Airspace	*Chapter removed.*	
8.3.2.1.5 Loading of Waypoint and OFP Annotation	Updated caution note to match FMC upgrade.	
8.3.2.1.6 ATS Communications, section *VHF Voice Communications*	Chapter updated.	
8.3.2.1.8 Position Reporting	Chapter updated.	
8.3.2.1.12. Prior to Oceanic Entry	Chapter updated.	

Chapter	Change	Reference
8.3.2.1.14.1 Contingency Considerations for Unexpected Closure of an Oceanic ATC Facility	*Chapter removed.*	
8.3.2.1.14. Loss or Sudden Withdrawal of Air Traffic Control Services in the NAT Region	Chapter added.	
8.3.2.1.15 Performance Based Communication and Surveillance (PBCS)	Chapter updated.	
8.3.2.1.15. Required Reports	EFOS replaced with ICARUS.	
8.3.2.1.15. PBCS Monitoring	EFOS replaced with ICARUS.	
8.3.2.1.16 NAT GNSS Interference Procedures	Chapter added.	NAT OPS Bulletin 2025-001
8.3.2.2 Polar Navigation	*Chapter removed, subsequent chapters renumbered.*	
8.3.12.1 Controlled Rest on the Flight Deck	Added EFF as approved software application.	
8.3.17.8 Prior to Landing	Added information provided by the flight crew to the cabin crew.	
8.3.20.1.5. Policy for Operation after an Engine Malfunction	Chapter updated.	
8.3.20.1.17. Distress Call	Added requirements for the reporting of fuel on board.	
8.3.20.2.3 Pre-flight	Chapter updated.	
8.3.20.2.9 Approach and Go-Around	Chapter updated.	
8.3.24 Passenger Illness / Injury / Death During Flight	Added after landing procedure in case a death during flight.	
8.5.1 EDTO Operation	Added EDTO 240 operations.	
8.5.2 The EDTO Capability	Added EDTO 240 operations.	
8.5.6.1 Verification Flight Procedures	Added EFF as approved software application.	
8.6.1.1 MEL Procedures	Added EFF as approved software application.	
8.10 Approved Airports	Added EFF as approved software application.	
[9] Dangerous Goods and Weapons		
9.1 Definitions and Hazard Classes	Chapter with content from former chapters 9.1.6.1 and 9.1.6.2 added.	
9.1.1 Information, Instructions and General Guidance on the Carriage of Dangerous Goods	Chapter renumbered from 9.1.	
9.1.3 General	Chapter added.	
9.1.4 Categories of Dangerous Goods	Chapter renumbered from 9.1.1	
9.1.5 Forbidden Goods and Company Exceptions (Marked with *)	Chapter renumbered from 9.1.6.3 and updated, content from former chapter 9.1.3 added.	
9.1.5.1 Shipping and Transport of Spare Parts (COMAT)	Chapter renumbered from 9.1.3.1.	

Chapter	Change	Reference
9.1.5.2 Dangerous Goods in EL AL's Property	Chapter renumbered from 9.1.3.2.	
9.1.5.3 Passenger Awareness on the Hazards of Lithium Batteries	Chapter renumbered from 9.1.4.1.	
9.1.5.4 Handling, Labelling, Stowage and Segregation of Dangerous Goods	Chapter renumbered from 9.1.5.	
9.1.5.4.1 Handling of Dangerous Goods	Chapter renumbered from 9.1.5.1 and updated.	
9.1.5.4.2 Dangerous Goods Acceptable as Cargo by EL AL	Chapter renumbered from 9.1.5.2 and updated.	
9.1.5.4.3 Labelling of Dangerous Goods	Chapter renumbered from 9.1.6 and updated.	
9.1.5.4.4 Segregation of Dangerous Goods	Chapter added.	
9.1.6 Dangerous Goods in Limited Quantities	Chapter renumbered from 9.1.6.4 and updated	
9.1.7 Markings	Chapter renumbered from 9.1.6.5 and updated	
9.1.8 Loading and Stowage of Dangerous Goods	Chapter and subchapter renumbered from 9.1.7 and 9.1.7.1.	
9.1.9 Dangerous Goods Security	Chapter renumbered from 9.1.11	
9.1.10 Information to the PIC and to the FOO	Chapter and subchapter renumbered from 9.1.12 and 9.1.12.1.	
9.2 Hidden Dangerous Goods	Chapter renumbered from 9.1.3.3 and updated.	
9.3 Provisions for Dangerous Goods Carried by Passengers or Crew	Chapter renumbered from 9.1.4 and updated.	IATA Dangerous Goods Regulations 66th Edition (English), Effective 1 January 2025
9.3.1 Goods Acceptable with Operator Approval as Checked Baggage Only	Entire chapter added.	
9.3.2 Goods Acceptable with Operator Approval as Carry-on Baggage Only	Entire chapter added.	
9.3.3 Goods Acceptable with Operator Approval as Baggage	Entire chapter added.	
9.3.4 Dangerous Goods Acceptable without the Approval of EL AL Israel Airlines Ltd.	Entire chapter added.	
9.3.4.16 Classification of Articles Containing Dangerous Goods	Chapter renumbered from 9.1.1.1 and updated.	
9.4 Training	Chapter added.	
9.4.1 Training of Crew Members and Ground Staff for Handling Dangerous Goods	Chapter renumbered from 9.1.9.	
9.5 DG Related Emergencies	Chapter added.	
9.5.1 Procedures for Responding to Emergency Situations or Incidents Involving Dangerous Goods	Chapter renumbered from 9.1.8.	
9.5.2 Dangerous Goods Occurrence Report	Chapter renumbered from 9.1.8.1.	

Chapter	Change	Reference
9.5.3 Undeclared or Mis-declared Dangerous Goods	Chapter renumbered from 9.1.8.2 and updated.	
9.6 Carriage of Weapons, Munitions of War and Sporting Weapons – Conditions of Carriage	Chapter renumbered from 9.2.	
The following chapters have been removed: • *9.1.3 Exemptions to ICAO's Technical Instructions*; • *9.1.6 Labelling of Dangerous Goods*; • *9.1.10 Instructions on the Carriage of Employees of the Operator*; • *9.3 Appendix*.		
[10] Security		
10.3.7.1 Closing and Locking of Flight Deck Door	Chapter updated.	
[11] Handling, Notifying and Reporting Occurrences		
11.1.1 Flight Resumption after an Accident / Incident	Revised "Chief Investigator" to "Aircraft Safety Investigation Authority Israel".	
11.3 Accident - Notification and Responsibilities		
11.4.2 Notification and Reporting	Revised "Chief Investigator" to "Aircraft Safety Investigation Authority Israel"; EFOS replaced with ICARUS.	

0.2 SIGNIFICANT CHANGES

(*) Revision: 23.1 - 15 MAR 25

Changes are listed in the order they appear in the OM Part A and are colour-coded as follows:

BLACK	Items pertaining primarily or only to Flight Crew/OCC, or administrative matters
ORANGE	Items pertaining also to Cabin Crew
BLUE	Items pertaining also to Ground Operations

NOTE This list is a partial list of changes. For a complete list, refer to Chapter ***0.1 Highlight of Changes***.

Revision: 23.1

Chapter	Change
5.1.1 Period of Validity	Added Period of Validity to FOO.
8.1.2.3 Minimum Acceptable Airport RFFS Category	Chapter updated.
8.1.5.3 All-Weather Operations	Updated flight crew composition in AWO.
8.1.5.8.5. RNP / RNAV (GNSS) / RNAV (GPS) Approaches	Added company policy and requirement of operational ANP.
8.3.17.8 Prior to Landing	Added information provided by the flight crew to the cabin crew 45 minutes prior to landing.
8.3.20.1.17. Distress Call	Added requirements for the reporting of fuel on board.
8.5.2 The EDTO Capability	Added EDTO 240 operations.
9 Dangerous Goods and Weapons	Entire chapter restructured and updated.

0.3 PREAMBLE

(*) Revision: 23.1 - 15 MAR 25

EL AL hereby confirms that the Operations Manual has been established in compliance with the Israel Air Navigation Regulations.

The undersigned declare that they know and understand the content of this OM and that they will perform their duties in full accordance with this OM.

Dina Ben Tal Ganancia
EL AL CEO
EL AL ISRAEL AIRLINES LTD

Signature: ______________________ Date: 13FEB25

Dina Ben Tal Gananacia, President & CEO

Cap. Hovav Ben-Davi
V.P Operations

Signature: ______________________ Date: 05FEB25

Captain Hovav Ben David, VP Flight Operations

The CAAI has accepted the Operations Manual, and receives all amendments and revisions thereto.

Paragraphs notated "**APPROVED**" within this manual are approved by the CAAI.

Motti Stopper
Operations Inspector
Air Carrier Operations Department
Civil Aviation Authority

Signature: ______________________ Date: 13/02/25

Civil Aviation Authority of Israel

0.4 INTRODUCTION

Revision: 23 - 29 AUG 24

The Operations Manual has been prepared in accordance with the conditions contained in the Air Operator Certificate issued by the CAAI (AOC 1/88), with the applicable aircraft Operations Specifications and with Israel Air Law and Israel Regulations as well as relevant ICAO Standards and Procedures. It also accounts for relevant regulations and requirements (including Operations Specifications) of countries other than Israel in which EL AL operates. It reflects the valid company policies, regulations and procedures. The EL AL OM Part A is in electronic format on the authority of the Chief Pilot and Director of Standards.

All operations personnel have either easy access to those parts of the Operations Manual as are relevant to their duties. Flight crew members are supplied with a copy of the OM Part A and OM Part B and those parts of the OM Part C and OM Part D determined by the Chief Pilot to be relevant to their duties. Other crew members receive a copy of extracts from the OM Part A and OM Part B as are relevant to their duties and for personal studies. The current parts of the Operations Manual relevant to the duties of the crew shall be carried on each flight.

The parts which are required for the conduct of the flight shall be easily accessible to the crew.

The rules and regulations contained in the Operations Manuals shall be adhered to by the relevant personnel at all times. All crew members shall be responsible for the proper execution of their duties that:

- Are related to the safety of the aircraft and its occupants; and
- Are specified in the instructions, limitations and procedures laid down in the Operations Manual.

All employees when abroad shall comply with the laws, regulations and procedures of those States in which operations are conducted. Each person shall, while operating an airplane within a foreign country, comply with the air traffic rules of the country concerned and the local airport rules, except where any rules in the OM are more restrictive and may be followed without violating the rules of that country.

All flight crew shall be familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the airports to be used and the air navigation facilities relating thereto.

No person may operate an aircraft (on the ground or on flight) in a careless or reckless manner so as to endanger the life or property of another.

In the event of willful or negligent disobedience to those rules and regulations the personnel concerned may become subject to disciplinary, legal or penal action!

However, nothing contained in the Operations Manual shall prevent personnel from exercising their own best judgment during any situation for which the Operations Manual makes no provisions or in an **emergency.**

The PIC or the pilot to whom the conduct of flight has been delegated shall, in an emergency situation, take any action he considers necessary under the circumstances. In such cases he may deviate from rules, operational procedures and methods in the interest of safety.

The Operations Manual (OM) consists of separate parts/volumes:

OM Part A	–	General/Basic
OM Part B	–	Aircraft Operating Matters

OM Part C	–	Route and Airport Instructions and Information
OM Part D	–	Training

The **OM Part A** comprises the **"General/Basic"** part. It contains the non-type related operational policies, instructions and procedures required for a safe operation. It details the duties and responsibilities of all Chief Pilot and Standards Division and Training Department personnel and their interrelationship to the operation as a whole.

The **OM Part B** comprises the **"Aircraft Operating Matters"** part. It contains all type related instructions and procedures required for safe operation of the aircraft. It takes account of any difference between types, variants or individual aircraft used by EL AL. It comprises the manufacturer's aircraft documentation (FCOM and FCTM). It also comprises the following documents/ application:

- MEL;
- Weight and Balance;
- Flight Planning Manual;
- Cabin Flight Safety Manual;
- OPT (Onboard Performance Tool).

The OM Part B shall be carried on each aircraft.

The emergency location chart that is installed in the aircraft is the updated chart and is the only emergency equipment chart that is valid.

EL AL differences to the Boeing FCOM and FCTM are incorporated within each of these manuals.

The OPT application by Boeing is approved for take-off and landing performance calculations. The performance calculations are based on performance data supplied by Boeing; The OPT user manual details the work flow for entering take-off and landing data.

The **OM Part C** comprises the **"Route and Airport Instructions and Information"** required for the area of operation, derived from the AIPs of various countries. Part of the OM Part C are the current maps and charts and associated documents covering the intended flight inclusive of any diversion which may reasonably be expected and containing essential information relating to the Search and Rescue Services in the area over which the aircraft will be flown. It also includes any applicable differences between prevailing or local airspace rules and ICAO airspace rules.

The OM Part C data appears in the following EFB applications:

- FliteDeck Pro;
- EFOS/EFF Library – "OM Part C – Route and Airports" folder.

Jeppesen and Honeywell OM Part C suppliers have a Type 2 LOA. This authorizes EL AL trained crews to operate the FMC and database with data from Jeppesen GmbH and Honeywell for flight operations in accordance with the EL AL AOC, manufacturer's instructions and as trained in the approved EL AL training syllabi. See Chapter ***1.3.5.1 Standards Pilot*** for details regarding the data updating process.

The **OM Part D** comprises **"Training"** and contains all training and qualification instructions required for a safe operation.

All parts of the Operations Manual (Parts A, B, C and D) are available for the flight crew on the iPad EFB.

When used in the Operations Manual, the following terms shall have the meaning outlined below:

Shall	An action verb in the imperative sense means that the application of a rule or procedure or provision is **mandatory** ("Must" is used as an alternative to "Shall").
Should	Means that a procedure or provision is to be applied unless good judgment dictates otherwise.
May	Means that the application of a procedure or provision is **optional.**
Policy	The company policy regarding specific operating items such as fuel policy, the policy for handling problematic passengers. These policies should be followed, the PIC may override a company policy according to the circumstances as long as this does not deviate from regulations or procedures.
Procedure	Standard Operating Procedures (additions, clarifications, detailed, company specific procedures) as outlined in Chapter ***8 Operating Procedures*** of this OM.
Practice	This refers to work methods/operational procedures which are not compulsory or SOP but are recommendations which improve safety. These are techniques which may or may not be adopted on line flights. Example: "PM selects electronic checklist page for normal procedures as soon as the procedure is complete".

This Manual applies to both **male and female** crew members, operations personnel, passengers and other persons although, for simplification, references in the text are made in the masculine gender only.

The Hebrew language is the operational common language. Operational documents are published in English or in Hebrew.

The expression of the 'Company' where used in this manual shall be taken to mean EL AL Israel Airlines Ltd.

All times related to flight and qualifications shall be UTC (hours and minutes in a 24 hour format).

Conflicting Information

The different parts of the Operations Manual are not revised concurrently, thus creating a possibility of conflicting information in different manuals.

In case of conflicting information in different parts of the OM, the information with the most recent revision date will be deemed valid.

0.4.1 Record of Revisions

(*) Revision: 23.1 - 15 MAR 25

Revisions to this Manual will be issued at irregular intervals

Rev. No.	Date of Issue	Effective Date
1	1 AUG 15	3 AUG 15
2	15 FEB 16	15 FEB 16
3	25 MAY 16	25 MAY 16
4	8 AUG 16	11 AUG 16
5	18 DEC 16	18 DEC 16
6	2 FEB 17	2 FEB 17
7	1 MAY 17	1 MAY 17
8	6 AUG 17	6 AUG 17
9	1 NOV 17	1 NOV 17

Rev. No.	Date of Issue	Effective Date
10	15 NOV 17	15 NOV 17
11	11 MAR 18	11 MAR 18
12	16 MAY 18	16 MAY 18
13	23 JUL 18	23 JUL 18
14	29 OCT 18	29 OCT 18
15	6 FEB 19	6 FEB 19
16	15 MAY 19	15 MAY 19
17	7 NOV 19	7 NOV 19
17.1	11 MAY 20	11 MAY 20
17.2	1 JUN 20	1 JUN 20
17.3	3 JUN 20	3 JUN 20
18	1 AUG 20	1 AUG 20
18.1	27 SEP 20	27 SEP 20
19	14 MAR 21	14 MAR 21
19.1	17 MAY 21	17 MAY 21
20	1 MAR 22	1 MAR 22
20.1	23 MAY 22	23 MAY 22
20.2	14 DEC 22	14 DEC 22
21	5 MAY 23	5 MAY 23
22	20 FEB 24	20 FEB 24
22.1	1 JUN 24	1 JUN 24
23	29 AUG 24	29 AUG 24
23.1	15 MAR 25	15 MAR 25

0.4.2 Record of Temporary Revisions

Revision: 23 - 29 AUG 24

Currently there are no Temporary Revisions for this OM Part A.

0.4.3 Terms and Definitions

(*) Revision: 23.1 - 15 MAR 25

Able Bodied Person	A person who is permitted to sit in an Emergency Exit Seat according to the requirements of Chapter ***8.2.3.3 Allocation of Seats for Adults, Children and Infants***.
Accelerate Stop Distance Available (ASDA)	The length of the take-off run available plus the length of stopway.
Acceptance Checklist	A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met with.

Air Operator Certificate (AOC)	A certificate authorizing an operator to carry out specified commercial air transport operations.
Air Traffic Control Unit	A generic term meaning variously, area control center, approach control office or aerodrome control tower.
Air Traffic Incident	"Air Traffic Incident" is used to mean a serious occurrence involving air traffic such as: 1. Near collision (designation: NEAR COLLISION); 2. Serious difficulty caused by: • Faulty procedures or lack of compliance with applicable procedures (designation: PROCEDURAL); or • Failure of ground facilities (designation: FACILITY).
Aircraft	Any machine that can derives support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface, it includes aeroplanes and helicopters.
Aircraft – Type of	All aircraft of the same basic design including all modifications thereto except those modifications which result in a change of handling or flight characteristics or crew complement.
Aircraft Equipment	Articles, other than stores and spare parts of a removable nature, for use on board an aircraft during flight, including first-aid and survival equipment.
Aircraft Flight Manual (AFM)	A manual associated with the Certificate of Airworthiness that contains information (limits, procedures, data, etc.) required to operate the aircraft at the level of safety established by the aeroplane's certification basis.
Aircraft RFFS Category	One of ten categories as laid down by ICAO Annex 14 given for each aeroplane type depending on aircraft overall length and maximum fuselage width.
Aircraft Safety Investigation Authority Israel	Israeli Ministry of Transport, Aircraft Accidents / Incidents Investigation Office.
Aircraft Variant	As used with respect to the licensing and operation of flight crew, means an aircraft of the same basic certificated type which contain modifications not resulting in significant changes of handling and/or flight characteristic, or flight crew complement, but causing significant changes to equipment and/or procedures. As used with respect to MFF, Variant means an aircraft or a group of aircraft within the same pilot type rating that has differences to the base aircraft requiring difference training or familiarization training.
Airport RFFS Category	The RFFS category for a given aerodrome, as published in the appropriate Aeronautical Information Publication (AIP).

All Weather Operations	Any surface movement, take-off, departure, approach or landing operations in conditions where visual reference is limited by weather conditions. Refer to Chapter ***8.1.5.3 All-Weather Operations***.
Alternate Airport	An airport listed in the OM Part A EFOS/EFF library (List of Approved Airports), to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the airport of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate airports include the following: • **Take-off Alternate:** An alternate airport at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the airport of departure; • **En-route Alternate:** An airport at which an aircraft would be able to land after experiencing an abnormal or emergency condition whilst en-route. En-route alternate airports may also be the take-off and/or destination airports; • **Destination Alternate:** An alternate airport to which an aircraft may proceed should it become impossible or inadvisable to land at the airport of intended landing; • **EDTO alternate:** An en-route alternate aerodrome that is designated in a dispatch or flight release for use in the event of a diversion during an EDTO flight, and which meets the applicable dispatch minima (weather and field conditions). This definition applies to flight planning and does not in any way limit the authority of the pilot-in-command during flight. Used when the flight is dispatched as EDTO 60 or greater. **NOTE** En-route alternate aerodromes may also be the take-off and/or destination aerodromes. **NOTE** The airport from which a flight departs may also be an en-route or a destination alternate airport for that flight.
Approach Ban Point	The point on a final approach where the reported weather conditions at the runway must meet the applicable minima so as to be able to meet regulatory requirements for continuing an instrument approach to a landing.
Approved by the CAAI	Documented by the CAAI as suitable for the purpose intended.
ATS Surveillance Service	Term used to indicate a service provided directly by means of an ATS Surveillance system.
ATS Surveillance System	Generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft.

Augmented Crew	A flight-crew that has more than 2 pilots to allow a flight-crew member to be replaced by another qualified flight-crew member for in-flight rest.
Authority	The competent body responsible for the safety regulation of civil aviation in the State of the applicant or operator. In Israel this is the CAAI.
Ballast Fuel	See OM Part B, Weight and Balance manual, "Definitions" chapter.
Base Aircraft	An aircraft identified for use as a reference to compare differences with another aircraft. (e.g. B777 to B787, or B787 to B777).
Block Time	The elapsed time from OFF BLOCKS to ON BLOCKS.
Cabin Crew Member	A crew member, other than a Flight Crew Member, who performs, in the interests of safety of passengers, duties assigned to him in the cabin of the aircraft.
Captain	The title given to a person who is, or at one time was qualified to act as a PIC.
Cargo	In relation to commercial air transportation, any property, including animals and mail, carried by an aircraft other than stores and accompanied baggage.
Cargo Aircraft	An aircraft that is used to transport cargo and is not engaged in carrying passengers.
Categories of Aircraft	Five categories (from Category A through Category E) of typical aircraft have been established based on 1,3 times the stall speed in the landing configuration at maximum certificated landing mass. For details see Chapter ***8.1.5.6 Aircraft Approach Category***.
Category I (CAT I) Approach Operation	A precision instrument approach and landing using: • An instrument landing system (ILS); • Microwave landing system (MLS); • Ground-based augmented global navigation satellite system (GNSS/GBAS) landing system (GLS); • Precision approach radar (PAR); or • GNSS using a satellite-based augmentation system (SBAS); with • A decision height (DH) not lower than 200 ft; and • With a runway visual range (RVR) not less than 550 m.

Category II (CAT II) Operation	A precision instrument approach and landing operation using ILS or MLS with: • DH below 200 ft but not lower than 100 ft; and • RVR not less than 300 m.
Category IIIA (CAT IIIA) Operation	A precision instrument approach and landing operation using ILS or MLS with: • DH lower than 100 ft; and • RVR not less than 200 m.
Category IIIB (CAT IIIB) Operation	A precision instrument approach and landing operation using ILS or MLS with: • DH lower than 100 ft; and • RVR lower than 200 m but not less than 75 m.
Ceiling	The height above the ground or water of the base of the lowest layer of cloud below 6,000 m (20,000 ft) covering more than half the sky.
Chief Pilot (737/777/787)	Refers to the Fleet's Chief Pilot and any of his direct subordinates, excluding the Fleet Technical Manager. For the purposes of the OM Part D, this includes the fleet's Chief Pilot, Chief Pilot Training, Chief Instructor, and the Chief Pilot, as applicable.
Child/Children	For the purpose of passenger classification: means persons who are of an age of two years and above but who are less than 12 years of age.
Climb via	An abbreviated ATC clearance that requires compliance with the procedure in terms of lateral path, associated speed restrictions, and altitude restrictions along the cleared route or procedure.
Cloud Base	Means the height of the base of the lowest observed or forecast cloud element in the vicinity of an aerodrome or operating site or within a specified area of operations, normally measured above aerodrome elevation or, in the case of offshore operations, above mean sea level.
Cloud Ceiling	The height of the base of cloud at an aerodrome which is sufficient to obscure more than half of the sky.
Cockpit Voice Recorder (CVR)	Means a crash-protected flight recorder that uses a combination of microphones and other audio and digital inputs to collect and record the aural environment of the flight crew compartment and communications to, from and between the flight crew members.
Code-share	An arrangement under which an operator places its designator code on a flight operated by another operator, and sells and issues tickets for that flight.

Commercial Air Transport Aircraft	An aircraft flying, or intended by EL AL of the aircraft to fly, for the purpose of commercial air transportation.
Commercial Air Transportation	The transportation by air of passengers, cargo or mail for remuneration or hire.
Commercial Destination Alternate	An alternate airport that is one of EL AL's or Sundor's stations, or an airport than can support and provide quick turn-around and/or immigration with adequate hotels and transportation availability.
Configuration Deviation List (CDL)	A list established by Boeing which identifies any external parts of an aircraft type which may be missing at the time of dispatch, and which contains, where necessary, any information on associated operating limitations and performance correction.
Conflict	A situation that occurs when it is predicted that the spacing between aircraft, an aircraft and a defined airspace, or an aircraft and terrain, may or will reduce below the prescribed minimum.
Contaminated Runway	For purposes of condition reporting and airplane performance, a runway is considered contaminated when more than 25 percent of the runway surface area (within the reported length and the width being used) is covered by frost, ice, water greater than 1/8 inch (3 mm) in depth, or and any depth of snow or slush.
Contingency Fuel	The fuel required to compensate for unforeseen factors which could have an influence on the fuel consumption to the destination aerodrome. Contingency fuel is carried for items such as: • Deviations of an individual aeroplane from the expected fuel consumption data; • Deviations from forecast meteorological conditions; and • Deviations from planned routings and/or cruising levels/altitudes.
Continuous Descent Final Approach (CDFA)	A technique, consistent with stabilised approach procedures, for flying the final-approach segment of a non-precision instrument approach procedure as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre shall begin for the type of aircraft flown.
Controller-Pilot Data Link Communications (CPDLC)	A means of communication between controller and pilot, using data link for ATC communications.
Controlling RVR	Controlling RVR - means the reported values of one or more RVR reporting locations (touchdown, mid-point and stop-end) used to determine whether operating minima are or are not met.

Converted Meteorological Visibility (CMV)	A value (equivalent to an RVR) which is derived from the reported meteorological visibility by using particularly conversion factors. Jeppesen will publish all RVR values above 2,000 m as CMV.
Co-Pilot	A Pilot serving in any piloting capacity other than as PIC, but excluding a Pilot who is on board the aircraft for the sole purpose of receiving flight instruction for a license or rating. The Co-Pilot may hold the rank of First Officer or Captain. In unaugmented crew operation the Co-Pilot usually holds the rank of First Officer.
Crew Member	One of the below: • A person assigned by EL AL to perform duty on an aircraft during flight time; • A person receiving flight training or performing a check flight.
Critical Phases of Flight	The taxi, the take-off run, the take-off flight path, the final approach, the missed approach, the landing, including the landing roll, all operations below 10,000 feet, and any other phases of flight as determined by the Pilot-in-Command.
Cruising Level	A level maintained during a significant portion of the flight.
Damp Runway	Refer to definition of ***Wet Runway***.
Dangerous Goods (DG)	Means 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 damage.
Dangerous Goods Incident	1. 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 damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained; 2. Any occurrence relating to the transport of dangerous goods which seriously jeopardises an aircraft or its occupants.
Day	The hours between the beginning of morning civil twilight and the end of evening civil twilight. Refer to Jeppesen General Airway Manual — Sunrise and Sunset Tables.

Deadhead Crew Member	A crew member who has been assigned by Crew Assignment to be transported on a specific flight, but without being in any way associated with its operation.
Decision Altitude/Height (DA/H)	A specified altitude or height in the precision approach or approach with vertical guidance at which a missed approach shall be initiated if the required visual reference to continue the approach has not been established. **NOTE** Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation. **NOTE** The required visual reference means that specified for the particular procedure and operation.
Descent via	An abbreviated ATC clearance that requires compliance with a published procedure in terms of lateral path and associated speed restrictions and that provides a pilot-discretion descent to comply with published altitude restrictions.
Dry Runway	A runway is dry when it is neither wet nor contaminated. For purposes of condition reporting and airplane performance, a runway can be considered dry when no more than 25 percent of the runway surface area (within the reported length and the width being used) is covered by visible moisture or dampness, frost, slush, snow (any type), or ice.
EFB Application	Means a software application installed on an EFB host platform that provides one or more specific operational functions which support flight operations.
EFB System	Means the hardware equipment (including any battery, connectivity provisions, input/output components) and software (including databases and the operating system) needed to support the intended EFB application(s).
EL AL Training Department	Refers to the Training and Organizational Development Division.

Electronic Flight Bag (EFB)	An electronic display system intended primarily for flight deck or cabin use. EFB devices can display a variety of aviation data or perform basic calculations (e.g., performance data, fuel calculations, etc.). In the past, some of these functions were traditionally accomplished using paper references or were based on data provided to the flight crew by an operator's "flight dispatch" organization. The scope of the EFB system functionality may also include various other hosted databases and applications. EFB classes include: • Class I Standard commercial-off-the-shelf portable electronic devices, such as an iPad; • Class II Similar to Class I, but mountable and connectable to aircraft power and data; • Class III Installed aircraft equipment.
Electronic Flight Operation System (EFOS)	A crew portal and flight operations management system available on the web and as an application on the iPad EFB Class I.
Emergency Exit Seats	Seats from which a passenger can proceed directly to an exit (including a door) without entering an aisle or passing around an obstruction.
En-Route IFR Flight	Means the phase of an IFR flight that commences after the completion of an IFR departure procedure and finishes when commencing an IFR approach procedure.
Equivalent Position	A position that can be established by means of a DME distance, a suitably located NDB or VOR, SRE or PAR fix or any other suitable fix between 3 and 5 miles from threshold that independently establishes the position of the aircraft.
Exemption	A formal authorization issued by the Authority providing relief from part or all of a regulation. The authorization may or may not be conditional.
Fail-Operational Automatic Landing System	An automatic landing system is fail-operational if, in the event of a failure, the approach, flare and landing can be completed by the remaining part of the automatic system.
Fail-Operational Hybrid Landing System	A system which consists of a primary fail-passive automatic landing system and a secondary independent guidance system enabling the pilot to complete a landing manually after failure of the primary system.

Fail-Passive Automatic Landing System	An automatic landing system is fail-passive if, in the event of a failure, there is no significant deviation of aeroplane trim, flight path or attitude but the landing will not be completed automatically.
Fatigue	A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety-related duties.
Fatigue Risk Management System (FRMS)	A data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.
Final Approach	That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified: 1. At the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or 2. At the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which: • a landing can be made; or • a missed approach procedure is initiated.
Final Approach Fix (FAF)	The fix from which the final approach (IFR) to an airport is executed and which identifies the beginning of the final approach segment. It is designated in the profile view of Jeppesen Terminal charts by the Maltese Cross symbol for non-precision approaches and by the glide slope/path intercept point on precision approaches. The glide slope/path symbol starts at the FAF. When ATC directs a lower-than-published Glide Slope/Path Intercept Altitude, it is the resultant actual point of the glide slope/path intercept.
Final Approach Segment (FAS)	That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.
First Officer	A crew rank held by person currently so qualified.
Fleet Management	Refers to the Fleet Manager and any of his direct subordinates, excluding the Fleet Technical Manager. For the purposes of the OM Part D, this includes the fleet's Fleet Manger, Chief Pilot Training, Chief Instructor, and the Chief Pilot, as applicable.
Flight Crew Member	A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Flight Plan

ATS Flight Plan:

Specified information to ATS units, relative to an intended flight or portion of a flight of an aircraft.

Current ATS Flight Plan:

The ATS Flight Plan, including changes, if any, brought about by subsequent clearances.

Filed ATS Flight Plan:

The Flight Plan as filed with an ATS unit by the pilot or his designated representative, without any subsequent changes.

Operational Flight Plan:

EL AL's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned.

Flight Recorder

Means any type of recorder that is installed on the aircraft for the purpose of facilitating accident or incident safety investigations.

Flight Time

For the purposes of Flight Time Limitations, see definition in Chapter *7.2.1 Definitions* (*Flight Time*). For all other purposes:

The total time from the moment an aircraft first moves for the purpose of taking off ("Off Blocks") until the moment it finally comes to rest at the end of the flight.

Flight Visibility

The average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

Force Majeure

An event that is a result of the elements of nature or other such external force beyond the Company's control.

Forecast

A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace provided by:

- In Israel by the Israel Meteorological Service or a source approved by them for this;
- All other countries, by a source which has been approved in that country according to the local AIP or by a source the Israel Meteorological Service Manager has approved and the CAAI has accepted.

Fueling Supervisor

In Tel Aviv - the Maintenance Supervisor. At outbase stations - the Technical Representative.

Fueling Zone

An area up to a 6 m radius from the filling and venting points of the aircraft at the wing.

GNSS Landing System (GLS)	An approach operation using augmented GNSS information to provide guidance to the aircraft based on its lateral and vertical GNSS position. It uses geometric altitude reference for its final approach type.
Ground-Based Augmentation System (GBAS)	An augmentation system in which the user receives augmentation information directly from a ground-based transmitter.
Handicapped Passenger	A person who is unable to move by himself to the nearest emergency exit at floor level, in the event of an emergency evacuation.
Head-up Display (HUD)	Means a display system which presents flight information to the pilot's forward external field of view and which does not significantly restrict the external view.
Human Performance	Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.
ILS Critical Area	An area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations. The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signal-in-space.
ILS Sensitive Area	An area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations. The sensitive area is protected to provide protection against interference caused by large moving objects outside the critical area but still normally within the airfield boundary.
Inexperienced Flight Crew	A First Officer is considered inexperienced until accumulating 100 hrs at the controls (PF or PM) as First Officer under IANR Part 13, in the type of aircraft he is operating. A Captain is considered inexperienced until he has completed 100 hrs as PIC under IANR Part 13, in the type of aircraft he is operating. For a Pilot who has completed the above inexperienced requirements at the crew member position currently being flown on another type of aircraft under IANR Part 13 operations, the requirements may be reduced by up to 50% by substituting one required hour of experience with one landing as PF in the type of aircraft. **EXAMPLE** A Pilot undergoing conversion would no longer be inexperienced after 75 hrs flight time with 25 landings.
Infant	A person who has not yet reached his/her second birthday.
In-flight	During "Flight Time".

In-flight Re-planning	Amendment of the dispatch release after an aircraft first moves for the purpose of taking off.
In-flight Re-planning Point	For RCF, a geographical position from which an aircraft can proceed towards the destination airport or towards an alternate airport if when reaching that point there is insufficient fuel on board to continue towards the destination airport with the minimum required fuel.
Initial Approach Segment	That segment of an instrument approach procedure between the initial approach fix and the intermediate fix or, where applicable, the final approach fix or point.
Instrument Approach Procedure	A series of predetermined maneuvers by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows: **Non-precision Approach (NPA) Procedure**. An instrument approach procedure which utilizes lateral guidance but does not utilize vertical guidance. NPAs include Circling, LDA without glideslope, LOC, NDB, RNP - LNAV minima only, VOR. **Approach Procedure with Vertical Guidance (APV)**. An instrument approach procedure which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations. APVs include LDA with glideslope, RNP - LNAV/VNAV minima. **Precision Approach (PA) Procedure**. An instrument approach procedure using precision lateral and vertical guidance with minima as determined by the category of operation. PAs include CAT I/II/III ILS approaches.

NOTE	Lateral and vertical guidance refers to the guidance provided either by: 1. A ground-based navigation aid; or 2. Computer-generated navigation data.

Instrument Flight Time	Means the time during which a pilot is controlling an aircraft in flight solely by reference to instruments.
Instrument Ground Time	Time during which a pilot is receiving instruction in simulated instrument flight in Synthetic Training Devices (STDs).
Instrument Meteorological Conditions (IMC)	Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.
Instrument Time	Instrument flight time or instrument ground time.

Isolated Airport	A destination airport for which there is no destination alternate airport suitable for a given aircraft type.
Landing Distance Available (LDA)	The length of the runway that is declared available by the appropriate authority and suitable for the ground run of an aircraft landing.
Low Visibility Procedures (LVP)	Procedures applied at the aerodrome for the purpose of ensuring safe operation during CAT II/III approaches and Low Visibility Take-offs.
Low Visibility Take-off (LVTO)	Flight operations referring to a take-off on a runway where the RVR is less than 400 m.
Master Minimum Equipment List (MMEL)	A list established for a particular aeroplane type by the manufacturer with the approval of the State of Manufacture containing items, one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures.
Maximum Approved Passenger Seating Configuration	The maximum passenger seating capacity of an individual aircraft, excluding pilot seats or flight deck seats and cabin crew seats as applicable, used by the operator, approved by the Authority and specified in the OM Part B – Weight and Balance Handbook. **NOTE** The maximum approved passenger seating configuration shall not be mistaken with the maximum certified number of occupants as approved for the type certification. The latter figure may be higher than the MAPSC.
Maximum Certificated Take-off Mass	The maximum total mass of the aircraft and its contents at which the aircraft may take-off anywhere in the world, in the most favourable circumstances in accordance with the certificate of airworthiness in force in respect of the aircraft.
Meteorological Information	Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions provided by: • In Israel by the Israel Meteorological Service or a source approved by them for this; • All other countries, by whoever has been approved in that country according to the local AIP or by a source the Israel Meteorological Service Manager has approved and the CAAI has accepted.
Meteorological Report	A statement of observed meteorological conditions related to a specified time and location.

MFF - Mixed Fleet Flying	The operation of a base aircraft and one or more related aircraft for which credit may be taken for training, checking, and currency events.
MFF Pilot	A Pilot who has completed MFF Qualification (see OM Part D) and is assigned by EL AL to operate in MFF operations.
Minimum Descent Altitude/ Height (MDA/H)	A specified altitude or height in a non precision approach or circling approach below which descent shall not be made without the required visual reference.

NOTE	Minimum descent altitude (MDA) is referenced to mean sea level and minimum descent height (MDH) is referenced to the airport elevation or to the threshold elevation if that is more than 2 m (7 ft) below the airport elevation. A minimum descent height for a circling approach is referenced to the airport elevation.

NOTE	The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment.

NOTE	For convenience when both expressions are used they may be written in the form minimum descent altitude/ height and abbreviated "MDA/H".

Minimum Equipment List (MEL)	A list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by the operator in conformity with, or more restrictive than, the MMEL established for the aircraft type.
Minimum Flight Altitude	The operationally lowest usable safe altitude on a given route segment, considering all aspects such as minimum terrain clearance, minimum altitudes imposed by a State, the accuracy with which the position of the aircraft can be determined, probable inaccuracies of altimeters, characteristics of the terrain, probability of encountering unfavorable met. conditions, COM/ NAV reception characteristics and ATC requirements but also possible inaccuracies in aeronautical charts.
Minimum Obstruction Clearance Altitude (MOCA)	The lowest published altitude in effect between radio fixes on VOR airways, off-airway routes, or route segments which meets obstacle clearance requirements for the entire route segment, or in the USA assures acceptable navigational signal coverage only within 22 NM of a VOR.

Minimum Off-Route Altitude (MORA)	This is an altitude derived by Jeppesen. The MORA provides known obstruction clearance 10 NM either side of the route centreline including a 10 NM radius beyond the radio fix reporting or mileage break defining the route segment. For terrain and man-made structure clearance refer to Grid MORA in Chapter ***8.1.1.9 Minimum and Maximum Flight Altitudes***.
Minimum Reception Altitude (MRA)	The lowest altitude at which an intersection can be determined.
Minimum Sector Altitude (MSA)	Altitude depicted on an instrument approach chart and identified as the minimum sector altitude which provides a 1,000 ft obstacle clearance within a 25 NM radius from the navigational facility upon which the MSA is predicted. If the radius limit is other than 25 NM, it is stated. This altitude is for EMERGENCY USE ONLY and does not necessarily guarantee NAVAID reception.
Minimum Vectoring Altitude (MVA)	The lowest MSL altitude at which an IFR aircraft will be vectored by a radar controller, except as otherwise authorized for radar approaches, departures and missed approaches. The altitude meets IFR obstacle clearance criteria. It may be lower than the published MEA along an airway. It may be utilized for radar vectoring only upon the controller's determination that an adequate radar return is being received from the aircraft being controlled. Charts depicting minimum vectoring altitudes are normally available only to the controllers, not to Pilots.
Missed Approach Point (MAPt)	That point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.
Missed Approach Procedure	The procedure to be followed if the approach cannot be continued.
MLS Critical Area	An area of defined dimensions about the azimuth and elevation antennas where vehicles, including aircraft, are excluded during all MLS operations. The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the guidance signals.
MLS Sensitive Area	An area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the MLS signals during MLS operations.
Moderate Icing	The rate of accumulation of ice becomes hazardous and use of de-icing/anti-icing equipment is necessary and a change in flight direction or altitude is recommended.

Night	The hours between the end of evening civil twilight and the beginning of morning civil twilight. Refer to Jeppesen General Airway Manual — Sunrise and Sunset Tables.
Non-Scheduled Air Service / Non-Scheduled Flight	A non-scheduled air service is a commercial air transport service performed as other than a scheduled air service. A charter flight is a non-scheduled operation using a chartered aircraft. Though the terms non-scheduled and charter (i.e. a contractual arrangement between an air carrier and an entity hiring or leasing its aircraft) have come to be used interchangeably, it should be noted that not all commercial non-scheduled operations are charter flights.
Notice to Airman (NOTAM)	A notice distributed by means of telecommunication containing information concerning the establishment, conditions or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel and systems concerned with flight operations.
Obstacle Clearance Altitude/ Height (OCA/H)	The lowest altitude (OCA), or alternatively the lowest height above the relevant runway threshold or above the aerodrome elevation as applicable (OCH), used in establishing compliance with appropriate obstacle clearance criteria.
Obstacle Clearance Limit (OCL)	The height above aerodrome elevation below which the minimum prescribed vertical clearance cannot be maintained either on approach or in the event of a missed approach.
Obstacle-Free Zone (OFZ)	The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangible mounted one required for air navigation purposes.
Oceanic Entry Point	The Oceanic Entry point is generally a “named” waypoint, on or close to the FIR boundary where the aircraft enters an oceanic control area. **NOTE** For aircraft entering the Reykjavik CTA from Edmonton, at or north of 82N, the Oceanic Entry Point can be a Lat/ Long position on the boundary.
Oceanic Exit Point	The Oceanic Exit point is generally a “named” waypoint, on or close to the FIR boundary where the aircraft leaves the last oceanic control area. **NOTE** Routes involving more than one OCA may result in multiple Oceanic Entry and Exit Points.
Off Blocks	The time when all engines are running AND all wheel chocks have been removed, OR - if the aircraft has to be towed / pushed back before engine start - the time when the towing / push back begins.

On Blocks	The time, after "OFF BLOCKS", when the aircraft has come to a complete stop AND all engines have been shut down, OR when the ground crew announces that wheel chocks are in place (whichever comes first).
Operational Control	The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the flight.
Operations Personnel	Any person employed by EL AL that is one of the following: 1. A crew member; 2. A person in a position of managing flight operations and operational control; 3. A person involved in providing ground services or maintaining the continuous airworthiness of EL AL aircraft.
Operator	A person, organisation or enterprise engaged or intending to engage in an aircraft operation.
Passenger	A person other than a crew member travelling or about to travel on an aircraft.
Performance-Based Navigation (PBN)	Means area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace **NOTE** Performance requirements are expressed in navigation specifications in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.
Pilot Flying (PF)	A pilot who, for the time being, is in charge of the controls of an aircraft.
Pilot Monitoring (PM)	A Pilot who is assisting the Pilot Flying in accordance with the multi-crew co-operation concept.
Pilot-in-Command (PIC)	A Captain qualified by the operator to be in command and designated by the operator to be the pilot responsible for the overall operation and safety of an aircraft. Also termed as "Commander".
Point Merge	A systemised method for merging arrival flows with existing technology. It is designed to enable extensive use of lateral guidance by the FMS and continuous descent, even under high traffic load.
Portable EFB	Means a portable EFB host platform, used on the flight deck, which is not part of the configuration of the certified aircraft.

Portable Electronic Devices (PED)	Any kind of electronic device, typically but not limited to consumer electronics, brought on board the aircraft by crew members, passengers, or as part of the cargo and that are not included in the approved aircraft configuration. All equipment that is able to consume electrical energy falls under this definition. The electrical energy can be provided from internal sources as batteries (chargeable or non-rechargeable) or the devices may also be connected to specific aircraft power sources. The term 'transmitting PED' (T-PED) is used to identify the transmitting capability of the PED, while a controlled PED (C-PED) is subject to administrative control by EL AL.
Pre-flight	Until brake release for take-off.
Pressure Altitude	An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.
Procedure Turn	A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track. **NOTE** Procedure turns are designated “left” or “right” according to the direction of the initial turn. **NOTE** Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual instrument approach procedure.
Proficiency Checks	Demonstration of skill to revalidate or renew ratings, and including such oral examination as the examiner may require.
Psychoactive Substances	Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, with the exception of caffeine and tobacco.
Ramp Inspection	The inspection of aircraft, of flight and cabin crew qualifications and of flight documentation in order to verify the compliance with the applicable requirements.
Receiver Autonomous Integrity Monitoring (RAIM)	A form of Aircraft-Based Augmentation System whereby a GNSS receiver processor determines the integrity of the GNSS navigation signals using only GPS signals.
Reduced Contingency Fuel (RCF)	A procedure requiring pre-flight planning to a destination airport using an In-flight Re-planning Point along the route and an optional refuel destination airport (destination 2).
Related Aircraft	Any two or more aircraft of the same make with either the same or different type certificates that have been demonstrated and determined by the CAAI to have commonality. (e.g. B777/B787). The B787 is related to the B777 and the B777 is related to the B787.

Relief Pilot	A Co-pilot relieving the PIC while he is at rest.
Reported RVR	The RVR communicated to the PIC of an aircraft by, or on behalf of, the person in charge of the airport.
Required Communication Performance	A statement of the performance requirement for operational communication in support of specific ATM functions.
Runway - Holding Position	A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorised by the aerodrome control tower. **NOTE** In radiotelephony phraseologies, the expression "holding point" is used to designate the runway-holding position.
Runway Condition Assessment Matrix (RCAM)	Means a matrix that allows the assessment of the runway condition code (RWYCC), using associated procedures, from a set of observed runway surface condition(s) and pilot report of braking action.
Runway Condition Code (RWYCC)	Means a number, to be used in the runway condition report (RCR), that describes the effect of the runway surface condition on aeroplane deceleration performance and lateral control. The purpose of the runway condition code (RWYCC) is to permit an operational aeroplane landing performance calculation by the flight crew.
Runway Condition Report (RCR)	Means a comprehensive standardised report relating to the conditions of the runway surface and their effect on the aeroplane landing and take-off performance, described by means of runway conditions code.
Runway Incursion	Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.
Runway Surface Condition	Means a description of the condition of the runway surface used in the Runway Condition Report (RCR) which establishes the basis for the determination of the Runway Condition Code (RWYCC) for aeroplane performance purposes. The runway surface conditions used in the RCR establish a common language between the aerodrome operator, the aeroplane manufacturer and the aeroplane operator. Aircraft de-icing chemicals and other contaminants are also reported but are not included in the list of runway surface condition descriptors because their effect on the runway surface friction characteristics and the RWYCC cannot be evaluated in a standardised manner.

Runway Visual Range (RVR)
The range over which the pilot of an aircraft on the center line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centerline.

SAG – Safety Action Group
A flight safety committee is established to convene regularly and additionally, following events as they occur, or upon the request of the Chief Pilot, for a personal discussion regarding events/incident reports.

A SAG ad-hoc (SAGAH) may convene to the Chief Pilot and Director of Standards request or in the event requiring the committee to convene.

Scheduled Air Service / Scheduled Flight
A scheduled international air service is a series of flights that possesses all the following characteristics:

1. It passes through the airspace over the territory of more than one State;
2. It is performed by aircraft for the transport of passengers, mail or cargo for remuneration, in such a manner that each flight is open to use by members of the public;
3. It is operated, so as to serve traffic between the same two or more points, either
   a. According to a published timetable; or
   b. With flights so regular or frequent that they constitute a recognizably systematic series.

Separate Runways
Runways at the same airport that are separate landing surfaces. These runways may overlay or cross in such a way that if one of the runways is blocked, it will not prevent the planned type of operations on the other run way.

Severe Icing
The rate of accumulation of ice is such that de-icing/anti-icing equipment fails to reduce or control the hazard and an immediate change in flight direction or altitude is necessary.

Slippery Wet Runway
Means a wet runway where the surface friction characteristics of a significant portion of the runway have been determined to be degraded.

The surface friction characteristics of the runway are considered degraded when below the minimum standards.

A portion of runway in the order of 100 m long may be considered significant.

Specially Prepared Winter Runway
Means a runway with a dry frozen surface of compacted snow or ice which has been treated with sand or grit or has been mechanically treated to improve runway friction.

Stabilised Approach (SAp)	An approach which is flown in a controlled and appropriate manner in terms of configuration, energy and control of the flight path from a pre-determined point or altitude to a point 50 ft above the landing threshold.
State of Registry	The State on whose register the aircraft is entered.
State of the Operator	The State in which the Operator has his principal place of business or, if he has no such place of business, his permanent residence.
Station	A station which is not TLV and is used for regular embarkation and disembarkation of passengers or for regular loading and unloading of cargo.
Station Check	A check which includes all of the following: 1. An aircraft airworthiness check which is performed according to the approved maintenance procedures; 2. The check can be performed in full by a visual inspection without the need of measurement or testing tools; 3. The check is performed at a “Station” or at a “Transit Station”.
Surveillance Radar	Radar equipment used to determine the position of an aircraft in range and azimuth.

Synthetic Training Device	A training device which is one of the following: • **Flight Simulator:** A full-size replica of a specific type or make, model and series aeroplane flight deck, including the assemblage of all equipment and computer programmes necessary to represent the aeroplane in ground and flight operations, a visual system providing an out of the flight deck view, and a force cueing motion system. It is in compliance with the minimum standards for Flight Simulator Qualification; • **Flight Training Device (FTD):** A full-size replica of an aeroplane's instruments, equipment, panels and controls in an open flight deck area or an enclosed aeroplane flight deck, including the assemblage of equipment and computer software programmes necessary to represent the aeroplane in ground and flight conditions to the extent of the systems installed in the device. It does not require a force cueing motion or visual system. It is in compliance with the minimum standards for a specific FTD Level of Qualification; • **Flight and Navigation Procedures Trainer (FNPT):** There are two types of FNPT's: • FNPT Type I - A ground-based training device which represents the flight deck environment of a class of aeroplanes; • FNPT Type II - A ground-based training device which represents the flight deck environment of a multi-engine aeroplane type or class to the extent that the systems appear to function as in an aeroplane. It incorporates a visual system providing an out of the cockpit view.
Take-off Distance Available (TODA)	The length of the take-off run available plus the length of the clearway available.
Take-off Mass	The take-off mass of the aircraft shall be taken to be its mass, including everything and everyone carried at the commencement of the take-off run.
Take-off Run Available (TORA)	The length of runway which is declared available by the appropriate authority and suitable for the ground run of an aircraft taking-off.
Taxi	Movement of an airplane under its own power.
Temporary Downgrade (RFFS)	RFFS category as notified, including by NOTAM, and resulting from the downgrade of the level of RFFS protection available at an aerodrome, for a period of time not exceeding 72 hours.
Touchdown Zone (TDZ)	The portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway.

Transit Station — A station which is not TLV and is not a "Station", that is used occasionally for embarkation and disembarkation of passengers or for loading or unloading of cargo or is used for transit purposes only.

Type A Instrument Approach Operation — Means an instrument approach operation with an MDH or a DH at or above 250 ft.

Type B Instrument Approach Operation — Means an operation with a DH below 250 ft. Type B instrument approach operations are categorised as:

1. Category I (CAT I): a DH not lower than 200 ft and with either a visibility not less than 800 m or an RVR not less than 550 m;
2. Category II (CAT II): a DH lower than 200 ft but not lower than 100 ft, and an RVR not less than 300 m;
3. Category III (CAT III): a DH lower than 100 ft or no DH, and an RVR less than 300 m or no RVR limitation.

Vertical Navigation (VNAV) — That function of RNAV equipment which provides guidance in the vertical plane.

Visual Approach — An approach when either part or all of an instrument approach procedure is not completed and the approach is executed with visual reference to the terrain.

Visual Meteorological Conditions (VMC) — VMC reflects meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than:

1. Flight visibility 5 km below 10,000 ft MSL, and 8 km at or above 10,000 ft MSL;
2. Distance from cloud 1,500 m horizontally and 1,000 ft vertically; and
3. Ceiling is not below 1,500 ft.

Volcanic Ash — Is comprised of minerals unique to the volcanic eruption. Minerals common to most volcanic ash are silica together with smaller amounts of the oxides of aluminium, iron, calcium, and sodium. The glassy silicate material is very hard and extremely abrasive. Its melting point is below jet engine burner temperature which introduces additional hazards.

Volcanic Cloud — The sum of the material ejected from a volcano into the atmosphere and transported by winds aloft. It comprises volcanic ash, gases, and chemicals.

Wet Runway	A runway whose surface is covered by any visible dampness or water up to and including 3 mm deep within the area intended to be used. **NOTE** A damp runway that meets this definition is considered wet, regardless of whether or not the surface appears reflective.
Wide Area Augmentation System (WAAS)	WAAS is a navigation system developed for civil aviation that provides extremely accurate horizontal and vertical navigation for all classes of aircraft in all phases of flight - including en-route navigation, airport departures, and airport arrivals. This includes vertically-guided landing approaches in instrument meteorological conditions at all qualified locations.
World Area Forecast Centre (WAFC)	A meteorological centre designated to prepare and issue significant weather forecasts and upper-air forecasts in digital and/or pictorial form on a global basis direct States by appropriate means as part of the aeronautical fixed service.
World Area Forecast System (WAFS)	A world-wide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized formats.
WSI Fusion	A proactive operations management solution that fuses public and proprietary weather information, airspace constraints and flight information data into one clear, unified, streamlined picture to enhance operational decision-making.

0.4.4 Annotation of Page Layout

Revision: 19 - 14 MAR 21

The pages are annotated as follows:

Annotation		Meaning
0-1-1	=	Chapter - Subchapter - Page Number
REVISION: 22 | 20 FEB 24	=	Page is part of Revision 22 with the date of issue
		APPROVED – Items approved by the CAAI as required by the IANR.

NOTE The entire manual will show the same revision stamp in the footer.

0.4.5 Annotation of Chapters and Changes

Revision: 19 - 14 MAR 21

The chapters are annotated as follows:

Annotation		Meaning
Revision: 22 - 20 FEB 24	=	The chapter was revised with Revision 20, date of revision 20th February 2024

NOTE A "*" preceding the chapter annotation means that this chapter has been revised with the latest revision.

Amended text will be marked with a revision bar in the left margin by the following symbol: **|**

Deleted text will be marked by an empty row and two dots in the left margin by the following symbol: **:**

0.5 SYSTEM OF AMENDMENT AND REVISION

(*) Revision: 23.1 - 15 MAR 25

The OM Part A, its amendments and revisions are published and issued by the Standards Pilot. The Standards Pilot is responsible for keeping the instructions and information up-to-date. He shall supply the CAAI with intended amendments and revisions in advance of the effective date. The amendments shall be approved/accepted (as applicable) by the CAAI.

The primary source of all the most up to date manuals shall be the EFOS/EFF for flight crew and FOOs, the CrewNet and AirWatch for cabin crew, and the company Intranet for all other personnel.

All parts of the Operations Manual (Parts A, B, C and D) are available for the flight crew on the iPad EFB. The relevant parts of the Operations Manual (Parts A, B - CFSM only, and D) are available for the cabin crew on the CrewNet system and on the ISM's iPad. Backup documentation is also available on the aircraft's backup EFB, see Chapter ***2.1.6.2 EFB Class I***.

Amendments to the OM (Parts A, B, C excluding amendments received from Jeppesen, or D) may take any of the following forms as applicable:

1. A regular revision; or
2. A temporary revision, in situations where the changes are limited to a defined period of time. A temporary revision shall be issued in the form of a revised reprint of the effected page(s) on yellow paper (or a yellow background for electronic documents) and an accompanying entry in the ***0.4.2 Record of Temporary Revisions***; or
3. A Notice of Errata to correct inadvertent errors such as misspellings, omissions, or other typographical errors, accompanied by a revised reprint of the effected page(s).

The CAAI can instruct EL AL to amend any part of the Operations Manual. The amendment process is as follows:

1. The CAAI sends an amendment request to EL AL with a specific date for response, which is no less than 21 days from the date the notice was received by EL AL. This time period is for EL AL to provide written information and comments to the CAAI;
2. The CAAI reviews EL AL's comments and notifies EL AL on the CAAI decision;
3. Based on the CAAI instructions, EL AL shall implement the amendments within 60 days from the date of receiving the CAAI amendment request in step 1 above or within 30 days after receiving the CAAI decision in step 2 above;
4. EL AL shall notify the CAAI upon completion of the amendment.

When the proposed amendment relates to flight safety and it requires immediate action, the CAAI can instruct EL AL with a written explanation, to immediately implement the amendment. EL AL shall implement the amendment immediately upon receiving the notice from the CAAI, however EL AL shall be granted time to provide written information and comments to the CAAI. If EL AL has provided written information and comments as above, steps 2 and 4 above shall apply with the required changes.

The implementation process for EL AL initiated amendments to all parts of the OM is as follows:

1. EL AL submits the updated OM pages to the CAAI at least 45 days prior to its planned implementation (validity date);
2. The CAAI decides within 45 days of submittal, either to accept, reject, or instruct EL AL to make corrections to the proposed amendments;

3. If no response is received from the CAAI within 45 days of the document submittal to the CAAI, items not marked with “Approved” shall be considered to be accepted by the CAAI. Items marked with “**APPROVED**” shall receive an approval from the CAAI before they are published.

In situations where a part of the OM requires amendment but safety considerations render the implementation process described above unfeasible, an immediate amendment may be made and the CAAI shall be informed immediately.

Whenever an amendment is made to the OM Part A, the Standards Pilot is responsible to publish the revision on the company Intranet and to notify the persons in the list below, who shall in turn disseminate the changes to operational personnel. For amendments to the OM Part D, this responsibility lies with the Flight Crew Training Manager.

1. VP Flight Operations;
2. Ground Operations – Planning and Control Manager;
3. OCC - Chief Dispatcher;
4. Director of Cabin Operations;
5. Crew Assignment Manager;
6. Continuous Airworthiness Manager;
7. Cargo Division – Superintendent Cargo Operations and Procedures;
8. Safety and Quality Manager;
9. Training and Organizational Development Division Manager;
10. Sun d'Or Operations Manager;
11. Security Division – Procedures Editor and Coordinator.

The OM Part A and OM Part D are divided into Chapters which are broken down into sub-chapters and subsections.

In the top outer corner, each manual page bears an index reference, consisting of a group of numbers indicating the Chapter, the sub-Chapter and the consecutive page number in that sub-chapter and the effecting date.

With each normal amendment an updated *List of Effective Sections/Subsections* (which forms part of the OM) will be issued, which enables the user to check whether his manual is up-to-date.

In order to identify changes, additions or deletions, a vertical line is used to outline revised or newly published paragraphs on the pages. In addition, an introduction (*0.1 Highlight of Changes*) will be provided, identifying revised sections and describing the reason for their revision. Personnel are required to carefully take note of the change.

1 ORGANIZATION AND RESPONSIBILITIES

1.1 ORGANIZATIONAL STRUCTURE

1.1.1 General Rules for Air Operator Certification

Revision: 22.1 - 1 JUN 24

EL AL shall not operate an aircraft for the purpose of commercial air transportation unless under, and in accordance with, the terms and conditions of the Air Operator Certificate (AOC).

EL AL shall allow the CAAI to examine all safety aspects of the company operation.

EL AL shall grant the CAAI access to its organization and aircraft and shall ensure that with respect to maintenance, access is granted to any associated maintenance organization, to determine continued compliance with the Israel ANR.

EL AL shall nominate the following postholders:

1. Accountable Manager;
2. VP Flight Operations;
3. Chief Pilot and Director Standards Division;
4. Continuous Airworthiness Manager;
5. Safety Manager.

1.1.2 Facilities

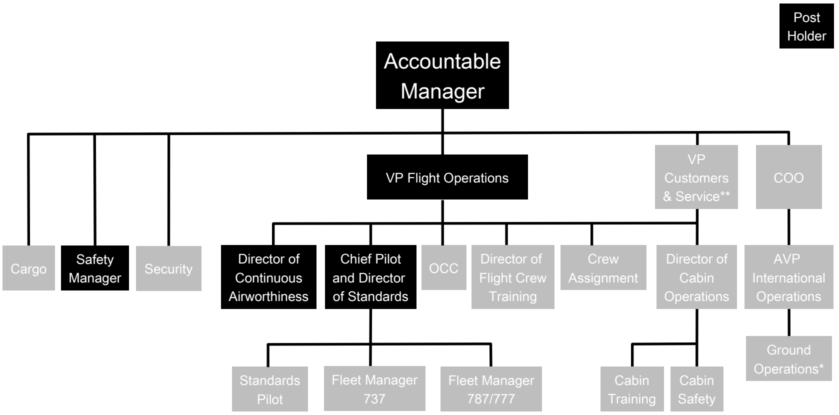
Revision: 19 - 14 MAR 21

EL AL shall ensure that working space facilities and equipment and supporting services available at each operating base is sufficient for personnel pertaining to the safety and security of flight operations. Consideration shall be given to the needs of ground staff, those concerned with operational control, the storage and display of essential records, and flight planning.

Office services shall be capable, without delay, of distributing operational instructions and other information to all concerned.

1.1.3 Organizational Chart

Revision: 22.1 - 1 JUN 24



* See Chapter *1.3.9 Ground Operations* for organizational hierarchy of Ground Operations.

** See Chapter *1.3.2.1 VP Customers & Service* for description of the relationship between Director of Flight Operations and VP Customers & Service.

NOTE	This organizational chart represents only positions required by the ANR and those related to flight operations and flight safety. A fully detailed company organization chart appears in the company Intranet.

1.2 NOMINATED POSTHOLDERS

1.2.1 General

Revision: 19 - 14 MAR 21

EL AL shall have sufficient qualified management and technical personnel to ensure the highest degree of safety in its operations. The certificate holder shall have qualified personnel serving full-time in at least the following positions:

1.2.2 Change of Postholders

Revision: 23 - 29 AUG 24

Whenever there is a change of Postholders or other personnel whose names are listed in the OM Part A:

1. The Chief Pilot and Director of Standards shall be notified as soon as possible, and he shall in turn be responsible to amend this chapter; and
2. In case of Nominated Postholders – CAAI shall be notified within 10 days.

The responsibility for the above notification is as follows:

Personnel Changed	Responsibility for Notification
Director of Flight Operations or Safety Manager	Accountable Manager
Any other Nominated Postholders	Director of Flight Operations
Any other personnel listed in the OM Part A	The changed personnel's direct manager

1.2.3 Nominated Postholders

Revision: 22.1 - 1 JUN 24

- **Accountable Manager**

  CEO, Mrs. Dina Ben Tal Ganancia

  Telephone: +972-3-971-6201

  Email: dinabtg@elal.co.il

- **Director of Flight Operations**

  VP Flight Operations, Captain Hovav Ben David

  Telephone: +972-3-971-7210

  Email: HovavB@elal.co.il

- **Chief Pilot and Director of Standards Division**

  Chief Pilot and Director of Standards, Captain Jonathan Gat

  Telephone: +972-3-971-6708

  Email: jonathang@elal.co.il

- **Safety Manager**

  Director of Safety and Quality, Captain Boaz Rosenman

  Telephone: +972-3-971-4488

  Email: BOAZR@elal.co.il

- **Director of Continuous Airworthiness**

  Continuous Airworthiness Manager, Mr. Eliau Elimelech

  Telephone: +972-3-971-6509

  Email: EliauE@elal.co.il

Full-time in reference to the above requirement means that the person is employed by EL AL in the framework of EL AL's operations, in the function of duties under his responsibility, or related duties, as long as these duties do not or may not create a conflict of interest with the duties, or will affect his ability to perform these duties.

Other personnel required by regulations:

Ground Operations Managers

- **Israel Station Manager**

  Michal Banin Yosipof

  Telephone: +972-3-971-4120

  Email: michalba@elal.co.il

- **Outbase Ground Operations Manager**

  Haim Tzoor

  Telephone: +972-3-971-6196

  Email: haimzu@elal.co.il

Training Managers

- **Director of Flight Crew Training Department**

  Captain Eyal Magal

  Telephone: +972-3-971-6830

  Email: eyalma@elal.co.il

- **Cabin Crew Training Manager**

  In-flight Service Manager, Elik Harpaz

  Telephone: +972-3-971-6698

  Email: elikh@elal.co.il

- **Ground Operations Training Manager**

  Zohar Ziv

  Telephone: +971-3-971-6199

  Email: zoharz@elal.co.il

1.2.4 Deputies to Postholders

(*) Revision: 23.1 - 15 MAR 25

Continuity of supervision in the absence of a nominated Postholder shall be ensured. Therefore, the postholder shall appoint a deputy for any time he is out of the country or is incapable of performing his duties. An official letter shall be distributed accordingly. The default deputies have been defined for the following postholders:

- **Accountable Manager**

  According to the letter as described above.

- **Director of Flight Operations**

  OCC Manager/Chief Pilot

- **Deputy of Chief Pilot and Director of Standards Division**

  Standards Pilot

  Captain Assaf Porat

  Telephone: +972-3-971-6983

  Email: AssafP@elal.co.il

  or according to the letter as described above.

- **Deputy of Safety Manager**

  Flight Safety Officer, Captain Doron Zmora

  Telephone: +972-3-971-6805

  Email: doronzm@elal.co.il

- **Deputy of Director of Continuous Airworthiness**

  Boris Bresler

  Telephone: +972-54-444-3954

  Email: Borib@elal.co.il

1.2.5 Main Functions of the Management

Revision: 19 - 14 MAR 21

- Determination of EL AL's flight safety policy;
- Allocation of responsibilities and duties and issuing instructions to individuals, sufficient for implementation of EL AL's policy and the maintenance of safety standards;
- Monitoring of flight safety and security standards;
- Recording and analysis of any deviations from EL AL's standards and ensuring corrective action;
- Evaluating the safety record of EL AL in order to avoid the development of undesirable trends; and
- Liaison with the CAAI.

1.2.6 Competence

Revision: 19 - 14 MAR 21

The Nominated Postholders (excluding the CEO) have expertise in the application of safety standards and safe operating practices. They have comprehensive knowledge of the ANR, of the con-tents of the Operations Specifications, and of the need for, and the content of, the relevant parts of the Operations Manual. Furthermore, they are familiar with EL AL's Safety Management System.

For the specific functions and responsibilities of Postholders see Chapter ***1.3 Responsibilities and Duties of Operations Management Personnel***.

1.3 RESPONSIBILITIES AND DUTIES OF OPERATIONS MANAGEMENT PERSONNEL

Revision: 19 - 14 MAR 21

A large aircraft for the purpose of this chapter is an aircraft with a maximum approved take-off weight greater than 5,700 kg.

1.3.1 Accountable Manager

Revision: 19 - 14 MAR 21

The Accountable Manager is the Company CEO, he is appointed by the board of directors and reports to them. He has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the CAAI and according to the ANR.

He is responsible for providing the necessary resources and facilities to enable the postholders to perform the tasks for which they are responsible to ensure safe operations and airworthy aircraft.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.2 Director of Flight Operations

Revision: 23 - 29 AUG 24

The Director of Flight Operations is the VP Flight Operations. He is appointed by and reports to the Accountable Manager. He is a permanent member of the company management team and shares the responsibility with the Accountable Manager on his decisions.

The Postholder Director of Flight Operations has the sole authority and responsibility regarding safety and security of flight operations and operation according to the ANR and Operations Specifications and compliance with them. This authority and responsibility is implemented through all phases i.e. initial training, authorization, recurrent training and enforcement. Enforcement means that on all issues related to flight safety and security, the Postholder Operations is granted with the sole authority to determine if the person in question, out of all personnel stated above, will be able to continue his duties.

The qualification requirements of the Director of Flight Operations are:

- He has knowledge of the OM and of the Operations Specifications (Ops Spec) which appear in the EFOS/EFF library, and of Chapter 13 of the ANR;
- He holds, or has held an ATPL, has at least 5 years of continuous experience as PIC on a large aircraft, of those at least 3 years serving for an operator of a large aircraft or he has at least 3 years of similar managerial experience accepted by the CAAI.

The main functions, duties and responsibilities of the Director of Flight Operations are:

- To participate in defining the company policy in areas under his responsibility as well as other areas regarding the company operations;
- To define and manage policies, rules, procedures and instructions governing flight crew and specific aircraft;
- To execute the company flights as scheduled in an efficient and safe manner;
- To ensure the functioning of the Quality and Safety Management System within all divisions under his responsibility;

- To determine all flight operational standards and practices, and to ensure their compliance with all relevant national and international regulations and with the provisions of the OPERATIONS SPECIFICATIONS;
- To ensure that the flight operations schedules, shall allow enough time for the proper servicing of aircraft at intermediate stops, and shall consider the prevailing winds en-route and the cruising speed of the type of aircraft used. This cruising speed may not be more than that resulting from the specified cruising output of the engines;
- To publish, where necessary in cooperation with the aircraft manufacturer, with Ground Operations (e.g., the OM Part B) and with others, the Operations Manual (i.e. OM Part A, B, C and D) in accordance with the provisions, see Chapter ***0.4 Introduction*** and see Chapter ***2.4 Operational Control***;
- To make the final decision concerning the employment of flight crew;
- To call and chair hearings in case of accidents and incidents or, whenever he deems it necessary, in case of irregularities or of violations of legal provisions or internal directives;
- To cooperate with the Manager of Continuous Airworthiness and the AMO Accountable Manager to ensure technical status of the company aircraft is kept on a high level;
- To represent, as far as flight operations are concerned, the company's interests in national and international bodies and institutions; and
- To ensure that any contractor employed for services related to flight safety, meets the required standards since the company – when contracting for the provision of certain services – retains responsibility for the maintenance of proper standards;
- To ensure via regular scheduled meetings that issues that affect operational safety and security are coordinated in the appropriate areas within the flight operations organization and relevant areas outside of flight operations, to include:
  a. Accident prevention and flight safety;
  b. Cabin operations;
  c. Engineering and maintenance;
  d. Operations engineering;
  e. Operational control/flight dispatch;
  f. Human resources;
  g. Ground handling, cargo operations and dangerous goods;
  h. Manufacturers;
  i. Regulatory agencies or authorities.

The Director of Flight Operations has the right:

- To suspend subordinates from their duties, functions and privileges where this seems necessary for a safe and secure conduct of flight operations or for disciplinary sanctions;
- To approve procedures valid for subordinate functions;
- To approve the conduct of flights or series of flights concerning safety, security or flight operational aspects; and

- To prohibit flights or series of flights or to suspend flight operations for safety or security reasons;
- To determine which types of dangerous goods may be carried as cargo on board EL AL flights.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.2.1 VP Customers & Service

Revision: 23 - 29 AUG 24

The VP Flight Operations has designated the VP Customers & Service to be his agent concerning Israel Station and Cabin Crew Operations, for ensuring that training and operational functions are carried out in accordance with all relevant instructions and procedures.

1.3.2.2 COO – Chief Operating Officer

Revision: 21 - 5 MAY 23

The COO has designated the AVP of International Operations to be his agent concerning Ground Operations, for ensuring that training and operational functions are carried out in accordance with all relevant instructions and procedures.

1.3.3 Operations Control Centre

Revision: 23 - 29 AUG 24

The OCC controls all EL AL flights to ascertain execution of flights according to plan with emphasis on safety and economy. The OCC Manager is responsible for planning and dispatching flights, flight monitoring, locating anomalies, providing solutions and initiating changes due to restrictions and/or operational requirements, and all OCC functions detailed below. He is also responsible to ensure that all FOOs are qualified for duty and that enough qualified FOOs are available at the OCC to ensure proper operational control of each flight.

The OCC Manager is appointed by and reports to the Operations Manager and derives his authority from him.

The main functions, duties and responsibilities of the Operations Control Centre are:

- To be the centre of coordination and communication for actual flight operations;
- To control and supervise, for each aircraft, the operations schedule, which implies close cooperation with Continues Airworthiness Manager;
- To react, in close cooperation with the individual PIC and, where necessary, with the Chief Pilot and Standards Division, to operational irregularities, e.g. by having a flight depart early or depart late, rerouting it or having it diverted en-route;
- To react, in close cooperation with the PIC, with the Chief Pilot and Standards Division, other company divisions and with the appropriate authorities, to irregularities and incidents related to security;
- To provide or contract for dispatch services;
- To calculate estimated flight times, taxi times, burnoffs and payloads for planned routes for the purpose of planning the Company's operations, and to coordinate this task with the Chief Pilot (responsibility to check suitability of areas, routes and airports);
- To apply for overfly rights;

- To control, analyze and store records, flight documents and data, and – by direction of the Chief Pilot – to give access to, and produce such records, documents and data to any person authorized by the CAAI, within a reasonable time period after being requested to do so;
- To submit flight duty period / flight time exceedance reports to the CAAI;
- To determine in cooperation with the Chief Pilot and Standards Division the usability of areas and airways to be utilised for the company's flight operations, and to establish minimum flight altitudes, see Chapter ***8.1.1.9 Minimum and Maximum Flight Altitudes***; and
- To ensure that operations are only conducted along such routes and within such areas for which:
  - Ground facilities and services, including meteorological services, are provided which are adequate for the planned operation;
  - The performance of the aircraft to be used is adequate to comply with minimum flight altitude requirements;
  - The equipment of the aircraft to be used meets the requirements for the planned operation;
  - Current maps/charts are available; and
  - In the case of twin-engine aircraft the limitations of Chapter ***8.5 Extended Diversion Time Operation (EDTO)*** are met.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.4 Crew Assignment

Revision: 19 - 14 MAR 21

Crew assignment is responsible for assigning flight and cabin crew for the scheduled company flights. Its manager is appointed by and reports to the Operations Manager and derives his authority from him.

The main functions, duties and responsibilities of Crew Assignment are:

- To control the presence/absence of all crew members, and to schedule/reschedule them for duty;
- To respond to irregularities (e.g., sickness, delay of aircraft, etc.) by re-scheduling, at short notice, crew members, or calling them to duty out of stand-by, keeping in close contact with the Operations Control Centre;
- To strictly observe the flight and duty time limitations laid down in Chapter ***7 Flight Time Limitations***;
- To ensure that crew member duty assignments comply with the health regulations and precautions required by Chapter ***6 Crew Health Precautions***;
- To propose corrective action in the event of flight duty period extensions;
- To maintain records of flight times, duty times, rest times, leave, sickness, route and airport qualification requirements, checks and training of all crew members;
- To reserve hotel accommodation and arrange for ground transportation whenever a crew layover is being planned;
- To issue tickets for duty purposes;
- To plan, monitor and file all deadhead activities;

- To accept requests by crew members for leave for certain tours of duty or special off days, and, where possible, to plan the crew schedule accordingly;
- To direct and plan a leave roster;
- To assist crew members in times of personal problems, where possible;
- To assist the crew members in obtaining the necessary visas and in advising them of special customs and health regulations; and

For any planned flight, Crew Assignment shall ensure that:

- A PIC has been designated, and that a complete crew has been scheduled, and that they meet all relevant competency and recency requirements;
- For each crew member of the planned flight, the legal requirements concerning flight time/rest time limitations have been and are being observed (see Chapter ***7 Flight Time Limitations***).

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.5 Chief Pilot and Director of Standards

Revision: 23 - 29 AUG 24

The Chief Pilot and Director of Standards Division is the Chief Pilot. He is appointed by and reports to the VP Flight Operations and derives his authority from him.

The qualification requirements of the Chief Pilot are:

- Holds a valid ATPL license with a rating on at least one of the aircraft types operated by EL AL;
- Has at least 5 years of continuous experience as PIC on a large aircraft used by EL AL unless a waiver is received from the CAAI;
- A thorough knowledge of EL AL's OM, of the Operations Specifications and of the regulations of Chapter 13 of the ANR required for diligent execution of his duties.

The main functions, duties and responsibilities of the Chief Pilot are:

- To coordinate and supervise the Fleet Managers, and Flight Standards;
- To ensure quality and safety within the Chief Pilot and Standards Division;
- To verify that flight crews operate efficiently and economically while abiding to the ANR, the company procedures and at the appropriate level of safety;
- To publish other necessary directives for the flight crew personnel, see Chapter ***2.2 System of Promulgation of Additional Operational Instruction and Information***;
- To check the professional standard of the company's flight crew, and to establish improvements in standards, procedures;
- To determine the usability of airports for company operations in accordance with Chapter ***8.1.1 Flight Planning***, to determine restrictions for their use and to lay down the appropriate airport operating minima;
- To keep himself up-to-date on equipment developments and on flight operational procedures;
- To ensure that aircraft are operated in accordance with applicable performance requirements;
- To appoint and/or disqualify flight crew members and check and training personnel including type rating examiners;

- To make available to pilots and to publish the OM Parts A, B, C and D under the direction of the Chief Pilot and Director of Standards and in coordination with the Fleet Managers and the Director of Flight Crew Training Department;
- To closely cooperate with the VP Flight Operations, with all relevant divisions and managers in standardizing and optimizing standards and procedures;
- The Chief Pilot will be the chairman of the SAG - Safety Action Group. The SAG will meet routinely and additionally following events, as they occur, or ad-hoc at the request of the Chief Pilot and Director of Standards. For additional information see CPDM.

Members of the SAG shall include:

- The Chief Pilot and Director of Standards;
- Human Factors Expert (optional);
- Director of Safety department (or a safety representative on his behalf);
- Flight Crew Training Chief Pilot from the relevant fleet;
- Fleet Manager from the relevant fleet.

Once every two months a SAGAH will meet in order to discuss SMS findings.

The SAGAH meeting will be chaired by the Chief Pilot and Director of Standards as well as the Director of Flight Crew Training Department.

The SAGAH meetings shall include all SAG members and the Director of Flight Safety Department.

The Director of Flight Safety Department shall present all the relevant SMS findings.

The Chief Pilot and Director of Standards shall present findings arisen from the line flights, route checks and observer flights.

Director of Flight Crew Training Department shall present findings from the simulator.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.5.1 Standards Pilot

Revision: 23 - 29 AUG 24

The Standards Pilot is appointed by and reports to the Chief Pilot. The Standards Pilot is responsible for the safe and efficient operation of all fleets according to the company policy and ANR.

The qualification requirements of the Standards Pilot are detailed in the CPDM.

The main functions, duties and responsibilities of the Standards Pilot, are:

- To manage the staff work of the Chief Pilot and Standards Division;
- To manage Chief Pilot and Standards Division Engineering (analysis, application and customization of aircraft performance data; routes and airports, FMS data base, NOTAMs, equipment specifications and requirements);
- To be the liaison with other company units and external entities related to flight operations;
- To function as the professional advisor to the Chief Pilot and Director of Standards;
- To keep current on all legal national and international provisions, relating to flight operations, to advise all concerned of important changes;

- To file prescribed reports with the CAAI or foreign authorities, and to apply to them for necessary approvals (e.g., Cat II/III, EDTO, reduced take-off Minima etc.);
- To maintain routine contacts and be the liaison with the CAAI and authorities of other countries;
- To collect data and material for updating the OM Part A, to advise the Director of Flight Operations and Chief Pilot accordingly, and, under his supervision and direction, publish the OM Part A and its amendments;
- To work on route studies and to advise the Chief Pilot and the Director Flight Operations accordingly;
- To coordinate and answer questions and matters relating to flight operational standards and regulations/provisions;
- To be the liaison with non fleet specific Original Equipment Manufacturers and with other external entities related to non fleet specific flight operations;
- To establish, standard noise abatement procedures and to coordinate noise related questions for the company in national or international conferences; and
- To control and distribute the OM Part A, B, C and D or parts thereof to flight crew.

The Navigation Database Manager (NDM) reports to the Standards Pilot and is responsible for the data updating process. The NDM shall maintain a current list of EL AL destinations and alternate airports. Before every AIRAC cycle change, the NDM shall review the expected changes at LLBG and LLER airports and shall mark and present to the Standards Pilot all the relevant changes. The NDM shall cross check these changes with the charts, to verify that the electronic data and charts correspond.

NOTE	The navigation data base supplier will provide EL AL with a “letter of compliance” in order to ensure all data is correct and current.

If the AIRAC cycle change is to take effect during flight, the NDM shall compare the new and old aeronautical charts to verify navigation fixes prior to departure. If an amended chart is published for the procedure, the database shall not be used to conduct the operation. In this case the NDM shall issue a NOTAM to aircrew.

After verifying the AIRAC cycle, the NDM shall approve every AIRAC cycle loading to aircraft. Discrepancies that invalidate a procedure (i.e. data base errors) shall be reported to the navigation database supplier and the use of affected procedures shall be prohibited. A notice to crew shall be published via NOTAM.

All the NDM approvals, discrepancies and notices shall be recorded and filed, containing the NAV DATA identification, AIRAC cycle, action, date, loading approval, and signature.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.5.2 Flight Crew Training

Revision: 22 - 20 FEB 24

The Director of Flight Crew Training Department is responsible for the flight crew training in all aspects as detailed in Chapter ***5.2 Flight Crew*** of this OM and in the OM Part D. He is appointed by and reports to the VP Flight Operations.

The qualification requirements of the Director of Flight Crew Training department are detailed in the FCTDM.

The main functions, duties and responsibilities of the Director Flight Crew Training, are:

- To establish training syllabi and check forms for all required flight crew training and checks, in cooperation with the Chief Pilot;
- To compile and maintain up-to-date lists of all flight crew personnel so that checks, simulator checks, training and first aid instruction, medical examinations etc. are administered in due time for licensing and renewal of licenses (see Chapter ***2 Operational Control and Supervision***);
- To maintain area, route and airport qualification records for each pilot;
- To coordinate all questions and matters relating to flight training;
- To establish the professional prerequisites concerning employment/training/upgrading of flight crew members, in cooperation with the Chief Pilot and with the Fleet Managers;
- To hold editorial responsibility for the OM Part D;
- To coordinate with the other postholders the contents of the OM Part D and the training relevant subjects; and
- To examine the professional qualifications of applicants, and to recommend or discourage their employment (the final decision resting with the Chief Pilot).

NOTE	It should be pointed out, however, that in the last instance, each individual crew member is responsible for keeping his license current. This implies the obligation to inform the Fleet, the Flight Crew Training Manager and/or Crew Assignment in good time if there is doubt that, by mistake, required training/checks have not been scheduled.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.5.3 Fleet Manager

Revision: 23 - 29 AUG 24

The Fleet Manager is responsible for a fleet of aircraft of a defined type. He is appointed by and reports to the Chief Pilot and Director of Standards.

The qualification requirements of the Fleet Managers are detailed in the CPDM.

The Fleet Manager main functions, duties and responsibilities are:

- To supervise the flight operations of his fleet;
- To handle CAAI reports, to inform flight crew of comments received and to update in coordination with Standards Pilot any required documentation;
- To cooperate with the Director of Training Department in establishing the requirements flight crews have to meet, and in establishing check and training syllabi and procedures;
- To work in coordination with the Standards Pilot to establish fleet-specific policies and procedures;
- To assist the Chief Pilot in determining minimum flight altitudes and, for individual airports, the operating minima and the classification for the crew competency;
- To ensure, in cooperation with Flight Crew Assignment, that all required checks and training are conducted in due time;
- To assist the Chief Pilot and Standards Manager in determining the usability of new airports and of new areas/routes flight into/over which is being planned, the operating minima and the classification for the crew competency;

- To ensure the exchange of information and experience within his fleet, other fleets and with interfacing divisions;
- To publish directives for his personnel, with aircraft type specific contents, to implement the provisions of the OM Part A;
- To carefully process occurrence reports (see Chapter ***11 Handling, Notifying and Reporting Occurrences***), and other reports, to identify flight operational irregularities and to recommend remedial action;
- To pass on to the Chief Pilot important information;
- To request the Chief Pilot to call a hearing, when such action seems appropriate (accident, irregularity, violation), and to cooperate in the resulting investigation;
- To participate in addressing issues regarding the safety of the aircraft's interior installations;
- To coordinate test flights after an aircraft has undergone defined maintenance, overhaul work, repairs or adjustments as outlined in the aircraft's "maintenance programme"; and
- To conduct line check flights, to check the professional standard and development of his personnel, to prescribe additional training.

The Fleet Chief Pilot will be designated as the safety officer.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.5.4 Fleet Technical Manager

Revision: 22 - 20 FEB 24

The Fleet Technical Manager is responsible for coordination and communication between the Fleet Manager, Director of Continuous Airworthiness/AMO regarding all technical matters. He is appointed by the Fleet Manager and reports to him.

The qualification requirements of the Fleet Technical Manager are detailed in the CPDM.

The main functions, duties and responsibilities of the Fleet Technical Manager are:

- To discuss fleet-relevant maintenance subjects and problems with the Continues Airworthiness Manager, with Boeing and with the AMO in order to ensure the airworthiness of his fleet's aircraft;
- To participate in updating of the OM Part B and checklists in coordination with the Director of Continuous Airworthiness and with the AMO;
- To supervise distribution and revision service of Flight Manuals, technical information and bulletins;
- To support the Fleet Manager in coordinating test flights after an aircraft has undergone defined maintenance, overhaul work, repairs or adjustments as outlined in the aircraft's "maintenance program";
- To support the Fleet Manager regarding investigations of technical problems, incidents and accidents;
- To issue technical information bulletins to the pilots;
- To carry out operational acceptance of newly acquired/leased aircraft and the coordination of delivery flights;
- To coordinate and support new aircraft installations and systems; and

- To assist the Continuous Airworthiness Manager to establish the MEL.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.6 Safety and Quality

Revision: 19 - 14 MAR 21

The Director of Safety and Quality is the Safety Manager. Refer to the SMM for details.

1.3.7 Director of Continuous Airworthiness

Revision: 22.1 - 1 JUN 24

The Continuous Airworthiness Manager is the Director of Continuous Airworthiness. He is responsible for all continuing airworthiness functions of EL AL aircraft. He is appointed by and reports directly to the VP Flight Operations and derives his authority from him. He should coordinate his work with the Director of Flight Operations.

The qualification requirements of the Continuous Airworthiness Manager are:

- He holds a valid technical maintenance license rating for a large aircraft appropriate to the aircraft types operated by EL AL and has held such a rating for at least 5 years, or he has at least an engineering degree suitable to the position he is to hold;
- He has at least 5 years of experience suitable for the position he is to hold, out of which at least 2 years in a supervisory position in aircraft maintenance and at least 1 year in a management position in the aircraft maintenance field;
- He has knowledge of the EL AL MCM, of the Operation Specifications and of the applicable maintenance regulations of Chapter 13 of the ANR.

The Continuous Airworthiness Manager is responsible to:

- Ensure line and base maintenance is performed in accordance with the MCM, Chapter 7 of the ANR and is in accordance with the Maintenance Manual or other approved data acceptable to the CAAI;
- Ensure before each flight that:
  - Each aircraft is maintained in an airworthy condition;
  - The aviation equipment including emergency equipment necessary for the intended flight is serviceable; and
  - The Certificate of Airworthiness of each aircraft remains valid.
- Obtain CAAI approval of the AMO, to be the organization that carries out EL AL aircraft maintenance;
- Obtain CAAI approval for a maintenance program for each type of Aircraft;
- Ensure scheduled maintenance in accordance with the CAAI approved maintenance program;
- Ensure that all maintenance tasks are performed in accordance with the MCM and that the Maintenance Program is updated to ensure its effectiveness while maintaining the Continuous Airworthiness of EL AL aircraft;
- Ensure that all reported defects are rectified according to approved data or deferred according to approved data or the relevant MEL, and are released to service with a release to service certificate and recorded in the aircraft FLAR;

- Prepare, amend, and distribute the CAAI approved MEL for EL AL fleets.

Further functions, duties and responsibilities are detailed in the MCM Part 2.

1.3.8 In-Flight Service Division Manager

Revision: 21 - 5 MAY 23

The In-Flight Service Division Manager is appointed to this position by and reports to the VP Customers & Service and derives his authority from him.

He is responsible for the customer service aspects of all cabin operations activities.

The main functions, duties and responsibilities of the In-Flight Service Division Manager are:

- To check the professional standard and development of his personnel and to prescribe additional training;
- To participate in regular assessments of the safety of the aircraft cabin's installations, and to recommend, in cooperation with the Chief Pilots, improvements, to keep up-to-date on cabin service related developments;
- To cooperate in improving technical installations in the cabin, in improving passenger safety and comfort, and in improving the on-board service; and
- To be responsible for liaison with regulatory, original equipment manufacturers and other operationally relevant external entities.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.8.1 Director of Cabin Operations

Revision: 22 - 20 FEB 24

The Director of Cabin Operations is responsible to ensure all cabin operations are conducted safely and according to security regulations.

The Director of Cabin Operations is appointed and derives his authority by VP of Customer and Service. He reports on all matters of safety, security and operations to the VP Flight Operations who shall have the final authority in case of conflict with any customer service considerations.

The qualification requirements of the Director of Cabin Operations are:

- ISM with 5 years of continuous experience;
- A thorough knowledge of EL AL's OM, of the Operations Specifications and of the regulations of Chapter 13 of the ANR required for diligent execution of his duties.

His main functions, duties and responsibilities are:

- To coordinate and supervise the Chief Steward, Cabin Crew Training and Cabin Crew Planning and Operations training manager, the Cabin Crew Human resources manager, the Safety manager and the operations and process manager;
- To ensure quality and safety within the Cabin Crew Operations Division;
- To verify that cabin crews operate efficiently and economically, the company procedures and at the appropriate level of safety;
- To organize line check flights, to check the professional standard of the company's Cabin Crew Members, and to establish improvements in standards, procedures and training;
- To keep himself up-to-date on equipment developments and on cabin operational procedures;

- To closely cooperate with the VP Flight Operations, with all relevant divisions and managers in standardizing and optimizing standards and procedures;
- To ensure cabin crew operations are performed in a safe and secure manner;
- To ensure that the required facilities, workspace, equipment and supporting services are sufficient to satisfy cabin operations, safely and securely;
- To receive approval from the Operations Manager in the publication of cabin crew related directives in the OM Part A, B, D and other instructions which shall aim to ensure the safety of cabin, passengers and cabin crew;
- To ensure all positions relevant to the safety or security of cabin operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate to the position;
- Ensure all Cabin Crew are qualified according to regulation requirements and training syllabus in the OM Part D;
- To ensure the exchange of information and experience within his and with interfacing Divisions;
- Appointing and announcing the Chief Steward – to function as Cabin Crew Division Manager, when she is out of the country or at any time when she is unable to fulfil her duties.
- Maintaining and ensure a delegation of authority and assignment of responsibility within the management system for liaison with regulatory authorities, original equipment manufacturers and other external entities relevant to cabin operations;
- Has the authority and responsible for the management and supervision of all cabin operations activities;
- Is responsible for the management of safety and security risks to cabin operations.

The Director of Cabin Operations has the right:

- To select the team leaders and the Cabin Crew Members to be employed, respecting the veto-right of the VP Flight Operations; and
- To suspend team leaders and Cabin Crew Members from these functions.

Further functions, duties and responsibilities are detailed in the Chief Steward Operations Manual and Company Procedures.

1.3.9 Ground Operations

Revision: 23 - 29 AUG 24

The Head of Ground Operations is responsible to ensure performance of operations and service activities of EL AL stations ground operations network abroad (in Israel, this is the responsibility of the Israel Station Director). He is appointed by the AVP International Operations and derives authority from him. He reports to the AVP International Operations, and to the COO. He also reports to the VP Flight Operations on safety related issues.

He should have thorough knowledge of EL AL's Ground Operations Procedures.

The main functions, duties and responsibilities of the Head of Ground Operations are:

- To establish standards which ensure the safe, punctual and economic ground services operations at all Company's stations and flight destinations;
- To receive approval from the Director of Flight Operations in the publication of ground related directives in the OM Part A, B and other instructions which shall aim to ensure safety;

- To establish agreements with external ground service providers;
- To be responsible for the provision of DCS (Departure Control System) services to Israel Station and to stations abroad;
- To establish standardized and uniform operation at all stations abroad;
- To provide professional guidance and instructions to Israel Station and stations abroad;
- To instruct stations abroad on safety regulations and instructions;
- To update and publish the Ground Operations Procedures;
- To establish, maintain and conduct training programmes which enable the ground personnel to safely and professionally conduct the ground handling;
- To closely cooperate with Operations in the publication of the ground personnel and handling related directives in the OM Part A, B and D and other instructions, see Chapter ***2.2 System of Promulgation of Additional Operational Instruction and Information***;
- To ensure that all legal requirements and the provisions of the Operations Specifications relating to ground operations are strictly observed;
- To act as the Company's representative to all authorities, as far as ground operations are concerned;
- Apart from the overriding aspect of safety, to have due regard for economy when concluding contracts with other companies providing ground handling services; and
- To monitor any contractor employed by EL AL and ensure that they meet the required standards because, when contracting for the provision of services, the Company retains responsibility for the maintenance of proper standards.

Further functions, duties and responsibilities are detailed in the Company Procedures.

1.3.10 Security

Revision: 22 - 20 FEB 24

The Security Manager is responsible for all security-related matters. His activities are coordinated by the Director of Flight Operations in accordance with the professional directives of Israel's General Security Services. He is responsible that all appropriate personnel are familiar, and comply, with the relevant requirements of the national security programs. He is responsible for safeguarding passengers and crew members on EL AL flights abroad.

The main functions, duties and responsibilities of the Security Manager are:

- To establish, maintain and conduct approved training programmes which enable EL AL personnel to take appropriate action to prevent acts of unlawful interference such as sabotage or unlawful seizure of aircraft;
- To minimize the consequences of such events, should they occur;
- To assist the PIC and OCC, following an act of unlawful interference on board an aircraft, in submitting, without delay, a report of such an act to the designated local authority and the national authority;
- To provide training in the procedures to be followed in searching for concealed weapons, explosives, or other dangerous devices;

- To take all required measures for the security of the aircraft, the passengers, baggage and cargo, in cooperation with the authority for the security at foreign airports;
- To carry out checks for security classification to applicants and EL AL employees, in coordination with the Israel's General Security Services;
- To be responsible for defining effective performance measures as means of evaluating the organizational risk management outcomes and expectations. All in order to prevent accidents, incidents and acts of unlawful interference, while maintaining compliance with regulations and other requirements relevant to safety and security of operation, while taking into account external/regulative authorities/equipment manufacturers bodies; and
- To ensure, by regular checks, that crew members are being kept up-to-date and properly instructed and that they are aware of their responsibilities and the relationship of such duties to the operation as a whole.

Further functions, duties and responsibilities are detailed in the SMH (Security Manual for Headquarters).

1.3.11 SAG – Safety Action Group

Revision: 23 - 29 AUG 24

A safety action group is established and convenes regularly, as well as in response to events as they occur or upon request of the Chief Pilot and Director of Standards, for a personal discussion following events/unusual reports.

Committee Members:

1. Chief Pilot and Director of Standards – Committee Chair;
2. Human Factors Specialist (Safety) – Optional;
3. Director of Safety and Quality or a representative on his behalf;
4. Director of Flight Crew Training Department or a representative on his behalf;
5. Fleet manager or the Fleet's Chief Pilot from the relevant fleet;
6. Standards Pilot or a representative on his behalf.

The Chief Pilot may request other participants not specified in this chapter to take part in the discussion.

Participants in the discussion will present the following:

- The Chief Pilot and Director of Standards will present findings and feedback from the line, route evaluations, and observation flights;
- The Safety Officer will present the investigation findings and SMS;
- The Director of Flight Crew Training Department will present findings arising from simulator exercises and IOE flights.

The committee will convene once a month to discuss the findings of the training SMS, simulator, and their application to the training program and flight procedures and to review reported safety events, identify systemic issues, recommend corrective actions, and make decisions under the committee chair's leadership.

Within the framework of the monthly Safety Committee (sub-committee of the upper committee), relevant monthly safety events will be reported.

1.3.12 SAGAH – Safety Action Group Ad-hoc

Revision: 23 - 29 AUG 24

An AD-HOC committee will convene to discuss exceptional safety events according to the decision of the Chief Pilot or the Safety Officer.

The committee is authorized to decide the following actions:

- Initiating an in-depth investigation according to the SMM;
- Providing a telephone clarification (to be conducted by the Fleet Chief Pilot);
- Degradation of Competence;
- Corrective training;
- Assigning a mentor;
- External consultation;
- Any other action decided by the committee.

The committee is authorized to schedule the involved team for an interview.

The final decision lies with the Chief Pilot and Director of Standards.

Committee Members:

1. Chief Pilot and Director of standards – Committee Chair;
2. Human Factors Specialist (Safety) – Optional;
3. Director of Safety and Quality;
4. Director of Flight Crew Training Department;
5. Chief Pilot from the relevant fleet;
6. Standards Pilot.

1.4 AUTHORITY AND RESPONSIBILITIES OF THE PIC

Revision: 20.2 - 14 DEC 22

The Pilot-in-Command (PIC) exercises the final authority in relation to the operation of the aircraft. He is responsible for its safety as well as that of the passengers, crew and cargo as long as he retains responsibility. Therefore, he shall take all measures required for safety, whether on the ground or in the air.

The PIC is responsible for the safety of all crew members, passengers and cargo on board. His responsibility for the operation and safety of the aircraft begins at the moment the aircraft doors are closed for the purpose of taxiing to take-off until the moment it finally comes to rest at the end of the flight and the main engines are shut down.

All persons on board the aircraft shall obey all lawful directions given by the PIC to ensure its and their safety. The PIC has the authority to impose any measures he deems appropriate, including restraint, upon persons who, in his opinion, have committed or are about to commit an offence against penal law. This authority extends also to acts committed by any person which the PIC feels will jeopardize the safety of the aircraft, its occupants or cargo. Furthermore, any such action may be undertaken in order to enable the PIC to deliver such a person to the Authority.

The PIC has the authority to disembark any person or any part of the cargo which, in his opinion, may represent a potential hazard to the safety of the aircraft or its occupants. He shall not allow any person who appears to be under the influence of alcohol or drugs to be carried on the aircraft, see Chapter ***8.2.4 Procedures for the Refusal of Embarkation***. Inadmissible passengers, deportees or persons in custody whose carriage may pose a risk to the safety of the aircraft or its occupants may be refused transportation by the PIC, see Chapter ***8.2.3 Aircraft, Passengers and Cargo Handling Procedures Related to Safety***.

The PIC shall ensure that all operational procedures and checklists shall be used and complied with by flight crews prior to, during and after all phases of operations and in an emergency, to ensure compliance with the operating procedures contained in the FCOM. In an emergency situation requiring immediate and decisive action, he may take any measures he considers necessary under the circumstances. In such cases, and only in order to ensure the safety of the aircraft and its occupants and cargo, he may deviate from rules, operational procedures and methods. In this case a verbal report of the deviation shall be made immediately and a written report shall be submitted to the CAAI. See Chapter ***11.4.2 Notification and Reporting*** for other items, to whom reports shall be made and time limits for submitting reports.

The PIC sets priorities. His decisions shall give absolute priority to safety, and have due regard for economy, passenger comfort and adherence to schedule.

Notwithstanding his overall responsibility, he is authorized to delegate tasks to his crew and to other suitable personnel. It is his duty to coordinate, supervise and check the tasks of his crew. He encourages teamwork and ensures that his crew members receive all information essential for the performance of their tasks.

He shall not allow any crew member to perform any activity during take-off, initial climb, final approach and landing except those duties required for the safe operation of the aircraft.

The PIC shall ensure that:

1. In the interest of safety, admission of any person other than the Flight Crew to the flight deck does not cause distraction and/or interfere with the flight's operation; and
2. All persons carried on the flight deck are made familiar with the relevant safety procedures.

The final decision regarding admission to the flight deck shall be the responsibility of the PIC.

He coordinates the performance of flight deck related tasks and duties and decides on who acts as pilot flying. In order to promote the aeronautical experience and knowledge of his Co-pilot, the PIC shall give him the opportunity to act as Pilot Flying, plan and conduct the flight, or portions thereof, under his supervision. The PIC shall, however, perform take-offs, approaches and landings as Pilot Flying when required by the Airport Operating Minima section of this manual and in any other phase of flight he considers critical. In addition the Captain in the left hand seat should be PF under the following conditions/occurrences/events:

- Rejected take-off;
- Rapid Descent;
- Passenger Evacuation;
- Ditching;
- Engine fire on the ground.

1.4.1 Prior to Flight

Revision: 23 - 29 AUG 24

The PIC shall strictly observe and meet the requirements of Chapter ***5.2 Flight Crew*** in general and the provisions of Chapter ***5.2.6 Route and Airport Competence Qualification*** concerning route and airport competence qualification in particular.

He shall obtain and check all available aeronautical and meteorological information pertinent to his flight including NOTAMs, SNOWTAMs, runway and conditions, temperature/pressure reports, turbulence and upper wind and airport meteorological forecasts.

This information will enable the PIC:

- To judge if the weather and the visibility/RVR at the airport and the condition of the runway intended to be used will allow for a safe take-off and departure (with due regard to all relevant performance aspects of the OM Part B);
- To select destination alternate, en-route alternate (as applicable) and take-off alternate airports prior to flight, with due regard to the prescribed planning minima;
- To ensure that the planned amount of fuel in the operational flight plan being based on the expected operating conditions is sufficient for a safe completion of the flight and in accordance with the requirements in Chapter ***8.1.6 Determination of Fuel Quantities***.

The PIC has the authority to decide whether the fuel loaded on the airplane is sufficient for safely conducting the entire flight. The PIC shall ensure that the sufficient and final fuel figure is loaded. The PIC has the authority not to commence the flight if to his opinion the fuel on-board is not sufficient for safely commencing the flight.

He conducts a crew briefing, preferably with the attendance of all the operating flight crew. The flight crew briefing is usually delegated to the pilot doing the take-off, using the Flight Release and the OFP and relating information and particulars pertinent to the individual flight.

The PIC ensures that the briefing detects threats that the flight may face. He addresses the threats identified, either by planning to avoid them or by managing them.

He ensures that the prescribed pre-flight checks and inspections have been or are being carried out, and decides whether to accept or not to accept the aircraft with unserviceable items allowed by the CDL or MEL, or Company Procedure 67-101 “Service Standards”.

He ensures that an exterior inspection of the aircraft is performed prior to each flight according to the OM Part B (FCOM).

The PIC has the authority to reject an aircraft prior to departure of a flight if dissatisfied with any aspect of the airworthiness and/or maintenance status of the aircraft. When preparing the flight, he shall examine the available documents and maintenance releases of authorized personnel, and affirm by signing the appropriate documents his satisfaction that:

1. The aircraft is airworthy (he shall ascertain the status of each irregularity/Maintenance Release entered in the Aircraft Technical Log, both cabin and aircraft booklets, at the end of the preceding flight);
2. The aircraft configuration is in accordance with the CDL;
3. The instruments and equipment are in operable condition except as provided in the MEL;
4. Those parts of the operations manual which are required for the conduct of the flight are available;
5. The documents, additional information and forms required to be available are on board, see Chapter ***8.1.11 List of Documents, Forms and Additional Information to be Carried***;
6. Current maps, charts and associated documents or equivalent data are available to cover the intended operation of the aircraft including any diversion which may reasonably be expected. This shall indicate any conversion tables necessary to support operations where metric heights, altitudes and flight levels are used;
7. Ground facilities and services required for the planned flight are available and adequate;
8. The provisions specified in the operations manual in respect of fuel, oil and oxygen requirements, minimum safe altitudes, airport operating minima and availability of alternate airports, where required, are complied with for the planned flight;
9. The load is properly distributed and safely secured according to supplied documentation (Load Sheet Document), see Chapter ***8.1.7.1 Methods, Procedures and Responsibilities for Preparation and Acceptance of Mass and Centre of Gravity Calculations***;
10. The mass of the aircraft, at the commencement of taxiing and take-off roll, will be such that the flight can be conducted in compliance with the OM Part B; and
11. Any operational limitation in addition to those covered by (8) and (10) above and any limitations specified in the Ops Specs or in the manufacturer's operational manuals, can be complied with.

Prior to take-off and landing he shall ensure use of safety belts by flight crew members at the controls according to Chapter ***8.3.13.1 Crew Members and Occupants of the Flight Deck***.

Prior to pushback he shall ensure that the requirements for seating adjacent to emergency exits are met. This is achieved in practice, prior to closing the aircraft doors, see Chapter ***8.3.17.4 Prior to Closing Aircraft Doors***.

Prior to taxiing, he shall ensure that:

- The ramp is clear;
- The aircraft's external surfaces are clear of any deposit which might adversely affect its performance and/or controllability and that de-icing/anti-icing is performed if needed, see Chapter ***8.2.5 De-Icing and Anti-Icing on the Ground***;

- The passenger cabin and galley(s) are secured, all equipment and baggage is properly stowed, that all exit and escape paths are unobstructed, see Chapter ***8.2.3.8 Loading and Securing of Items in the Aircraft***, and that relevant emergency equipment remains easily accessible for immediate use, see Chapter ***8.2.3.8.3 Securing of Loads in the Cabin***;
- Each assisting means for emergency evacuation that deploys automatically is armed, see Chapter ***8.3.17.5 Prior to Taxi***.
- Each passenger occupies a seat with his safety belt/harness properly secured, see Chapter ***8.3.13 Use of Safety Belts for Crew and Passengers***.

Prior to take-off, he shall ensure that all Crew Members occupy their stations as prescribed.

1.4.2 In Flight

Revision: 23 - 29 AUG 24

In flight, the PIC continues to coordinate the tasks/work of his cockpit team so as to obtain a maximum of good airmanship for the conduct of the flight.

He ensures:

- Observation of all noise abatement regulations as long as they are not detrimental to safety;
- Precise navigation, observation of minimum altitudes;
- Use of all available Air Traffic Services;
- Observation of limitations, proper use and proper handling of the aircraft's systems, including strict use of checklists;
- That flight crew maintain continuous watch on the appropriate frequency and that the following is reported as soon as possible:
  a. The time and altitude of passing each designated reporting point, or the reporting points specified by ATC, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by ATC need be reported;
  b. Any unforecast weather conditions encountered; and
  c. Any other information relating to the safety of flight.
- That abnormal or emergency situations, requiring the application of part or all of abnormal or emergency procedures, are not simulated during commercial air transportation flights (this also applies to simulation of IMC by artificial means);
- Observation and evaluation of the development of the meteorological situation, specifically forecasts for the route to be flown, for en-route alternates and for the destination airport and its alternate(s);
- That the flight shall not be continued to operate en-route, or land when in his opinion icing conditions are expected or met that might adversely affect the safety of the flight;
- That if equipped with a CPDLC while flying in areas where the ATS require routine meteorological reports, these shall be sent by the pilot via the CPDLC according to ATS instructions;
- That the flight is not continued to the destination, unless the latest information available indicates that, at the expected time of arrival:
  a. The weather conditions at the destination are at or above landing minima (see Chapter ***8.1.3.1.3 Destination Airport(s)***); or

b. At least one destination alternate airport is at or above alternate airport planning minima (see Chapter ***8.1.3.1.5 Alternate Airport Planning Minima***).

- However, the flight release may be amended en-route to include any alternate airport that is within the fuel range of the aircraft as specified in the fuel planning, see Chapter ***8.1.6 Determination of Fuel Quantities***. The PIC/FOO may change an original destination or alternate airport that is specified in the original flight release to another airport while the aircraft is en-route only if the other airport is authorized for that type of aircraft (see EFOS/EFF library OM Part A, “List of Approved Airports”) and the appropriate planning requirements are met at the time of re-planning, and the release shall be amended accordingly. Alternatively, the flight release may be amended to Destination Alternate Not Required if conditions allow, see Chapter ***8.1.3.1.4 Destination Alternate Airport(s)***. Any change to the flight release en-route shall be communicated between the PIC and the FOO and amended on the flight release;
- That an ATC clearance has been obtained, and that the flight shall not deviate from that clearance unless an amended clearance is obtained, an emergency exists, or the deviation is in response to a traffic alert and collision avoidance system resolution advisory. If due to an emergency, or in response to a traffic alert and collision avoidance system resolution advisory, the flight deviates from an ATC clearance or instruction, he shall notify ATC of that deviation as soon as possible. This requirement also applies to any pilot replacing the PIC while he is away from the flight deck;
- That a flight shall not continue toward any airport to which it has been dispatched if, in his opinion, the flight cannot be completed safely;
- That if any instrument or item of equipment required for the particular operation becomes inoperative en-route, he shall comply with the approved procedures for such an occurrence as specified in the Operations Manual;
- If given priority by ATC in an emergency for a situation which does not require a report according to compulsory reports, shall submit a detailed report of that emergency within 48 hours to the manager of that ATC facility, if requested by ATC;
- That in an emergency situation immediate action is taken to keep the passengers and the aircraft from personal damage or danger. In such cases it is permissible to deviate from rules and procedures in the interest of safety. Whenever a PIC exercises emergency authority, he shall keep the appropriate ATC facility and the dispatch center, if communication with the dispatch center is possible, fully informed of the progress of the flight, and shall submit a report as defined in Chapter ***11 Handling, Notifying and Reporting Occurrences***. For the PIC responsibility in case of an engine failure, see Chapter ***8.3.20.1.5 Policy for Operation after an Engine Failure***. Deviation from the rules and procedures as described above is also allowed by a Co-pilot when the PIC is not on the flight deck;
- That procedures and equipment limitations regarding flight in icing conditions are strictly adhered to, as ice build up, especially in a suddenly deteriorating situation, may have rapid adverse effect on aircraft performance and controllability;
- That the requirements of Chapter ***8.3.8 Policy and Procedures for In-Flight Fuel Management*** are met;
- That the applicable provisions for replanning the flight are met;
- Timely corrective action(s), whenever system malfunctions or other variables impair the aircraft’s operation;

- That, in case of such impairment, his crew and relevant ground personnel are kept informed about the situation and his decisions;
- That a flight data recorder is not disabled, switched off or erased;
- That a cockpit voice recorder is not disabled or switched off;
- That data on a cockpit voice recorder is not manually erased in the event of an accident or incident;
- That all requirements concerning cabin safety are being observed and, in particular, that all provisions, see Chapter ***8.3.17.5 Prior to Taxi***, to be met "prior to taxiing" are also fulfilled prior to landing;
- That, when leaving cruising level for descent, a landing distance assessment is carried out to ensure that the landing distance requirements can be met, taking into account runway condition and aircraft configuration, and the MSA has been identified;
- That, before commencing an approach to land, he is satisfied that, according to the information available to him, the weather at the aerodrome and the condition of the runway intended to be used shall not prevent a safe approach, landing or missed approach, having regard to the performance information contained in the operations manual;
- That when he deems it necessary, all passengers are instructed to fasten their seat belts. The illumination of the "SEAT BELT" lights is considered to be an accepted means of instructing the passengers to fasten their seat belts;
- To report as soon as practical to ATC any malfunctions of navigational, approach, or communication equipment occurring in flight:
  - Each report shall include the
    a. Aircraft identification;
    b. Equipment affected;
    c. Degree to which the capability of the pilot to operate under IFR is impaired; and
    d. Nature and extent of assistance desired from ATC.
- That no person is allowed to manipulate the controls of an aircraft during flight unless that person is:
  a. A pilot authorized to fly the type of aircraft; or
  b. An authorized pilot safety representative of the CAAI who has the permission of the PIC, is qualified in the aircraft, and is checking flight operations.
- That, prior to landing, all crew members occupy their stations and that the cabin crew reports "CABIN READY", although if the cabin is subsequently no longer ready he may continue the landing at his discretion; and
- That each item of equipment or crew baggage, which is carried on the flight deck or in the cabin will not become a hazard during landing, see Chapter ***8.2.3.8.3 Securing of Loads in the Cabin***.

1.4.3 After Flight

(*) Revision: 23.1 - 15 MAR 25

After flight, the PIC ensures that the Flight and Aircraft Technical Logs and the Journey Log are completed. He shall ensure that all mechanical irregularities or suspected faults occurring during flight time are entered in the maintenance log of the aircraft at the end of that flight.

Unless the Aircraft safety Investigation Authority Israel has approved otherwise, the PIC shall prohibit erasure of data recorded on a flight data recorder and a cockpit voice recorder in the event of an accident or incident having occurred which may be subject to mandatory reporting. This shall be done by switching off or disabling both recorders at the end of the flight (this may be done by Maintenance if access is not available to the flight crew) and making an entry in the ATL stating:

1. “PLEASE DOWNLOAD CVR/DFDR/EAFR”;
2. Time of landing; and
3. Time the flight recorders were disabled.

In addition, he shall file a Flight Safety e-Report explaining the request to download the data (Refer to Accident/Incident checklist in the Operational Information chapter in the QRH).

He hands over the aircraft to the next crew or to the maintenance or any other authorized personnel, or parks, locks or seals and secures the aircraft properly.

He files written occurrence reports as prescribed in Chapter ***11 Handling, Notifying and Reporting Occurrences***, communicating also by telephone if necessitated by the urgency of the matter.

He directs the attention of appropriate personnel to technical and operational particulars and problems encountered.

1.5 RESPONSIBILITIES OF THE CO-PILOT

Revision: 19 - 14 MAR 21

The Co-pilot is the PIC's deputy. If the PIC becomes incapacitated the Co-pilot assumes the PIC's authority and the responsibility for the aircraft and its crew, its passengers and load, see Chapter ***4.3 Flight Crew Incapacitation***. Therefore, it is his duty to responsibly participate in the preparation of the flight and to attentively monitor its progress in order to be able to assume this authority/ responsibility at any given moment.

He cooperates, in a responsible manner, as a member of the aircraft's crew, and meticulously performs the work routinely assigned to him or delegated to him by the PIC.

It is his duty to:

- Report to the PIC any fault, failure, malfunction or defect, which he believes may affect the airworthiness or safe operation of the aircraft or aircraft systems;
- Report to the PIC any incident that has endangered, or may have endangered, safety;
- Make use of the company's incident reporting scheme in accordance with Chapter ***11 Handling, Notifying and Reporting Occurrences***. In such cases, a copy of the report shall be communicated to the PIC concerned.

1.5.1 Prior to Flight

Revision: 19 - 14 MAR 21

The Co-pilot shall meet the qualification requirements of Chapter ***5.2 Flight Crew***. If the conduct of the flight or part thereof is to be delegated to him by the PIC, he shall meet the requirements of Chapter ***5.4.1 Basic Qualification Requirements***. He participates in the PIC's crew briefing, and avails himself of all relevant aeronautical (NOTAMs etc.) and meteorological information (including forecasts and runway condition reports) as well as of relevant papers documenting the aircraft's technical status and its anticipated load.

1.5.2 In Flight

Revision: 19 - 14 MAR 21

In flight, the Co-pilot – as directed by the PIC – executes the tasks and functions of either pilot flying or pilot monitoring. He shall not perform any activities during critical phases of the flight other than those required for the safe operation of the aircraft. He assists the PIC in the management of the flight deck work by:

- Observing a well-balanced task distribution;
- Systematic cooperation and exchange of information; and
- Maintaining visual lookout.

Notwithstanding the overriding authority of the PIC it is of the utmost importance that the Co-pilot draws the attention of the PIC to facts, circumstances or unfavorable variables which may impair the safety of the flight and which may not yet have been noticed by the PIC.

Such facts and circumstances may be: exceedance of limitations, abnormal indications, changes in meteorological conditions en-route or at alternates/destination, ambiguous ATS clearances, deficiencies in navigation or the aircraft's handling, abnormal response of the aircraft to controls input etc.

The Co-pilot deals with all documents which have to be completed (e.g., Flight and Aircraft Technical Log).

1.5.3 After Flight

Revision: 19 - 14 MAR 21

After flight, the Co-pilot assists the PIC in/by:

- Handling all completed paper documentation according to Chapter ***8.3.20.2.10 Landing, After Landing and Parking***;
- Handing over the aircraft to its next crew or to appropriate maintenance personnel or, where this is impossible, having the aircraft secured.

1.6 DUTIES AND RESPONSIBILITIES - FOO

Revision: 19 - 14 MAR 21

- EL AL has established a daily shift time for a FOO that begins at a time that allows him or her to become thoroughly familiar with existing and anticipated weather conditions before he or she dispatches any aircraft. The FOO shall remain on duty until each aircraft dispatched by him or her has completed its flight or until he or she is relieved by another qualified FOO. The turnover briefing will not start any sooner than 15 minutes prior to the end of the shift;
- The FOO is responsible for:
  a. Monitoring the progress of each flight;
  b. Issuing necessary instructions and information for the safety of the flight;
  c. Cancelling or re-dispatching a flight if, in his opinion or the opinion of the PIC, the flight cannot operate or continue to operate safely as planned or released;
  d. If the forecast visibility is below the take-off minima at the estimated time of take-off, the FOO shall add a note to the release stating that the aircraft may be dispatched only if the actual conditions permit take-off according to the Airport Take-off operating minima.
- In an emergency situation arising during flight that requires immediate decision and action by a FOO, and that is known to him, the FOO shall advise the PIC, and OCC duty manager of the emergency, shall ascertain the decision of the PIC, and shall have the decision recorded. If the FOO cannot communicate with the pilot, he shall declare an emergency and take any action that is not in conflict with the ATC and he considers necessary under the circumstances. Whenever an FOO exercises emergency authority, he shall keep the appropriate ATC facility fully informed of the progress of the flight;
- If the position of a flight cannot be determined by aircraft tracking capability, and attempts to establish communication are unsuccessful, the FOO shall notify the appropriate ATS unit;
- No FOO may dispatch a flight unless he is thoroughly familiar with reported and forecast weather conditions on the route to be flown and it is in accordance with the AOM specified in Chapter *8.1.4 Interpretation of Meteorological Information*, with the selection of airports specified in Chapter *8.1.3.1 Selection of Airports – AOM Requirements at the Planning Stage* and fuel policy and requirements specified in Chapter *8.1.6.1 Fuel Policy and Requirements*;
- The FOO shall provide the PIC with:
  a. All available current reports or information on airport conditions and irregularities of navigation facilities that may affect the safety of the flight;
  b. Before beginning a flight, all available weather reports and forecasts of weather phenomena that may affect the safety of flight, including adverse weather phenomena, such as clear air turbulence, thunderstorms, low altitude wind shear and icing conditions for each route to be flown and each airport to be used;
  c. During a flight, any additional available information of meteorological conditions (including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear and icing conditions), and irregularities of facilities and services that may affect the safety of the flight.

- The FOO shall only dispatch an aircraft that is airworthy unless released by an MEL. He shall be aware of the MEL/CDL status of aircraft assigned planned for dispatch and shall be alert to, and apply, any operational restrictions, aircraft configurations, and/or performance penalties as required by the MEL/CDL Manual;
- A FOO shall dispatch an aircraft over an approved route or route segment only if the communication and navigation facilities required for the approval of that route or segment are in satisfactory operating condition. If, because of technical reasons or other reasons beyond the control of EL AL, the facilities required are not available over a route or route segment outside the state of Israel, the certificate holder may dispatch an aircraft over that route or route segment if the PIC and the FOO find that communication and navigation facilities equal to those required are available and are in satisfactory operating condition. Should a FOO become aware that a communication or navigation facility is not operative as published, he shall inform the authorities responsible for that facility as soon as possible;
- No FOO may dispatch an aircraft, when in the opinion of the PIC or the FOO, icing conditions are expected or met that might adversely affect the safety of the flight;
- No FOO may dispatch an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless it is in accordance with the EL AL approved ground deicing/anti-icing procedures, see Chapter ***8.2.5 De-Icing and Anti-Icing on the Ground***;
- A flight release shall be prepared by a FOO for each flight. The FOO may delegate authority to sign a release for a particular flight, but he may not delegate his authority to dispatch;
- An OFP shall be prepared and signed by a FOO for each flight in accordance with the provisions specified in the OM in respect of fuel and oxygen requirements, minimum safe altitudes, airport operating minima and availability of alternate airports, where required, are complied with the planned flight;
- The FOO shall ensure a planned flight does not exceed:
    a. The maximum performance take-off and landing weight limits, based upon environmental conditions expected at the times of departure and arrival;
    b. The aircraft structural take-off, en-route and landing weight limit;
    c. Any operational limitation in addition to those covered by (1) and (2) above can be complied with (e.g. terrain clearance).
- An ATS Flight plan shall be prepared and filed by the FOO for each flight. The FOO shall ensure that changes in an ATS flight plan that occur prior to departure are coordinated with the appropriate ATS unit before transmission to the aircraft;
- A FOO may not change an original destination or alternate airport that is specified in the original flight release to another airport while the aircraft is en-route unless the other airport is authorized for that type of aircraft and the appropriate requirements are met at the time of replanning or amendment of the flight release. A FOO who amends a flight release en-route shall record that amendment;
- Re-dispatch or amendment of dispatch – the FOO shall amend the dispatch or issue a Re-dispatch in accordance with the specifications in Chapter ***8.1.9 Operational Flight Plan (OFP) and Flight Release***. All amendments shall be recorded by the FOO;
- FOOs shall present their license to the CAAI inspector at any time so requested;

- The FOO is responsible to provide detailed information without delay about dangerous goods carried as cargo to emergency services responding to an accident or serious incident involving company aircraft. The information can be retrieved from the applicable station/handling agent. See Chapter ***9.1.10 Information to the PIC and to the FOO***.

1.7 JOINT RESPONSIBILITY AND AUTHORITY

Revision: 22 - 20 FEB 24

The Flight Operations Officer and the PIC are jointly responsible for the pre-flight planning and for operational control of each flight in compliance with this chapter and with the Company Operations Specifications. No person besides the FOO and the PIC shall have authority for operational control of a given flight. The PIC and the FOO shall sign the release and the OFP before each flight only if they both believe that the flight can be made with safety. If a PIC or FOO becomes aware of the need for a new OFP, he shall inform the other.

No person may commence taxi unless the flight has been approved by a FOO. A FOO shall not dispatch a flight or allow a flight to continue beyond the In-flight Re-planning Point (for a RCF planned flight) nor may a person move an aircraft for the purpose of take-off ("Off Blocks"), or continue beyond the In-flight Re-planning Point (for a RCF planned flight) unless the latest meteorological information available shows that the weather at the destination and/or at the alternate airport meets the dispatch requirements defined in the AOM, Chapter 8.1.3.

The specific duties and responsibilities of the PIC and FOO are detailed in Chapter ***1.4 Authority and Responsibilities of the PIC*** and Chapter ***1.6 Duties and Responsibilities - FOO***.

Any time a flight cannot be conducted in accordance with the flight release, excluding in an emergency, the first person encountering or learning of such information (i.e. the PIC or the FOO) shall:

- Notify ATC and time permitting, notify OCC, when proceeding to an alternate airport;
- Notify ATC and time permitting, notify OCC, when proceeding to the optional fuel destination in a Reduced Contingency Fuel planned flight;
- Notify OCC/PIC, when changing the Destination Alternate;
- Notify OCC, when change of the flight to a "Destination Alternate not Required" (see Chapter ***8.1.3.1.4 Destination Alternate Airport(s)***);
- Notify OCC/PIC of any change of EDTO en-route alternate;
- Notify OCC/PIC on a new MEL before take-off.

The PIC and the FOO are jointly responsible for FDP extensions, as detailed in Chapter ***7.2.10 FDP Extensions and Flight Time Exceedance***.

Communication with OCC shall be done by ACARS or other means and acknowledged by the receiving party. Refer to OM Part C (FliteDeck Pro), "Communications".

1.8 DUTIES AND RESPONSIBILITIES OF THE CABIN CREW MEMBERS

Revision: 19 - 14 MAR 21

A Cabin Crew Member is a person who is assigned to undertake tasks in the cabin and comply with the qualification requirements laid down for Cabin Crew Members (see Chapter ***5 Qualification Requirements***).

Cabin Crew Members shall be identified to passengers by virtue of EL AL's cabin crew uniform.

Cabin Crew Members on aircraft are responsible to maintain a high level of safety and security in the passenger cabin in accordance with the relevant procedures. They shall:

- Ensure, under the overall authority and responsibility of the PIC, cabin safety Chapter ***8.3.17 Cabin Safety Requirements*** in connection with Chapter ***8.3.18 Passenger Briefing Procedures***, i.e., the safety of the passengers and the security of cabin load and galleys, and report to the PIC:
  - Any fault, failure, malfunction or defect, which he believes may affect the airworthiness or safe operation of the aircraft or aircraft systems;
  - Any incident that has endangered or may have endangered safety.
- Shall make use of the company's incident reporting scheme in accordance with Chapter ***11 Handling, Notifying and Reporting Occurrences***. In such cases, the PIC concerned shall be notified;
- Form the link between the passengers and the flight crew;
- Provide an optimum of comfort and service for the company's customers, namely the passengers, and by their courtesy, efficiency, thoughtfulness and ready assistance directly shape the company's image.

Whenever more than one Cabin Crew Member is required, Crew Assignment will nominate an ISM who is responsible for the conduct and coordination of cabin safety, security and emergency procedures. He is in charge of all cabin crew members on the flight, and he is accountable to the PIC. The ISM is further responsible for passenger service and other duties as specified in the Chief Steward Operations Manual – CSOM. He shall:

- Direct, coordinate and organize the functions and tasks of the cabin crew;
- Be responsible to the PIC for the conduct and coordination of cabin safety, security and emergency procedures specified in the Operations Manual, and for their observance by the cabin crew and by all passengers; and
- Inform the flight crew of all irregularities and malfunctions and, at the prescribed times, report cabin ready or cabin not ready.

Cabin Crew Members and ISMs shall meet the qualification requirements of Chapter ***5.3 Cabin Crew***. They shall be familiar with the laws, regulations and procedures, pertinent to the performance of their duties.

Prior to flight, Cabin Crew Members should participate in the PIC's cabin crew briefing, Chapter ***8.3.17.2 Cabin Crew Briefing***, receiving information and particulars pertinent to the flight.

Prior to each flight departing TLV, the ISM shall ensure that his iPad is updated with the most current version of the relevant Operations Manuals by refreshing the AirWatch application.

After boarding their aircraft, Cabin Crew Members shall check the emergency equipment, see Chapter ***8.3.17.3 Prior to Boarding of Passengers***, other equipment and the catering equipment and immediately report deficiencies to the ISM for further action.

For boarding of passengers, at least one crew member shall remain at the rear of the aircraft and one crew member shall be at each open door. All other crew members should be dispersed as needed in the cabin to ensure a safe and efficient boarding process is conducted and that all carry on items are safely stored.

In flight, they conduct the prescribed passenger services apart from fulfilling the safety relevant tasks, see Chapter ***8.3.17 Cabin Safety Requirements*** and Chapter ***8.3.18 Passenger Briefing Procedures***. In the event of an emergency situation, they proceed to their emergency stations (see OM Part B); the ISM immediately contacts the flight crew for instructions.

At Stations, the Cabin Crew Members ensure proper cleaning of the aircraft's cabin and ensure re-catering for the next flight.

After flight, cabin related documentation shall be closed. The ISM shall notify the PIC if any cabin malfunctions have been entered in the cabin log book and of all accidents or incidents that occurred in the cabin during the flight. Boxes/carts containing duty free items shall have been sealed, as prescribed. Cabin Crew Members shall ensure the orderly hand-over of the cabin to the next cabin crew or, where applicable, to the catering or cleaning personnel or to maintenance (shift supervisor).

1.9 CREW REGULATIONS AND ADMINISTRATIVE PROCEDURES

1.9.1 Behaviour in Public

Revision: 19 - 14 MAR 21

Every crew member shall be aware that he is a representative of EL AL and that people will identify his appearance with it. The image of an airline depends largely on the behaviour of every employee.

Crew members are always at the center of interest, also when travelling "deadhead". Therefore, loud welcome ceremonies are prohibited as well as confidential talks about EL AL subjects in public or with other crews or other crew members on duty.

Never make negative statements about EL AL or discuss EL AL matters when people other than those of EL AL are present!

Politeness and kindness should be the outstanding characteristics of every crew member.

Locations shall not be visited if the possibility exists of creating a wrong impression which may be detrimental to the reputation and image of EL AL. This rule even applies to crew members not in uniform, and especially during night stops. All crew members should ensure that they themselves and their colleagues always comply with the above regulations.

Refer also to Chapter ***8.0.4.1 Conduct of Flight Crew Members***.

1.9.2 Personal Documents

Revision: 19 - 14 MAR 21

For flight duty, all crew members shall carry the following documents:

- Valid Passport (for international flights);
- Visa and Vaccination Card, if required;
- Crew Member Certificate;
- Company Identity Card.

In addition, flight crew members shall carry the following documents:

- Valid License;
- Medical Certificate;
- Radiotelephony License.

NOTE	Crew members shall present their license and their medical certificate (flight crew) to the CAAI inspector at any time so requested.

Each crew member is responsible for the validity of his documents and their timely issue, renewal, and extension. Crew Members shall notify the Human Resources department immediately when a new passport has been issued.

Upon becoming aware that any personal document issued by the State of Israel is missing, the crew member shall report the fact to the company and to the nearest police station and obtain a written confirmation from the police that the loss has been reported.

The loss of any personal document shall be reported immediately to the company. In case the company identity card is lost during an assignment, a copy or image may be used until reaching home base.

When leaving the company all documents which have been provided by the company shall be returned.

1.9.2.1 Crew Member Certificate

Revision: 22 - 20 FEB 24

Each crew member will be provided with a Crew Member Certificate. Loss of a crew member certificate shall be notified immediately to the police and to the Human Resources department. Cabin Crew Members certificates have an expiration date. The CCM are personally responsible to re-validate their certificate by the CAAI.

A CCM can operate the return flight to home base in case of losing the certificate abroad. Upon arrival to home base, a new certificate must be issued before the next flight.

1.9.2.2 Company Identity Card

Revision: 19 - 14 MAR 21

At the beginning of employment an Identity Card will be issued to the crew member.

This Identity Card shows the holder to be an employee of the Company.

1.9.3 Uniform

Revision: 19 - 14 MAR 21

The uniform portrays the image of the Company and identifies the wearer as representative of EL AL.

The standard fully detailed uniform regulations for Flight Crew appear in Chapter ***1.10 Appendix 1 - Flight Crew Uniform Specifications***, and for Cabin Crew in the Chief Steward Operations Manual. Administrative policies and instructions appear in Company Procedure 20-401 “Uniforms”.

Unauthorized alterations of the uniform are not permitted. Non-uniform items of clothing shall not be visible when worn with the uniform. When wearing the uniform the crew members are clearly identifiable to the passengers.

Each crew member is responsible for his own laundry and dry-cleaning.

Other personnel, such as medical or security staff, undertaking tasks in the cabin, shall not wear a uniform which might identify them to passengers as a cabin crew member.

1.9.3.1 Regulations for Wearing the Uniform

Revision: 19 - 14 MAR 21

The uniform shall be worn:

- During flight duty (including Functional Check Flights);
- By observer crew members;
- When required by local regulations (some authorities require all crew members, including deadhead, to wear uniforms at border control);
- While participating in an Initial Training Course (cabin crew members only).

NOTE	Crew members are not required to wear a uniform while at rest.

The uniform may be worn:

- On the way to and from any duty or deadhead flights;
- During deadhead flights.

The uniform shall not be worn:

- At all times not listed above (i.e. in bars, nightclubs, receptions or dance halls) unless required so by EL AL;
- In other airlines' Business Class lounges, unless a crew member has received explicit permission from that airline to wear his uniform in their lounge.

The uniform shall be clean and in good condition.

1.9.3.2 Dress Code for Pilots

Revision: 19 - 14 MAR 21

Pilots performing Company duty (including simulator or ground training or checking, pilot managers, meetings, etc.) shall maintain a professional appearance. They are expected to:

- Wear a button-down shirt; and
- Avoid wearing:
  a. Denim jeans;
  b. Shorts; or
  c. Sandals.

1.9.4 Crew Baggage

Revision: 19 - 14 MAR 21

Only a suitcase issued by EL AL shall be used by crew members when they are assigned to a flight where a suitcase is used.

Each crew member is expected to keep his suitcase in serviceable condition. If repair is called for, he shall return it to the EL AL distribution center for repair or replacement.

Properly marked Crew Baggage Tags shall be affixed to every item of a crew member's checked baggage. The carriage and labeling of any suitcase or other item not belonging to the crew member is forbidden.

Each crew member shall be responsible for his personal baggage at all times until handing it over for loading into the crew bus or into the aircraft.

Crew members shuttling with other airlines are entitled to a baggage allowance of two pieces, up to 32 kg each. Any charges incurred for baggage in excess of the above shall be at the crew member's own expense.

1.9.4.1 Crew Baggage Security

Revision: 19 - 14 MAR 21

Crew baggage shall be screened and/or opened for security inspection.

For flights departing from Tel Aviv – Prior to each flight, each crew member shall present their baggage for inspection at the crew baggage screening facility, and shall affix the provided sticker to each screened bag.

For flights departing from other stations – Crew members shall adhere to instructions of the local security personnel.

1.9.4.2 Security Inspection of Purchases Made Abroad

Revision: 19 - 14 MAR 21

Crew members shall inspect any packages they have ordered to ensure that the contents match their order. In addition, they shall advise security personnel about all items that are not off-the-shelf, or that have been made or prepared specially for the crew member.

1.9.5 Mail Box

Revision: 19 - 14 MAR 21

Every crew member has a Mail Box at the home base. All printed information will reach the crew member via this Mail Box.

Revisions and amendments of the company manuals may be distributed via the Mail Box.

The Mail Box shall always be emptied:

- When checking-in, for information concerning the flight;
- If possible between flights.

1.9.6 Tips

Revision: 19 - 14 MAR 21

Any donations (tips or presents) offered by passengers should be politely refused.

1.9.7 Customs and Currency Regulations

Revision: 19 - 14 MAR 21

All crew members have to pass through local customs, immigration, currency control, etc. as prescribed. Every person shall comply with the local customs and other special immigration regulations, which may often be more restrictive for crew members than for passengers. Crew members shall declare all goods liable for duty and are responsible for duty charges. The same policy applies to restrictions on import or export of currencies.

Crew members on duty, whether deadheading or operating, are not permitted to carry items which are for the purpose of conducting business or for commerce, nor to carry mail, goods or baggage for a third party. Infringement of this rule is a violation of both, Company and State regulations.

NOTE	A visa is required for crew for China and the USA. For other passport/visa and health requirements see Jeppesen Route Manual, section “ENTRY REQUIREMENTS”.

1.9.7.1 Violation of Customs or Currency Regulations

Revision: 19 - 14 MAR 21

It shall be clearly understood that non-compliance with the customs regulations and other official controls is a very serious offence against the EL AL regulations and the laws and regulations of a foreign country.

Anybody caught smuggling or wilfully breaking currency or other regulations can expect immediate dismissal from the EL AL as well as heavy fines or even imprisonment.

1.9.8 Duty Free Shopping

Revision: 19 - 14 MAR 21

Customs regulations shall be taken into account when shopping in a duty free shop. A departure shall never be delayed because the crew is duty free shopping, nor should passengers get such an impression.

1.9.9 Handling of Company Material

Revision: 19 - 14 MAR 21

All crew members are obliged to handle all EL AL material with great care. EL AL may claim compensation from a crew member for damage caused by him.

Crew members shall maintain the manuals, computers, tablets, handbooks and other documents handed over to them in good condition.

When the employment contract terminates everything belonging to EL AL shall be returned.

Crew members are strictly not allowed to take any articles, such as small gifts (e.g. toys), catering items, parts of cabin or galley equipment, from the aircraft.

1.9.10 Accidents / Illness

Revision: 19 - 14 MAR 21

When on or planned for duty/standby, accidents or illness shall immediately be reported to Crew Assignment. In addition, flight or cabin crew members away from home base shall inform the PIC or ISM (respectively).

The crew member shall keep EL AL informed about:

- The expected duration of illness; and
- Any change in duration.

1.9.11 Crew Hotels

Revision: 19 - 14 MAR 21

Hotels for the crew will be provided by EL AL. That means EL AL will pay for the room and at some hotels also for breakfast but normally not for other meals. A list of crew hotels with important information will be distributed by EL AL.

All crew members shall:

- Behave in uniform as well as in civilian dress in such a way that the image of will not be adversely affected;
- Refrain from any action or behavior that could lead to complaints from the hotel management;
- Refrain from direct complaints to hotel personnel, but forward same to the Company by the proper channels;
- Settle all personal bills before checking out; and
- Be checked out and ready to leave the hotel 10 minutes before the pick-up time.

1.9.12 Night Stops / Stop Over away from Home Base

Revision: 19 - 14 MAR 21

All crew members shall comply with all instructions required for the specific country before leaving the aircraft.

Usually all crew members will use crew transport and accommodation provided by EL AL.

At check-in for flight duty the cabin crew members shall present themselves to the ISM.

Refer to Chapter ***10.7 Crew Member Security*** for security procedures.

1.9.12.1 Crew Transport to/from the Airport

Revision: 19 - 14 MAR 21

Crew transport will be arranged by EL AL or the Handling Agent. Normally Crew Assignment (in Tel Aviv) and the station (abroad) are responsible for timely crew transport. Pickup times are defined in company procedures which are available on EL AL intranet.

1.9.12.2 Crew Contact During Layover

Revision: 19 - 14 MAR 21

Each crew member shall always observe the collective work agreement regarding contact of crew abroad and the requirements of Chapter ***6.1 Crew and Other Operational Personnel Health Regulations and Precautions*** and Chapter ***7 Flight Time Limitations***.

Flight crew members shall keep the PIC informed about their absence. Cabin Crew Members shall keep the ISM informed about their absence. All crew members shall inform the station about their absence.

1.9.13 Crew Information Sheet (CIS) Abroad

Revision: 19 - 14 MAR 21

The Station Manager shall ensure that upon arrival at his Station every crew member, except for those departing immediately on the same aircraft, shall be provided a CIS which should contain at least the following Information:

1. Local Time Shift from UTC, Country/City Telephone Prefix Codes;
2. Next Flight/Assignment and expected STD, Pick-Up time (UTC & Local);
3. Arrival/Departure instructions (directions to/from airplane/transportation point, instructions if arriving by Other Carriers etc.);
4. Transport Company and telephone number;
5. Hotel Information (address, telephone number, e-mail, and Crew Coordinator details if applicable);
6. Hotel Conditions & Facilities (Breakfast, Internet, Discounts, Tips etc.);
7. Key station and security personnel names and contact information;
8. Local EL AL office address and telephone number;
9. Israel Embassy/Consulate address and telephone number;
10. Company Doctor, address and telephone number (during day and night);

11. Local regulations regarding Crew Behavior (Uniform, Documentation, Custom, Border Controletc.);
12. Specific Company and Security requirements or instructions (permanent or ad-hoc);
13. Any other relevant information.

1.9.13.1 Notification of Current Assignment Information

Revision: 19 - 14 MAR 21

The Station Manager shall inform a crew member whenever a change occurs in his planned assignment or pickup, subject to a crew member's rest (including the required rest requirements see Chapter *7.2.7 Rest Requirements*).

1.9.13.2 Administration

(*) Revision: 23.1 - 15 MAR 25

The Station Manager shall prepare a master CIS (including all of the above mentioned data excluding next flight) for his station, and shall send it and any subsequent revisions by e-mail to the Chief Pilot and Standards Division – Standards Pilot, to be published in EFOS/EFF.

1.9.14 Crew Boarding Times

Revision: 19 - 14 MAR 21

Crew members should be on board the aircraft not later than the number of minutes before the planned time of departure (ETD) as shown in the table below.

Type of Flight	Flight Crew	Cabin Crew	Add'l or D/H Crew
777/787	50 min	65 min	20 min
737	40 min	55 min	20 min
Cargo and other flights	40 min	–	20 min

For flights departing from Tel Aviv, the ISM shall ensure that the cabin crew boards the shuttle bus 10 minutes prior to the times in the above table.

Pickup times have been established to arrive accordingly and shall be adjusted when necessary by Crew Assignment (in Israel) and Station Managers (abroad).

1.10 APPENDIX 1 - FLIGHT CREW UNIFORM SPECIFICATIONS

1.10.1 Rank Markings

Revision: 19 - 14 MAR 21

Flight crew members shall display the following markings on their uniforms:

Rank	Stripes
Captain	4 wide
First Officer	3 wide
Trainee	2 wide

1.10.2 Composition of Uniform

Revision: 19 - 14 MAR 21

The flight crew member uniform shall consist of the articles of clothing indicated below, depending on the season.

All uniform items shall be issued by EL AL.

Item	01 Apr through 31 Oct (Summer)	01 Nov through 31 Mar (Winter)
Trousers	Required	Required
Jacket (with Rank Markings)	Optional	Required
Overcoat	Optional	Optional
Shirt (short or long sleeved) with shoulder stripes	Required	Required
Tie	Required	Required
Black shoes or boots	Required	Required

NOTE Flight Crew Members may wear black shoes of their own.

NOTE Jackets and ties are not required to be worn on the flight deck.

2 OPERATIONAL CONTROL AND SUPERVISION

2.1 SUPERVISION OF THE OPERATION BY THE OPERATOR

Revision: 19 - 14 MAR 21

EL AL is required to establish and maintain a method of exercising operational control, and have such method approved by the CAAI. EL AL shall ensure that all operations personnel are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and of the relationship of such duties to the operation as a whole. EL AL shall ensure that operations personnel are and remain competent, proficient and qualified. This is achieved by the Initial and Recurrent training programs and schedules as prescribed in the OM Part D.

When EL AL operations or the PIC knows of conditions, including airport and runway conditions, that are a hazard to safe operations, they shall restrict or suspend operations until those conditions are corrected.

These requirements are based upon the overriding aspect of safety. They address extremely important components of quality control (see Chapter ***3 The Operators Quality System***). To supervise and control, to monitor and re-evaluate, to rectify and improve operations, procedures and personnel qualification, is in the direct interest of EL AL's overall safety, its image and, therefore, its success.

NOTE	EL AL's supervision of the safety of flight operation will be discussed in Chapter ***2.4 Operational Control***.

2.1.1 Qualification for Employment

Revision: 19 - 14 MAR 21

The Accountable Manager and the Postholders have defined for each type of position in their respective departments, a set of qualifications which shall be met by the respective applicants for employment.

The rapidly evolving nature of flight operations in general, changes in procedures and in electronic data processing, changes in medical assessments and changes of legal provisions may consequently change such demands. Therefore, the department managers shall, in the course of routine meetings regularly held with supervisory staff, from time to time address these qualification requirements, discuss them respectively have them re-evaluated and, where found necessary, have them changed.

NOTE	For qualification requirements of operations personnel refer to ***5 Qualification Requirements***.

2.1.2 Training/Examination/Licences

Revision: 19 - 14 MAR 21

In a manner similar to the one outlined in Chapter ***2.1.1 Qualification for Employment***, the department managers shall lay down the content and the extent of company training to be conducted for each position.

Whenever legal provisions or the special responsibilities of a position necessitate an examination (prior to which a holder may exercise his authority and execute responsibilities only under supervision of a fully qualified person), the department manager defines the contents and extent of the examination and the minimum requirements for passing. For particulars refer to Chapter ***5 Qualification Requirements***.

Legal provisions may prescribe a license (with a set expiry date and the requirement to renew it by undergoing defined checks/examinations) whenever the responsibilities of a position (e.g., that of a Flight Crew Member) necessitate the regular reassessment of the capabilities and the proficiency of a holder. Additionally, department managers may establish, for defined positions, the need for a company specific license.

For particulars refer to Chapter ***5 Qualification Requirements***.

Similar to the provisions outlined in Chapter ***2.1.1 Qualification for Employment*** above, the department managers shall, in the course of specific meetings held with appropriate staff, regularly address all aspects of training, examination and licenses.

Not only legal requirements and their changes shall be observed, but that the state of the art also shall be constantly monitored. The Crew Training Manager shall closely cooperate with the Cabin Crew Department in all these matters. Type specific aircraft characteristics, experience gained by check, training and line personnel, occurrence reports, statistics, trends, results of incident and accident investigation will all contribute in establishing and re-evaluating the requirements in training, examining and licensing.

2.1.3 License and Qualification Validity

Revision: 19 - 14 MAR 21

Each license entitles its holder to exercise his authority and execute his responsibilities based upon such license only as long as it remains valid. It is, therefore, of the utmost importance that the license holder, for re-validation, is in due time retrained and re-examined by EL AL Israel Airlines Ltd., or, when required, by the CAAI, or by approved third parties, as prescribed.

Therefore, department managers shall designate a section of their department as responsible for scheduling, in due time, licensed personnel for appropriate retraining, for appropriate checks and for ascertaining that re-validation of each license occurs before expiry. **It shall be stressed, however, that the final responsibility for retaining a license's validity rests with its holder.**

Whenever he has the impression that, by mistake or error, the responsible section has overlooked the imminence of license expiry, he shall at once notify the appropriate personnel and ensure that all necessary steps for revalidation are taken at once. For crew members, a section of the Crew Training Department shall ensure, in cooperation with the Crew Assignment Section and Flight Operations for Flight Crew/Chief Steward for Cabin Crew, that all required checks and training are conducted in due time, see Chapter ***1.3.5 Chief Pilot and Director of Standards***. The Fleet Coordinators compile all data that will aid in observing that checks, simulator checks, training and first aid instruction as well as medical examinations are conducted in due time for renewal of licenses, see Chapter ***1.3.4 Crew Assignment***.

As far as qualification (not reflected by a license) is concerned, see Chapter ***5.2.2 Recency of Experience*** and see Chapter ***8.1.2.4 Airport Categorization for Flight Crew Competence***, the Crew Assignment Section shall check appropriate files before scheduling a crew member for an individual tour of duty. It is the responsibility of the crew member to re-check and to notify the company if he does not hold appropriate qualification.

This principle is also valid for all other license holding personnel, other than crew members, who are required to hold defined qualification(s) in addition to their licenses.

2.1.4 Competence of Operations Personnel

Revision: 19 - 14 MAR 21

As already pointed out in Chapters above, it is of utmost importance, in the interest of safety and in EL AL's own interest, to maintain a high level of competence, of personnel proficiency and skills.

Tools for monitoring competence are:

- (Crews:) Check and training flights, line checks, simulator sessions;
- (Crews:) Ad hoc inspection flight by the Chief Pilot, the Crew Training Manager, the Fleet Manager(s), the Chief Pilot(s) and/or the Cabin Crew Department Manager;
- (Ground personnel:) Ad hoc assessment by supervisory staff participating in a particular tour of duty and/or participating in the performance of particular tasks;
- (FOO's:) Annual competency check and training, as well as Ad hoc inspection by supervisory staff;
- Collecting and assessing occurrence reports (in cases of high safety relevance, personnel who would otherwise become subject to disciplinary, legal or penal action shall be encouraged to write anonymous reports) and passenger complaints.

NOTE	Whenever prescribed checks/examinations have been failed twice, the individual case shall be referred to the Chief Pilot for Flight Crew and to the Chief Steward for Cabin Crew Members, who will decide on further action.

Tools for maintaining and improving proficiency are:

- The system of promulgating operational instructions and information, see Chapter ***2.2 System of Promulgation of Additional Operational Instruction and Information***;
- The safety programs outlined in Chapter ***3.2 Accident Prevention and Flight Safety Program***;
- In individual cases, retraining as determined by supervisory staff.

2.1.5 Supervisory Staff

Revision: 19 - 14 MAR 21

The number of supervisors to be appointed is dependent upon the number of staff employed. The duties and responsibilities of each supervisor are clearly defined. As far as crew members are concerned, any flying commitments shall be arranged so that they can discharge their supervisory responsibilities.

The supervision of all crew members must be exercised by individuals possessing experience and personal qualities sufficient to ensure the attainment of the standard specified in the Operations Manual.

2.1.6 Control, Analysis and Storage of Records, Flight Documents and Data

2.1.6.1 Documents Used for the Preparation and Execution of the Flight

Revision: 23 - 29 AUG 24

Legal provisions prescribe the carriage, on each flight, of the following documents:

- Flight release[1];
- Operational flight plan[1];
- Aircraft Technical Log;
- The filed ATS flight plan [1];
- Appropriate NOTAM/AIS briefing documentation[1];
- Appropriate meteorological information[1];
- Weight and balance documentation;
- Notification of special categories of passenger(s) such as security personnel, if not considered as crew, handicapped persons, inadmissible passengers, deportees and persons in custody (On-board Service List - OSL);
- Notification of special loads (NOTOC) including dangerous goods and written information as prescribed in ***9 Dangerous Goods and Weapons***;
- Current maps and charts and associated documents[1];
- Any other documentation which may be required by the states concerned with this flight, such as cargo manifest, passenger manifest, etc.; and
- Forms to comply with the reporting requirements of CAAI and the operator (see ***11 Handling, Notifying and Reporting Occurrences***).

These documents are essential for the safe conduct of the flight. By examining all documents and then signing the papers the PIC certifies that he is satisfied that the preparation of his flight is adequate. These documents may be in paper or in electronic format.

Legal provisions prescribe that EL AL (or EL AL's agent or, where no agent is named, the airport Authority or a suitable other party) retain digitally (EFF) or, on the ground, at the airport of departure and for at least the duration of the flight, a copy of each document relevant to the flight and appropriate for the type of operation, specifically a copy of:

- The operational flight plan;
- Copies of the relevant parts of the Aircraft Technical Log (Flight and Maintenance Report);
- EL AL-edited route specific NOTAM documentation – if any;
- Load sheet;
- Notification(s) of special loads (NOTOC) including dangerous goods and/or special categories of passengers.

For additional requirements see Chapter ***2.1.6.5 Analysis and Retention of Documents and Records, Quality Control of EDP***.

1 The indicated documents are provided by the FOO, and are distributed via LIDO Briefing.

If retention on the ground is not practicable, the information shall be carried in a fireproof container in the aircraft.

2.1.6.2 EFB Class I

(*) Revision: 23.1 - 15 MAR 25

The carriage of the iPad EFB Class I by all operating flight crew is mandatory on each flight. The iPad is EL AL property and is considered flight gear to be used for operational needs. The flight crew shall ensure the iPad is maintained in operational and good condition.

The iPad is personal equipment and is forbidden for use by anyone other than flight crew. Flight crews are allowed to use the iPad for personal use. Use of personal applications is not allowed on the flight deck while on duty during flight.

The use of the iPad operational functions is allowed during all phases of flight.

Hardware – iPad supplied by the Company.

The iPad EFB Class I is used for accessing Operation Manuals (Parts A, B, C and D), the Chief Pilot Division Manual, other company publications, the journey log and for E-Safety reports.

Each Flight Crew station is equipped with an approved securing device, which shall be used during taxi, take-off, and landing. The iPad may be out of the securing device and held by hand in a non-critical phase of flight, but must not obstruct access to controls and/or displays, ability to enter/exit the flight deck, or external vision. The approved devices are as follows:

Aircraft	Approved Device(s)
737	FlyPad Mount or PIVOT B737 Molded LTRM
777	RAM-HOL-TAB6U or PIVOT B777 Molded LTRM
787	FlyPad Mount or RAM-HOL-TAB6U or PIVOT B787 Molded LTRM

Set the intensity of the iPad and adjust according to changing lighting conditions.

The iPad operating system (iOS) and any applications that are required by EL AL to be installed shall not be upgraded, uninstalled, or altered unless EL AL has given instructions to do so.

Taxi, take-off, approach and landing briefings shall be done using the iPad Jeppesen charts. During briefings:

- Both iPads shall have the same charts visible, although the briefing can be performed on one iPad visible to both crew members; and
- Flight crew members are encouraged to hold their iPads in their hands and position them towards the center of the flight deck.

Approved EFB Applications and Backups

The following applications and Backups are approved for operational use:

APPROVED

Operational Function	Primary Application	Backup
Airport reference, airport charts, en-route charts and general booklets	JeppesenFliteDeck Pro from the EL AL Store (JeppFD-Pro)	Jeppesen FliteDeck Pro from the Apple App Store. If OCC becomes aware of individual charts that are missing, they shall advise the Nav-

Operational Function	Primary Application	Backup
		igation Database Manager to publish the missing pages in EFOS and issue a crew and FOO bulletin accordingly.
Required documentation, manuals, and reference materials	EFOS/EFF	AirWatch Secure Content Locker ("Content")
Take-off and landing performance calculations	OPT	Performance data may be obtained: • Take-off performance: From OCC by any means available, including screenshot or image via e-mail or instant messaging, or ACARS. Detailed procedures appear in the OPT User Manual; • Landing En-route Refer to QRH - Performance In-flight.
Flight crew qualifications	EFOS/EFF	Rotem and/or Duty Plan
Flight Duty Period and Flight Time Limits	ELP Notify	All relevant data may be obtained from OCC by any means available.
Electronic Flight Folder (EFF) – Distribution, use, and storage of Flight Release, OFP, and Load Sheet	EFF	Paper
Decision-making support tool for turbulence avoidance	Skypath **NOTE** Not mandatory.	Not required.

NOTE Opening files from a PDF reader will open the previously read version and not necessarily the latest version. **Therefore all operational documentation shall be opened only from EFOS / Content or FliteDeck Pro.**

Backup EFB

A backup EFB is available in the safe located in the passenger cabin. The EFB contains the following manuals:

- OM Part A;
- FCOM for all fleets;
- FCTM for all fleets;
- CFSM;
- CSOM.

Limitations

- The Minimum battery level for dispatch is 70%. Always attempt to keep the iPad at least 20% charged before descent to landing;
- "Multitasking Gestures" shall be verified ON under the iPad's Settings menu;
- Charging the iPad is allowed only on the ground while at the gate or in flight during cruise.

Operational Procedures

(*) Revision: 23.1 - 15 MAR 25

Data Update

Prior to each flight, the flight crew shall ensure that the following applications on their iPad are updated with the most current databases:

1. Jeppesen FliteDeck Pro from the EL AL Store (JeppFD-Pro);
2. Jeppesen FliteDeck Pro from the Apple App Store;
3. EFOS/EFF;
4. AirWatch Secure Content Locker (“Content”);
5. OPT.

Ownship Position

1. Display of ownship is permitted during all phases of flight;
2. Ownship provides <u>supplemental situation awareness only</u>;
   - Ownship shall not be used as the reference for maneuvering the aircraft in the air; the installed primary flight and navigation displays shall always be used;
   - During ground operations, the maneuvering reference is what is observed out the window. In case the ownship symbol is lost, the pilot shall continue to taxi according to the external visual reference outside the window.
3. FliteDeck Pro continuously monitors the incoming GPS position accuracy and accounts for database accuracy. If the position accuracy tolerance is exceeded, the ownship symbol is removed and the GPS status icon is overlaid with an amber exclamation flag. Touching the icon reveals the status, “GPS accuracy below minimum required.” Likewise, if heading / track direction cannot be calculated, the ownship symbol changes to non-directional. This assures that ownship will not be displaced or display information that could cause confusion and/or extra workload to the pilot.

CAUTION	Ownship Position only displays the current position; it does NOT display the position the airplane is supposed to be in.

Flight Briefing

Downloading the Lido Briefing may be done by any of the following methods:

- EFF;
- EFOS;
- E-Brief;
- Wireless flash drive;
- Lido Briefing website (www.lido-brf.net);
- E-mail.

Data access is via the Wi-Fi network by one of the following: at the EL AL Operation Center in TLV, Internet access at crew hotels, Wi-Fi or wireless flash drives available at EL AL stations abroad, routers on board the aircraft, or any other internet connection accessible by the crew member. The PIC shall ensure that when the Lido briefing is available on the iPad, all flight crew members have the updated Lido briefing on their iPads.

Pre-flight

Attach the iPad to the securing device. Verify that:

- The window is “closed and locked”, and the handle in the “locked” position;
- The iPad does not obstruct clear sight of any of the flight instruments;
- The iPad does not obstruct flight crew primary and secondary fields of view;
- The iPad does not interfere with free movement of the flight controls;
- That all switches and gages of the flight deck are fully accessible to the flight crew;
- The iPad does not interfere with opening the side window;
- The iPad is properly installed on the securing device at an angle that allows full view and use while performing flight duties.

Pre-departure preparations in the “en-route view” shall include the departure airport, destination airport, alternate airports (as applicable) and the flight plan as they appear in the OFP.

Taxi and take-off

Before aircraft movement, cellular data shall be switched to “OFF”.

The iPad Jeppesen charts shall be used, prepare Jeppesen charts as required.

The OPT shall be used to calculate take-off performance. The OPT also describes the engine failure procedure for the selected runway.

Cruise

The iPad Jeppesen application and the OFP should be available at any time to the flight crew. The electronic flight plan does not replace the paper copy which shall be used for recording the flight progress (fuel and time tracking). When relieving another pilot, verify you have either your iPad available for use, or you have the Passcode for the relieved pilot's iPad.

Approach and Landing

Before commencing descent, each crew member shall prepare the iPad Jeppesen charts view, and shall select the charts according to the expected arrival/s and runway/s.

Flight Termination

All iPad’s shall be dismantled from the securing device.

Inoperative or Unavailable iPad

A flight shall not commence push back or taxi without at least two operational iPads.

If an iPad becomes inoperative or unavailable, the following options are available:

1. At TLV, a substitute iPad is available to be delivered to the flight crew 24/7. If there is a problem with updating or if the update is not current — call technical support (03-9717777) for assistance 24/7;
2. At other stations or if a substitute iPad is unavailable, the backup EFB in the cabin shall be used by the flight crew. In such a case, the PIC shall ensure that the EFOS and Jeppesen FliteDeck Pro applications are up-to-date prior to departure.

Failure of both iPads in flight: Use on-board systems (FMC/ND), contact OCC/ATC as required.

For non-operational issues concerning Company computer equipment, see Company Procedure 13-501 "Policy & Information Security - Personal Computers".

2.1.6.2.1 EFB Class III

Revision: 22 - 20 FEB 24

B787 aircraft are equipped with Class III EFBs as part of the aircraft's avionics suite. The following applications on the EFB Class III are approved for operational use:

- Airport Moving Map (AMM);
- En-route and Terminal Charts (TC);
- Pilot Utilities.

The system to ensure that the above applications are kept up-to-date is defined in the CPDM.

2.1.6.3 Journey Log Procedure

(*) Revision: 23.1 - 15 MAR 25

A journey log shall be carried on board each flight. The information required for the Journey Log is derived from the Flight Report (a function included in the EFOS/EFF application on the EFB Class I). The PIC shall synchronize the application before and after every flight.

The synchronization sends completed flight reports and event reports to the company servers, where they are disseminated to management and a Journey Log is prepared. EL AL retains the following information for each flight in form of a Journey Log:

- Aircraft registration;
- Flight Number;
- Date;
- Name and duty assignment of crew members;
- Airport and time (off-block time as per Chapter *2.4.3.2 OOOI Times*) of departure;
- Airport and time (on-block time as per Chapter *2.4.3.2 OOOI Times*) of arrival;
- Flight time and nature of flight;
- Incidents, observations (if any via Event Reports).

The flight report prepared electronically with a user name and password sent by the PIC shall be considered as his signature of the log. By signing the report, the PIC confirms that the details of the report are correct.

NOTE	If there has been a change to the crew list and it is not up-to-date, the PIC shall ensure that the list is corrected before submitting the report. Synchronizing the application will generally produce an up-to-date crew list, or it may be corrected manually.

The entries in the Journey Log are made concurrently and they are permanent in nature. The Event Report which is part of the EFOS/EFF system should be used to communicate on all operational issues by the flight crew to management. Event reports can be sent separately or as part of a flight report.

2.1.6.4 Reports

Revision: 19 - 14 MAR 21

The PIC shall ensure completion (and EL AL, after flight, shall ensure currency, completeness and permanency) of the Flight Report and of the FLAR which is to contain the aircraft's registration, the date, the name of the PIC, the place and time of Off and On Block and the PIC's acceptance.

Reports other than the Flight Report and the FLAR are occurrence reports:

- Cabin Flight Report;
- Aircraft and Cabin/Technical Log (for technical defects and the exceeding of technical limitations occurring while the PIC is responsible for the flight);
- Air Traffic Incident Report;
- Bird Strike Report;
- Dangerous Goods Occurrences Report;
- Report the exceedance of Duty or Reduction of Rest Period;
- Accident Report;
- Any deviation from rules or procedures in the interest of safety.

For the list of mandatory reporting times, see Chapter *11.4.2 Notification and Reporting*.

2.1.6.5 Analysis and Retention of Documents and Records, Quality Control of EDP

Revision: 19 - 14 MAR 21

As prescribed in Chapter *1.5.3 After Flight*, the Co-pilot attends to the completion of the prescribed documentation, closes it after flight and if using paper copies, forwards the Operational Flight Plan with the actual fuel and time data, and the flight release to OCC.

Accident and occurrence reports are given high priority and shall be distributed and handled as per Chapter *11 Handling, Notifying and Reporting Occurrences*. They shall be evaluated and acted upon as outlined in Chapter *3.2 Accident Prevention and Flight Safety Program*.

All other documents are a valuable tool for quality control: the designated section of Flight Operations shall regularly check their accuracy and correct completion and that the flight has been planned and conducted in accordance with all legal and EL AL provisions regarding MEL, fuel policy, aircraft performance and limitations, airport and en-route operating minima, and with proper regard to the forecast meteorological situation and the published (NOTAMs) environment of aeronautical aids and services.

Whenever documents are missing or discrepancies/irregularities are found, an appropriate report shall be forwarded to the Chief Pilot and to the pilot who has been acting as PIC of that flight. In order to enable the Chief Pilot to identify and to prevent the re-occurrence of such irregularities, statistics shall be maintained and updated.

As a matter of quality control, OCC shall manually calculate, once every two months, a random-picked EDP generated flight plan.

In addition, Ground Operations shall periodically perform manual recalculation on a random picked EDP generated Load Sheet Document.

Whenever more than one source, e.g., dispatch offices or Handling Agents, provide EDP generated flight plans or load sheet documents, these checks shall be conducted at least once every two months for each source used.

2.1.6.6 Documents Storage Periods - Information Used for the Preparation and Execution of the Flight

Revision: 23 - 29 AUG 24

Operational flight plan with the flight monitored fuel information and the flight release, both signed by the PIC and the FOO. (to be retained by OCC) A second copy of the signed flight plan and the flight release, shall be retained at OCC or at the outstation, as applicable. The second copy may be a shortened version, omitting the portions after the signature lines.	3 months
ATS flight plan (to be retained by OCC)	3 months
Aircraft Technical Log (to be retained by Maintenance)	see MCM
Route specific NOTAM/AIS briefing documentation edited by the company (to be retained by OCC)	3 months
Weight and balance documentation (to be retained by Ground Operations)	3 months
Notification of special loads (NOTOC) including written information to the PIC about Dangerous Goods (to be retained by Ground Operations)	3 months
Communications records (to be retained by OCC)	3 months
Fit For Duty Statement (For flights from TLV – to be retained by OCC; for other flights – to be retained by the relevant outstation)	3 months
Flight Weather Briefing	3 months
Aircraft Tracking Data (to be retained by OCC)	APPROVED Until the aircraft has landed safely.

	NOTE Following a serious incident, OCC shall retain the aircraft tracking data of the involved flight for at least 30 days. In addition, OCC shall be capable of providing a copy of this data to Search & Rescue agencies without delay and in an electronic format that is human-readable using a common text file editor.

2.1.6.7 Documents Storage Periods - Reports

Revision: 22.1 - 1 JUN 24

Journey Log (to be retained by Chief Pilot and Standards Division)	6 months after the date of the flight (a backup is required every 24 hrs)
Record each action taken concerning the release from employment or physical or professional disqualification of any flight crew member or FOO (to be retained by HR)	6 months
Air Traffic Incident Report, Air Safety Reports, Bird Strike Report, Dangerous Goods Occurrence Report (to be retained by the Safety and Quality Division)	5 years
Accident Report (to be retained by the Safety and Quality Division)	indefinitely
ISM Report (to be retained by the Chief Steward)	3 years
Violent Passenger Report (to be retained by the Chief Steward)	3 years
Passenger Injury/Illness/Death Report (to be retained by customer relations)	3 years

2.1.6.8 Documents Storage Periods - Flight Crew Records

Revision: 19 - 14 MAR 21

Flight Time, Flight Duty Period and Rest Time to be retained by Crew Assignment.	2 years
License, training, courses, recency of experience, route and airport competence, specific operations (i.e. EDTO, CAT II/III) dangerous goods etc. appear in the OM Part D	

2.1.6.9 Documents Storage Periods - Cabin Crew Records

Revision: 19 - 14 MAR 21

Duty Time and Rest Time to be retained by Crew Assignment	2 years
Initial safety training, conversion and differences training (training, courses, recurrent, refresher and dangerous goods etc. as well as CCM/ISM qualification reports appear in the EL ALOM Part D)	

2.1.6.10 Documents Storage Periods - FOO Records

Revision: 21 - 5 MAY 23

All records of training, checking and qualification of Flight Operations Officers and other operational control personal shall be maintained by the Operations Control Center and shall be made available to the CAAI upon request.

Details of the documents and storage period appear in the EL AL OM Part D, Chapter 4.1.4 “FOO Records”.

2.1.6.11 Flight, Duty and Rest Time Records (Flight Crew and Cabin Crew)

Revision: 19 - 14 MAR 21

Where a Crew Member in respect of whom EL AL has kept such record, becomes a Crew Member for another operator, that record shall be made available to the new operator.

2.1.6.12 Documents Storage Periods - Records for other Operations Personnel

Revision: 19 - 14 MAR 21

Training/qualification records of other personnel for whom an approved training program is required by EL AL	Last 2 training records
To be retained by the Training Department	

2.1.6.13 Flight Recorder Records

(*) Revision: 23.1 - 15 MAR 25

Following an accident or a serious incident, the flight recorder shall be switched off at the end of the flight, shall not be turned on again and shall be preserved until it is transferred to the Aircraft Safety Investigation Authority Israel. The flight recorder shall be transferred electronically or by other means to the Aircraft Safety Investigation Authority Israel unless he specifically approves not to do so.

NOTE	EL AL shall, within a reasonable time of being requested to do so by the CAAI, produce any flight recorder recording which is available or has been preserved.

Cockpit voice recorder recordings may not be used for purposes other than for the investigation of an accident or incident subject to mandatory reporting except with the consent of all crew members concerned.

2.1.6.14 Other Records

Revision: 19 - 14 MAR 21

Records on cosmic and solar radiation dosage to be retained by the IT Division	50 years
Quality System Records to be retained by the Safety and Quality Division	5 years
To be retained by the Safety and Quality Division	

Dangerous Goods Transport Document	3 months after completion of the flight
Dangerous Goods Acceptance Checklist	3 months after completion of the flight

To be retained by the Cargo Division

2.2 SYSTEM OF PROMULGATION OF ADDITIONAL OPERATIONAL INSTRUCTION AND INFORMATION

(*) Revision: 23.1 - 15 MAR 25

Information of an operational nature which is supplementary to that contained in the Operations Manual is either of a semi-permanent nature or of an ad hoc nature with a more or less high degree of urgency necessitating expeditious means of distribution.

Due to its operational relevance such information shall contain the date/time of its issue and state the beginning (date/time) and the end (where appropriate, otherwise the statement “valid until further notice” should be included) of its applicability.

The following modes of publication/communication for promulgation are used:

- Distribution into personnel or crew mail boxes;
- Mailing to a Staff member’s home address;
- EDP – Electronic Data Processing:

  Enabling related departments to receive or distribute information at stations where flights and/or operations personnel have access to a terminal providing and/or accepting information in or for storage. The EL AL Crew Web Site and the EFOS/EFF are considered EDP;
- SITA teletype messages;
- AFTN teletype messages;
- FACSIMILE: faxed information;
- TELEPHONE;
- ACARS (to/from aircraft);
- Company frequency or phone patch (to/from aircraft);
- Relay by ATS (to/from aircraft);
- EL AL Crew Web Site;
- EFOS/EFF;
- LBC.

NOTE	Only the following items are abiding to crew members and FOOs: – OM Parts A, B, C and D (OM Part C is provided via the Jeppesen FliteDeck Pro application); – Chief Pilot Division Manual for flight crew; – Cabin Crew Chief Steward Procedures for cabin crew; – OCC Manuals for FOOs; – Read and sign notices; – NOTAMs, Crew Alerts and Crew Bulletins; – Scheduling notices.
NOTE	In case of discrepancy between an official NOTAM and a company NOTAM, the official NOTAM shall take precedence.

System of Promulgation

By Means Of	Responsible for Promulgation (Name of Company Unit)	Instruction / Information
EDP	Chief Pilot Division	Industrial agreements (including those concerning max. duty times)
EDP	Chief Pilot Division/Chief Steward	Dress regulations
EDP	Chief Pilot Division/Chief Steward	Country and airport regulations concerning immigration, health, visa, customs, GenDec, passenger manifest etc.
EDP	Chief Steward	Operationally significant information including special passengers and service requirements
EDP	Chief Pilot Division	List of authorized airports (including PIC's competency classification)
EDP	Chief Pilot Division	List of Ground Handling Agents
EDP	Chief Pilot Division	List of maintenance agents
EDP	Chief Pilot Division	List of company's and it's agents radio frequencies
EDP	Chief Pilot Division	List of fuel suppliers
EDP	Commerce and Industry Affairs	List of traffic rights for individual routes (where necessary)
EDP	Crew Assignment	Monthly (bimonthly, or other) crew personnel schedules
EDP	Chief Pilot Division	Adhoc revocation of airport authorization or change of PIC's competency classification
EDP	Chief Pilot Division	Changes in information pertaining to ground handling
EDP	Chief Pilot Division	Changes in fuel availability and/or supplier, ad hoc suggestions for tankering
EDP	Chief Pilot Division	Technical, aircraft type related information
EDP	Chief Pilot Division	Technical information pertaining to an individual aircraft
EDP	Chief Pilot Division	Changes in information pertaining to maintenance
EDP	Chief Pilot Division	Short term information on traffic rights, immigration/visa/health requirements
EDP	Crew Assignment	Rescheduling of an aircraft's crew
EDP	OCC	Change of aircraft's routing or schedule
EDP	OCC	Operationally significant meteorological information and NOTAMs
EDP	Chief Pilot Division	Changes of approach procedures, airport operating minima, departure or missed approach procedures
EDP	Chief Pilot Division	Runway length reductions, short term installation of obstacles
EDP	OCC/Chief Pilot Division	Other significant aeronautical information (changes of NAVAID frequency, ad hoc airway closure or realignment etc.)

2.3 RESERVED

2.4 OPERATIONAL CONTROL

Revision: 22.1 - 1 JUN 24

“Supervision” addresses the **direction** and **management** of flight operational safety, “control” encompasses a standard of comparison, of ensuring that prescribed procedures are being followed. Supervision of the safety of flight operations and operational control with respect to flight safety are important aspects of **quality control**, see Chapter ***3 The Operators Quality System***.

As far as “Flight Operations” are concerned (in contrast to “Ground Operations” and “Maintenance” which both play their indispensable roles in respect to overall safety) the Director of Flight Operations bears the **overall** responsibility, see Chapter ***1.3.2 Director of Flight Operations***, and has the **overall** directive authority. (For an actual flight, this responsibility and this authority devolves on the PIC).

2.4.1 Chief Pilot and Director of Standards

Revision: 22.1 - 1 JUN 24

The Director of Flight Operations exercises his supervisory directive power in:

- Coordinating and supervising the Chief Pilot Division and in appointing their chief executives;
- Establishing the legally required flight operational procedures and instructions, e.g., the different parts of the Operations Manuals and “additional operational instructions”, see Chapter ***2.2 System of Promulgation of Additional Operational Instruction and Information***.

NOTE	Changes to the Operations Manual and related additional operational provisions and regulations will be suggested to the Director of Flight Operations by the designated company unit and published under the direction of the Director of Flight Operations, after prior coordination with the CAAI. This procedure provides the necessary element of “Control”, a standard of comparison, and the channeling of know-how. Editorial responsibility for the OM Part A rests with the Chief Pilot Division. Editorial responsibility for the OM Part B rests with the Chief Pilot Division (and with the Cabin Crew department for the CFSM). Editorial responsibility for the OM Part C rests with the Chief Pilot Division. Editorial responsibility for the OM Part D rests with the Fight Training Department. The editorial responsibility covers also the requirement to draw to the attention of the Director of Flight Operations any discrepancies or incompatibilities with legal requirements or other company procedures. The responsibility for establishing procedures and instructions concerning the carriage of dangerous goods is delegated to the Cargo Division.

- Drawing, in cooperation with the chief executives of the company’s departments, appropriate conclusions from:
  - Reports provided by routine operational meetings;
  - Relevant Air Safety Reports and Flight Reports (Chapter ***11 Handling, Notifying and Reporting Occurrences***);
  - Hearings (Chapter ***11 Handling, Notifying and Reporting Occurrences***);
  - Check flights – conducted by other supervisory pilots.

- Cooperating in the audits of the Quality Manager and Safety Manager, and by addressing all faults and deficiencies found, particularly with respect to the standards of operations personnel; i.e. their qualification/re-qualification, competence in the performance of prescribed duties, and their adherence to company procedures.

In a manner similar to the one described in connection with the Operations Manual, the Director of Flight Operations exercises operational control in:

- Determining the usability of airports (to be proposed, and after approval by the Director of Flight Operations, to be published by Chief Pilot Division);
- The establishment of the airport operating and planning minima (to be proposed, and after approval by the Director of Flight Operations, to be published by Chief Pilot Division);
- The approval of routes to be served and of areas to be overflown, the establishment of minimum flight altitudes and of en-route operating minima (to be proposed, and after approval by the Director of Flight Operations, to be published by Chief Pilot Division).

The responsibility for an **individual flight** devolves on the Operations Control Centre 72 hrs before departure. It shall ensure, for the planned flight, that the aircraft has undergone all maintenance that renders the aircraft able, from a technical and legal point of view, to finish its tour of duty and return to home base before a major check becomes due.

2.4.2 Operations Control Center

Revision: 19 - 14 MAR 21

The Operations Control Centre reacts in an appropriate manner to operational irregularities by:

- Crew member changes (ex stand-by or by other means);
- Aircraft changes;
- Changing the aircraft's planned schedule (early departure, delay, rerouting, cancellation of flight, diversion of flight en-route).

The operational control of a flight is shared between the PIC and the FOO.

En-route amendments to the OFP and/or the flight release, such as re-dispatch, reroute, unplanned tech-landing etc. shall be coordinated between the PIC and FOO.

If the FOO to whom the operational control of a flight has been assigned becomes absent, another qualified FOO can take over his duties. In case such a FOO is not available, the PIC may assume full operational control of the flight.

The C2000 Operation Control application is used to track and control EL AL flights. Flights are updated continuously on a timeline and are color coded according to operational tasks. Additional flight data such as crew, weather and passenger configuration are available.

The application displays flight-related warnings and alerts. Graphic icons are displayed alongside the relevant flights, informing operators of restrictions or possible problems (noise, crew age, minimum ground-time, weather, etc.).

FOO's enter schedule change and movement data, which trigger the generation of SITA messages. Incoming SITA (Société Internationale de Télécommunications Aéronautiques) messages update the C2000 database with critical flight data. Other data files from external sources provide weather information, crew information and Pilot Movement Records (PMR).

2.4.3 PIC

2.4.3.1 General

Revision: 19 - 14 MAR 21

Once a PIC has commenced flight duty, he shall be informed of and consulted on all questions relating to his flight, his crew and his aircraft.

The operational control of a flight is shared between the PIC and the FOO however, in flight, the final Authority as to the disposition of his aircraft rests with the PIC who shall responsibly cooperate with the Operations Control Centre and with Maintenance, and base his decisions on all aspects of the aircraft's safety, and that of its passengers and crew.

2.4.3.2 OOOI Times

Revision: 22 - 20 FEB 24

The OOOI (Out/Off/On/In) times and Move Time of a flight must be known at OCC as soon as possible after their occurrence.

The ACARS times sent to OCC shall be used for Flight Time limitations.

Only upon request of the ground crew, the flight crew shall give the Off Blocks (Out) time and the On Block (In) time to ground. In addition they shall be entered in the FLAR at the end of the flight. If any of the required OOOI times fail to arrive by ACARS, OCC shall obtain them by contacting the station.

When communicating Out time to the ground, it must be clearly distinguished from the push back point.

The PIC shall be the sole authority for determining the times. Therefore, if the ACARS time displayed in the aircraft is incorrect or needs to be updated, the PIC shall notify OCC of the correct time as soon as possible by any available means.

The times used by all company systems for operational use and for the Journey Log shall be the ACARS time unless it was not received, received late or the PIC specifically notified OCC that the ACARS time was incorrect.

2.4.3.3 Early Departures

Revision: 19 - 14 MAR 21

Flights that do not terminate at TLV may depart ahead of schedule if the aircraft will not arrive on stand at the destination more than 15 minutes (passenger aircraft), 30 minutes (cargo aircraft) ahead of schedule using the OFP flight times and the expected taxi times. Once airborne, the early restriction no longer applies. Departures earlier than the above require prior approval from OCC. There is no early departure restriction for flights terminating in TLV.

2.4.3.4 ATC Departure Times

Revision: 19 - 14 MAR 21

For flights with a CTOT (Calculated Take-Off Time):

If there is a likelihood of not being able to take-off within the published CTOT window (-5 minutes to +10 minutes), OCC should be notified as early as possible so that they can request an extension. This extension can only be requested within 20 minutes of the EOBT (Estimated Off Block Time).

For stations with CDM (Collaborative Decision Making):

If the PIC cannot meet the TOBT (Target Off Block Time) or the TSAT (Target Startup Approval Time), he shall verify that the station is aware that the TOBT cannot be met, and that he is to submit a new TOBT.

For flights with no departure slot:

The ATC flight plan will expire 15 minutes after the Estimated Off Block Time (EOBT) for flights departing Israel and Europe (unless a CTOT is imposed), and 30 minutes for all other flights, unless start clearance has been requested. If the flight is not ready to request start within the EOBT + 15/30 minutes period, the PIC should contact OCC or the ground handling agent as soon as possible.

2.4.3.5 Diversion

Revision: 19 - 14 MAR 21

In the event of diversion, the PIC will proceed to the first alternate in the flight release. However, if circumstances change during the course of the flight which makes this inadvisable for operational reasons he will proceed to a suitable operational alternate. If a diversion is anticipated, the PIC shall contact OCC and advise them of this and confirm his intention to proceed to the alternate. The decision falls under the joint responsibility for operational control – see Chapter ***1.7 Joint Responsibility and Authority***. When the diversion is unexpected or when the aircraft is en-route to the diversion alternate, the PIC will, subject to workload, contact OCC and give the diversion airport and ETA.

NOTE	When deciding on the alternate airport, the FOO should also consider factors such as availability of fueling, maintenance and passenger handling facilities.

In response to EU 261, the USA Department of Transport Consumer Protection Law, the Israel Aviation Services Law and the 1999 Montreal Convention, the cause of the diversion shall be reported in detail to enable a legal defense of the operational necessity for the diversion. Purely weather related diversions should be reported in the Journey Log with full details of the weather conditions preventing landing at the destination. Any safety related or technical reason for a diversion should be also be reported with full details.

EL AL is required to keep comprehensive records to enable the company to defend the reasons for diversions against an increasingly litigious population empowered by the above mentioned consumer protection laws and regulations.

The following options summarize the situation:

1. Hold for longer and land at destination if the crew believes the weather will improve to enable landing;
2. Divert early if crew forms the view that no improvement is likely to enable landing at the destination. This enables either a return flight to the destination after refueling, or transporting pax to the diversion location to achieve the minimum delay;
3. Hold for the max time then divert to an alternate, which is the most expensive and least desirable option, and results in the greatest delay and consumption of Duty Time.

It is expected that trained Flight Crew would assess the conditions and are best placed to determine if there is a reasonable possibility of landing at destination and therefore how long to hold.

After Landing

At airports without handling personnel under contract to the company (e.g., after a diversionary landing) it is the PIC's responsibility to ensure that all passengers, the aircraft's load (e.g., live animals) and the aircraft are well taken care of. The PIC shall remain with the passengers to the extent possible, until receiving other instructions from OCC (see Company Procedure 40-110). He shall also ensure the security of the aircraft. Fueling at such airports is only allowed with the Chief Pilot's authorization. At airports without ATC facilities, upon canceling or completing the flight under the flight plan, the PIC shall notify an ATC facility.

2.4.3.6 Delays

Revision: 20.2 - 14 DEC 22

Procedures pertaining to passenger service during delays and similar circumstances appear in the Chief Steward Operations Manual, a copy of which may be obtained from the ISM.

For lengthy tarmac delays in the USA (before take-off and after landing, including diversions), the following procedures shall be followed:

- When a lengthy delay is anticipated, verify the station is aware of the situation;
- The PIC shall offer the opportunity for passengers to deplane before 4 hours unless:
  - In the case of departures only, the PIC requests permission to return to a suitable disembarkation point from ATC Ground control for purposes of deplaning passengers; or
  - The PIC determines there is a safety-related or security-related reason why the aircraft cannot leave its position on the tarmac to deplane passengers; or
  - Air traffic control ("ATC") advises the PIC that returning to the gate or another disembarkation point elsewhere in order to deplane passengers would significantly disrupt airport operations.

The tarmac delay clock starts for departures when the main aircraft door used for boarding closes and for arrivals and diversions, the tarmac delay clock starts when the aircraft lands.

For all delays, the PIC shall notify passengers regarding the status of the Tarmac Delay when the tarmac delay exceeds 30 minutes, including the reason for the Delay (if known). Subsequent delay status announcements are at the discretion of the PIC, when, for example there is new information to report. In the event that an aircraft is at the gate or at another disembarkation area, and the aircraft doors are open, the PIC will timely notify passengers that they have the opportunity to deplane from the aircraft if the opportunity to deplane actually exists.

EL AL will provide adequate food and potable water no later than 2 hours after the start of the tarmac delay, unless the PIC determines that safety or security considerations preclude such service. EL AL will also provide operable lavatories and medical assistance, if requested by a passenger.

2.5 POWERS OF AUTHORITY

2.5.1 Access

Revision: 19 - 14 MAR 21

CAAI, or any Authority conducting ramp checks shall, for the purpose of determining compliance with the relevant requirements be granted access at any time to any Company facility, aircraft, document, records, data, procedures or any other material relevant to the Company's activity subject to certification, whether it is contracted or not.

Access to the aircraft shall include the possibility to enter and remain in the aircraft, including the flight crew compartment, during flight operations unless otherwise decided by the PIC in the interest of safety. The PIC shall ensure that:

1. Admission to the flight deck does not cause distraction or interference with the operation of the flight; and
2. All persons carried in the flight deck are made familiar with the relevant safety procedures.

The PIC shall make the final decision regarding the admission to the flight deck.

Worth noting is also that an inspection after landing shall not jeopardise the total resting time of the crew.

2.5.2 Ramp Inspection

Revision: 19 - 14 MAR 21

The airplane and/or crew may be subject to a ramp inspection. The inspections will normally follow the SAFA (Safety Assessment of Foreign Aircraft) instructions checked against ICAO standards.

The ramp inspections are chiefly concerned with the airplane documents and manuals, crew licenses, cargo carried, the apparent technical condition of the airplane and the presence and condition of mandatory cockpit and cabin safety equipment. The applicable requirements for these inspections are:

- The ICAO international standards for aircraft used by third country operators;
- The relevant EU requirements for aircraft used by operators under the regulatory oversight of another Member State;
- Manufacturers' standards when checking the technical condition of the aircraft; and
- Published national standards (e.g. Aeronautical Information Publications (AIPs)) that are declared applicable to all operators flying to that State.

The outcome of the ramp inspection is then subject to reports which follow a common format. The absolute number of inspection findings represents an important outcome of the inspecting process which provides valuable information on the airplane or EL AL as its responsible operator. On the other hand, this needs to be carefully taking into account in relation with the "severity" of the findings.

To this end, three categories of findings have been defined. A "Category 1" finding is called a minor finding; "Category 2" is a significant finding and "Category 3" a major finding. The terms "minor", "significant" and "major" relate to the level of influence on safety. The prime purpose of categorising the findings is to classify the compliance with a standard and the severity of non-compliance with this standard.

The inspections and the categories of findings are recorded in the centralised database.

Nevertheless, the final SAFA report will be sent to the CAAI as well as to EL AL.

2.5.3 Crew Action

Revision: 23 - 29 AUG 24

The employees are expected to assist the inspections by providing requested information and by responding to the questions of the inspectors in a knowledgeable and business-like manner according to the best of their professional knowledge. Refer to the SAFA guide in the EFOS/EFF library.

Before the inspection EL AL employees shall verify the identity of the inspectors and, if needed, ask him to show his authorization and identification card.

The PIC of the flight that has been the subject to a ramp inspection shall write an occurrence report stating that an inspection has been performed, regardless of the result of the inspection. If the ramp inspection has rendered in a finding/irregularity the occurrence report shall include the number of findings received.

If the finding relates to a discovered defect on the aircraft, a corresponding entry must be made in the Aircraft Technical Log (ATL) and the MCC notified.

To summarise:

1. An occurrence report shall always be filed after a ramp inspection;
2. If applicable, an entry in the ATL shall be made.

3 THE OPERATORS QUALITY SYSTEM

3.1 DESCRIPTION OF THE QUALITY SYSTEM

Revision: 19 - 14 MAR 21

EL AL has established and maintains a Quality Assurance Program and a Safety Management System. These are described in the QMM and SMM, respectively, which are available on the Company Intranet.

3.2 ACCIDENT PREVENTION AND FLIGHT SAFETY PROGRAM

3.2.1 Accident Prevention

Revision: 19 - 14 MAR 21

Although the level of safety in aviation is very high today the company shall make every effort to prevent accidents.

Accident prevention programs often only cover the flight operations sector. But effective accident prevention can only be reached if all departments and sectors of the company such as management, flight crews, cabin crews, ground crews and engineers, are involved.

The objective of accident prevention is the discovery, elimination and avoidance of hazards. Accident prevention and flight safety program, as well as Occurrence Reporting Scheme are integrated in the Quality System.

Prevention of aircraft accidents shall be the priority through all sectors of airline operations.

Safety is everybody's business although responsibility for safety and thus accident prevention in any company rests with the management. The airline management is responsible for the quality of the product of the company. That means the management has to support any activity for preventing mistakes which may lead to an accident. The quality of the accident prevention programs depends not least upon allocation of resources by the management.

Beyond this the management is responsible for the morale in the company because morale affects safety in a way which should not be underestimated. Low morale often leads to loss of pride in one's work, an erosion of self-discipline which may create hazardous conditions.

3.2.1.1 Human Factors

Revision: 19 - 14 MAR 21

For accident prevention, great emphasis shall be placed on human factors.

The well-being of crew members is very important in accident prevention. A Crew Member shall be fit and alert to be able to respond in the correct way to any situation. Factors which may influence the well-being of Crew Members are fatigue, body rhythm disturbance, and sleep deprivation or disturbance. Also temperature, humidity, noise, light, vibration, workstation design and seat comfort may influence the physiological or psychological well-being.

In connection with accident prevention it is important for Crew Members to know these factors and their possible influence upon their well-being.

This will help to control human errors caused by fatigue, body rhythm disturbance, sleep deprivation, health performance and stress.

For controlling human errors it is necessary to minimize the occurrence of errors. That can be done by providing proper checklists, procedures, maps, charts and manuals and by reducing temperature extremes, noise, and other stressful conditions.

As the aim to eliminate all human errors is unrealistic it shall be the goal to reduce them to a minimum.

The consequences of the remaining human errors will be reduced by cross-monitoring and by realization of a good Crew Coordination Concept.

"The fundamental objective of the investigation of an accident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion in blame or liability" (ICAO, Annex 13, aircraft Accident Investigation).

Every Crew Member shall be aware of this statement. For identifying the hazards which may have caused an accident the involved crew members should not be reluctant to disclose information they have about the accident. The results of the investigation can be instrumental in preventing accidents.

3.2.1.2 Communication Aspects

Revision: 19 - 14 MAR 21

Communication within the company is important. Manuals, Instructions, Directives, etc. should be clearly written and easily understood.

Communication within the cockpit can be affected by the "Transcockpit Authority Gradient" (TAG) which means the relative strength and forcefulness between the Flight crew members. The gradient between the PIC and his crew should be neither too steep nor too shallow. This will lead to free and unreserved communication which is necessary for safe aircraft operation.

To handle an emergency situation correctly and so possibly prevent an accident, the PIC shall show good leadership qualities. The PIC is responsible for good crew resource management within the whole crew and he shall promote good communication.

3.2.1.3 Accident Prevention Organization

Revision: 19 - 14 MAR 21

The company accident prevention organization is administered by the Safety Manager who has direct access to the Accountable Manager. The Safety Manager acts as chairman of the Flight Safety Committee which monitors developing trends and makes recommendations to improve safety.

He maintains a record of observed safety deficiencies which indicates subjects for a safety program. The record also shows the program effectiveness and areas where further emphasis may be required.

Analysis of accidents and incidents and promulgation of related information are elements of the accident prevention program. Information provided by ICAO is important for the identification of potential hazards.

- The ICAO Accident/incident reporting (ADREP) system is a data bank of worldwide accident/incident information for aircraft with a maximum certificated take-off mass of over 2,250 kg. The ICAO Accident/incident Reporting Manual (Doc 9156) contains detailed information on this system;
- The aircraft Accident Digest contains accident final reports available on request from the publishing States;
- List of Final Reports from States contains a listing of accident reports available on request from the reporting States.

3.2.2 Flight Safety Program

3.2.2.1 Main Aspects of the Flight Safety Program

Revision: 19 - 14 MAR 21

The objective of any flight safety program shall be prevention of accidents.

Flight safety should be the major objective of Operational Supervision and Control. The best way to reach a high standard of flight safety is the strict adherence by all operations personnel to standard flight operations regulations and procedures (SOP's) with particular emphasis on the need to guard against complacency during routine operations.

The basis of an effective flight safety program is the promotion of safety awareness in all personnel so that any hazard, which could lead to an accident or incident, is identified and eliminated.

It is known that "some three out of four accidents result from less than optimum human performance" (ICAO). Flight safety can be improved by putting emphasis on the field of human factors and their impact on flight safety.

As human factors have a great influence on flight safety all staff should have a general level of human factors education in order to understand the scope and significance of human factors and be more aware of human performance.

Most accidents do not result from lack of information but from deficiencies in attitude and behavior.

The company safety program concerns all personnel. Flight safety awareness is promoted by the Safety Manager through the circulation of the latest accident reports, incident bulletins and flight safety magazines, highlighting incidents and accidents involving aircraft or equipment similar to those operated by the company.

Recurrent safety training includes film and video recordings of accidents and incidents and the importance of reporting any potential hazard, however minor, is impressed upon all personnel.

3.2.3 Flight Data Monitoring

Revision: 19 - 14 MAR 21

Flight Data Monitoring is part of the Accident Prevention and Flight Safety program and therefore it is managed by the Safety Manager. The person responsible for the Flight Data Monitoring program has a background in aviation. The flight safety division is responsible for ensuring that the flight data monitoring system meets all requirements of Chapter 8 of the Israel Air Law.

Flight Data Monitoring is a means of identifying operational risks and quantifying current safety margins. It is a tool to compare the Standard Operating Procedures, the limits as prescribed in OM Part B and good airmanship with the habits actually taking place in the everyday line operation. It is used to identify and quantify operational risks by highlighting when non-standard or unusual, or when unsafe circumstances occur. The data retrieved by the program will be de-identified, and same as the occurrence reporting system it is pro-active. The laws concerning the data appear in Chapter 8 of the Israel Air Law.

Flight Data Monitoring uses the data acquired by the Flight Data Recorder or download features of the aircraft. The start of the data recording may be preset to certain values or events or when a limit is reached or exceeded. The source for these limits and exceedance may be reports by crews via the company's occurrence reporting system. It is also possible to undertake routine data measurements, as with modern tools data from all flights are retained and not only significant ones producing events. With a routine data measurement, trends and tendencies can be monitored before a limit is reached. It is also possible to check fixed features regularly to check for improvements or changes.

The first step in this respect is to identify areas where an operational risk is present and to measure current safety margins. This may be done on a case to case basis or it may be applied for critical points of the operation. These outcomes will be categorized according to their potential risk, and in case the risk is unacceptable, remedial action will be taken. The effects of these actions will be continuously monitored.

An occurrence may not be a safety issue if it happened once, but a more frequent occurrence of the same event might be an unacceptable risk. Every occurrence has to be evaluated regarding the severity and the frequency.

The effect of the Flight Data Monitoring program will not at least be cost saving aspects, as the monitoring of trends might prolong engine life and reduce maintenance costs, or, in the best case an avoided accident.

3.2.4 Occurrence Reporting

Revision: 19 - 14 MAR 21

The objective of the Occurrence Reporting Scheme is to identify adverse trends or to address deficiencies within the company. This is achieved through a reporting system, to improve the level of flight safety and not to attribute blame to the respective author of such a report.

The scheme protects the identity of the reporter and include the possibility that the reports may be submitted anonymously. It is used for evaluation and promulgation of information related to incidents and/or accidents for prevention of similar future occurrences.

As it is a part of the overall monitoring system, the scheme supports procedures already in place. Nevertheless, it can also be utilized to identify those occasions where routine procedures have failed, thus contributing to improvement of e.g. training procedures, sequence and effectiveness of organizational procedures.

The Flight Safety Electronic Report form on the Crew Web Site provides an option to fill in an anonymous סיפור מהחיים. This feature supports the anonymous Occurrence Reporting Scheme. Flight and Cabin Crew are encouraged to use this form as much as possible, however this does not relieve them from the compulsory reports required by the ANR as detailed in Chapter ***11 Handling, Notifying and Reporting Occurrences***.

The reports shall therefore be collected as their significance may only become obvious at a later date or occasion.

3.2.4.1 Just Culture

Revision: 22.1 - 1 JUN 24

In order to detect human error it is crucial that the people in the organization trust the system enough to admit they made an error so that the individual and organization can learn from it. The only way this trust can be established is the guarantee that a person admitting to an error or unsafe act will not be disciplined or punished.

'Just Culture' is a system that acknowledges the unintentional nature of human error and seeks to learn from mistakes. 'Just Culture' encourages personnel to report an error and participate in its investigation without fear of disciplinary action. However, Just Culture will also clearly define where the line shall be drawn between acceptable and unacceptable behavior.

While normally no punitive or disciplinary measures will be taken against anyone who reports any unsafe act or condition, willful and deliberate violation of Chief Pilot Division organizational policies and/or procedures, of safety rules and regulations or gross negligence by flight operations personnel, will not be tolerated and may be subjected to disciplinary action.

The vast majority of unsafe acts are caused by unintentional human errors; punishment in this case will not be effective at all to prevent such errors in the future since they were unintentional by definition. However in very rare cases unsafe acts are caused deliberately by either intentional violation of safe practices or reckless conduct. Such behavior cannot be condoned in a safe airline and will have to be dealt with.

The process to determine whether an unsafe act is caused by unintentional error or by recklessness or gross negligence is described in the EL AL Safety Management System.

4 CREW COMPOSITION

4.1 CREW COMPOSITION

4.1.1 Minimum Flight Crew

Revision: 19 - 14 MAR 21

For any flight, the number of flight crew shall never be less than two. This minimum number may be increased by the terms of Chapter *7 Flight Time Limitations*. Any such increase then becomes the minimum requirement for EL AL operations.

All flight crew shall hold Israeli or validated licenses and shall be fully qualified as a Captain or First Officer by EL AL (excluding trainee pilots operating on IOE flights as part of the Initial Training and Checking Program).

The required flight crew shall consist of at least the pilots indicated in the Flight Crew Composition and Crew Stations Table in Chapter *4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight* below.

4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight

Revision: 21 - 5 MAY 23

Flight crew members are permitted to occupy only the seats to which they are qualified as indicated in the table below. For IOE and SOE flights, refer to Chapter *4.1.4 Crew Composition during IOE & LQC and SOE & LC*.

Flight Crew Composition and Crew Stations

<table>
<tr><th rowspan="2">Crew Complement</th><th rowspan="2">Composition</th><th rowspan="2">Inexperienced Flight Crew</th><th colspan="3">Flight Crew Stations</th></tr>
<tr><th>Phase of Flight</th><th>Left Seat</th><th>Right Seat[2]</th></tr>
<tr><td>Un-augmented Crew</td><td>PIC — CAPT
Co-pilot — F/O or CAPT-RHS</td><td>Only one pilot may be inexperienced.</td><td>All Phases</td><td>PIC</td><td>Co-pilot</td></tr>
<tr><td rowspan="2">Augmented Crew:
3 Pilots</td><td rowspan="2">PIC — CAPT
Co-pilot 1 — CAPT
Co-pilot 2 — F/O or CAPT
NOTE If both Co-pilots are Captains, at least one of them shall have RHS qualification.</td><td rowspan="2">If the PIC is Inexperienced, at least one F/O or CAPT-RHS shall be Experienced.</td><td>Cruise/En-route (Note 1)</td><td>CAPT</td><td>Any Co-pilot</td></tr>
<tr><td>Other Phases</td><td>PIC (Note 2)</td><td>F/O or CAPT-RHS</td></tr>
<tr><td rowspan="2">Augmented Crew:
4 Pilots</td><td rowspan="2">PIC — CAPT
Co-pilot 1 — CAPT
Co-pilot 2 — F/O or CAPT
Co-pilot 3 — F/O or CAPT
NOTE If all three Co-pilots are Captains, at least one of them shall have RHS qualification.</td><td rowspan="2">If the PIC is Inexperienced, at least one F/O or CAPT-RHS shall be Experienced.</td><td>Cruise/En-route (Note 1)</td><td>CAPT</td><td>Any Co-pilot</td></tr>
<tr><td>Other Phases</td><td>PIC (Note 2)</td><td>F/O or CAPT-RHS</td></tr>
</table>

[2] See Chapter *4.1.2.2 Right-Hand Seat Restrictions for Captains*.

NOTE	During captaincy check flights or line checks for captains who have lost their qualification to act as PIC, the Check Airman shall be PIC and shall operate from the right-hand seat.

NOTE 1	The PIC may only be relieved during cruise. The Co-pilot may be relieved when en-route above 10,000 ft.

NOTE 2	In exceptional circumstances, if the PIC decides that it is necessary in the interest of flight safety, he may allow another flight crew member who is qualified to serve as PIC to be at the controls during stages of flight other than cruise. In such a case the PIC shall report to the CAAI — Chapter ***11.4.2 Notification and Reporting***.

APPROVED

4.1.2.1 Relief of Flight Crew in Flight

Revision: 19 - 14 MAR 21

While the PIC is relieved, he retains the overall responsibility for the safety of flight. The PIC authorities and responsibilities as in Chapter ***1.4.2 In Flight*** shall be delegated to the PIC's relief pilot.

During phases of flight in which the PIC is resting – he shall be called to the cockpit following any emergency after completion of the relevant QRH and in cases decided by the crew at the controls.

4.1.2.2 Right-Hand Seat Restrictions for Captains

Revision: 19 - 14 MAR 21

1. A Captain occupying the right-hand seat for take-off, departure, arrival, or landing shall:
   a. Have Right-Hand Seat Qualification; and
   b. Act as Pilot Monitoring, unless he is a Check Airman.
2. For All-Weather Operations, see Chapter ***8.1.5.3 All-Weather Operations***.

4.1.3 Inexperienced Flight Crew Members

Revision: 23 - 29 AUG 24

Definitions of inexperienced crew members appear in Chapter ***0.4.3 Terms and Definitions***, ***Inexperienced Flight Crew***.

Operational Restrictions

Inexperienced flight crew members shall not be at the crew stations together during the critical phases of the flight.

Rules for Crewing

In order to accommodate the above operational restrictions, flights shall be crewed in accordance with the Flight Crew Composition and Crew Stations Table in Chapter ***4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight*** above.

A newly qualified Captain shall be crewed as part of an augmented crew for his first two flight segments following qualification. See Chapter ***4.2 Designation of the PIC***.

Chief Pilot and Standards Division and Crew Assignment have established procedures to prevent crewing together of inexperienced flight crew members. The Training Chief Pilot shall notify Crew Assignment when a pilot has completed his qualification. The pilot is then defined as "inexperienced" in the Rotem system, which avoids crewing of inexperienced crew members as defined above. An inexperienced flight crew shall notify the fleet manager when he has completed the experience required, who shall notify Crew Assignment. Crew Assignment shall remove the restriction pending a check of the hours in the Rotem system.

4.1.4 Crew Composition during IOE & LQC and SOE & LC

Revision: 23 - 29 AUG 24

The following tables describe the crew composition and seating positions for IOE & LQC/SOE & LC flights when the IOE & LQC/SOE & LC pilot is sitting at the controls. When the IOE & LQC/SOE & LC pilot is not at the controls, the requirements laid down in Chapter ***4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight*** shall apply.

During flights where a Captain is undergoing IOE & LQC to be Captain before being appointed as a Captain by the company, the PIC may occupy the left seat if he considers it to be in the interest of flight safety.

Rules for SOE & LC

If a pilot is undergoing SOE/LC for the purpose of re-qualification, he may only sit at the controls with a Check Airman in the other seat for Critical Phases of Flight. Captains in such a case may not be PIC (see Chapter ***4.2 Designation of the PIC***).

NOTE	All references to Captains refer to Captains qualified to be PIC.

NOTE	For situations in which a pilot other than the PIC may occupy the left seat for landing, see Chapter ***4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight***.

Initial

Un-augmented Crew Composition			
Training Type	**LHS**	**RHS**	**Composition**
IOE & LQC	CKR $_{PIC}$	TRN	CKR I FO (*) I TRN
(*) According to agreement			

Augmented Crew Composition: 3 Pilots				
Training Type		**LHS**	**RHS**	**Composition**
IOE & LQC	T/O LAND	CKR $_{PIC}$	TRN	**A:** CKR $_{PIC}$ I CAP I FO I TRN
	CRZ	Any CKR		**B:** CKR $_{PIC}$ I CKR I TRN

Augmented Crew Composition: 4 Pilots				
Training Type		**LHS**	**RHS**	**Composition**
IOE & LQC	T/O LAND	CKR $_{PIC}$	TRN	CKR $_{PIC}$ I CAP I FO I TRN
	CRZ			

Upgrade

<table>
<tr><th colspan="5">Un-augmented Crew Composition</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">IOE & LQC</td><td>TRN</td><td>CKR</td><td>CKR I TRN</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 3 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td rowspan="2">IOE & LQC</td><td>T/O LAND</td><td rowspan="2">TRN</td><td>CKR $_{PIC}$</td><td rowspan="2">CKR $_{PIC}$ I CKR I TRN</td></tr>
<tr><td>CRZ</td><td>Any CKR</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 4 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">IOE & LQC</td><td>TRN</td><td>CKR $_{PIC}$</td><td>CKR $_{PIC}$ I CAP I FO I TRN</td></tr>
</table>

Conversion

<table>
<tr><th colspan="5">Un-augmented Crew Composition</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">FO $_{IOE}$</td><td>CKR</td><td>FO $_{IOE}$</td><td>CKR I FO $_{IOE}$</td></tr>
<tr><td colspan="2">CAP $_{IOE}$</td><td>CAP $_{IOE}$</td><td>CKR</td><td>CAP $_{IOE}$ I CKR</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 3 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td rowspan="2">FO $_{IOE}$</td><td>T/O LAND</td><td>CKR $_{PIC}$</td><td rowspan="2">FO $_{IOE}$</td><td rowspan="2">CKR $_{PIC}$ I CKR I FO $_{IOE}$</td></tr>
<tr><td>CRZ</td><td>Any CKR</td></tr>
<tr><td rowspan="2">CAP $_{IOE}$</td><td>T/O LAND</td><td rowspan="2">CAP $_{IOE}$</td><td>CKR $_{PIC}$</td><td>A: CKR I CAP $_{IOE}$ I CAP | FO</td></tr>
<tr><td>CRZ</td><td>Any CKR</td><td>B: CKR $_{PIC}$ I CKR I CAP $_{IOE}$</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 4 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">FO $_{IOE}$</td><td>CKR $_{PIC}$</td><td>FO $_{IOE}$</td><td>CKR $_{PIC}$ I CAP I FO I FO $_{IOE}$</td></tr>
<tr><td colspan="2">CAP $_{IOE}$</td><td>CAP $_{IOE}$</td><td>CKR $_{PIC}$</td><td>CKR $_{PIC}$ I CAP $_{IOE}$ I CAP I FO</td></tr>
</table>

RQL

<table>
<tr><th colspan="5">Un-augmented Crew Composition</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">FO $_{SOE}$</td><td>CKR</td><td>FO $_{SOE}$</td><td>CKR I FO $_{SOE}$</td></tr>
<tr><td colspan="2">CAP $_{SOE}$</td><td>CAP $_{SOE}$</td><td>CKR</td><td>CAP $_{SOE}$ I CKR</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 3 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td rowspan="2">FO $_{SOE}$</td><td>T/O LAND</td><td>CKR $_{PIC}$</td><td rowspan="2">FO $_{SOE}$</td><td rowspan="2">CKR $_{PIC}$ I CAP I FO $_{SOE}$</td></tr>
<tr><td>CRZ</td><td>CKR $_{PIC}$ I CAP</td></tr>
<tr><td rowspan="2">CAP $_{SOE}$</td><td>T/O LAND</td><td rowspan="2">CAP $_{SOE}$</td><td>CKR $_{PIC}$</td><td rowspan="2">CKR $_{PIC}$ I CAP I CAP $_{SOE}$</td></tr>
<tr><td>CRZ</td><td>Any CAP</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 4 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">FO $_{SOE}$</td><td>CKR $_{PIC}$</td><td>FO $_{SOE}$</td><td>CKR $_{PIC}$ I CAP I FO I FO $_{SOE}$</td></tr>
<tr><td rowspan="2">CAP $_{SOE}$</td><td>T/O LAND</td><td rowspan="2">CAP $_{SOE}$</td><td>CKR $_{PIC}$</td><td rowspan="2">CKR $_{PIC}$ I CAP $_{SOE}$ I CAP I FO</td></tr>
<tr><td>CRZ</td><td>Any CAP</td></tr>
</table>

DIFF to MFF

<table>
<tr><th colspan="5">Un-augmented Crew Composition</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td colspan="2">FO $_{SOE}$</td><td>CKR</td><td>FO $_{SOE}$</td><td>CKR I FO $_{SOE}$</td></tr>
<tr><td colspan="2">CAP $_{SOE}$</td><td>CAP $_{SOE}$</td><td>CKR</td><td>CAP $_{SOE}$ I CKR</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 3 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td rowspan="2">FO $_{SOE}$</td><td>T/O LAND</td><td>CKR $_{PIC}$</td><td rowspan="2">FO $_{SOE}$</td><td rowspan="2">CKR $_{PIC}$ I CAP I FO $_{SOE}$</td></tr>
<tr><td>CRZ</td><td>CKR $_{PIC}$ I CAP</td></tr>
<tr><td rowspan="2">CAP $_{SOE}$</td><td>T/O LAND</td><td rowspan="2">CAP $_{SOE}$</td><td>CKR $_{PIC}$</td><td rowspan="2">CKR $_{PIC}$ I CAP $_{SOE}$ I FO</td></tr>
<tr><td>CRZ</td><td>Any pilot</td></tr>
</table>

<table>
<tr><th colspan="5">Augmented Crew Composition: 4 Pilots</th></tr>
<tr><th colspan="2">Training Type</th><th>LHS</th><th>RHS</th><th>Composition</th></tr>
<tr><td rowspan="2">FO $_{SOE}$</td><td>T/O LAND</td><td>CKR $_{PIC}$</td><td rowspan="2">FO $_{SOE}$</td><td rowspan="2">CKR $_{PIC}$ I CAP I FO I FO $_{SOE}$</td></tr>
<tr><td>CRZ</td><td>Any CAP</td></tr>
<tr><td rowspan="2">CAP $_{SOE}$</td><td>T/O LAND</td><td rowspan="2">CAP $_{SOE}$</td><td>CKR $_{PIC}$</td><td rowspan="2">CKR $_{PIC}$ I CAP $_{SOE}$ I FO I FO</td></tr>
<tr><td>CRZ</td><td>Any pilot</td></tr>
</table>

4.1.5 Relief of Cabin Crew in Flight

Revision: 19 - 14 MAR 21

During the ISM's rest, he shall designate the senior CCM to replace him, and the duties and responsibilities of the ISM shall be delegated to his replacement. During phases of flight in which the ISM is resting - he shall be called to the cabin to reassume his duties and responsibilities whenever there is an emergency.

4.1.6 Minimum Cabin Crew

Revision: 19 - 14 MAR 21

Each cabin crew member shall have successfully passed initial and conversion or differences training and performed IOE flights, and shall be qualified on the respective aircraft type. No person may accept an assignment to duty knowing that he is not fully qualified and fit for duty.

The minimum number of cabin crew members is according to the table in Chapter ***4.5 Summary – Crew Composition***. See also Chapter ***8.7 Non-Passenger-Revenue-Flights – Procedures and Limitations*** for cabin crew members required for Delivery, Positioning, Demonstration and Ferry flights.

The number of cabin crew members required for service standards, taking into account the aircraft type, route and schedules, is kept current by the Manager of the Cabin Crew Department.

On all passenger flights the Company shall assign one of them to be the ISM. The ISM shall be qualified as described in Chapter ***5.3.2 In-Flight Safety/Service Manager***, and is in charge of all cabin crew members on the flight.

4.1.6.1 Minimum Number of Cabin Crew to be on Board an Aircraft during Ground Operations

Revision: 19 - 14 MAR 21

Passenger boarding shall not commence unless the minimum number of cabin crew are present in the cabin, see Chapter ***4.5 Summary – Crew Composition***.

During disembarkation, the minimum number of cabin crew members shall be present on board the aircraft until all passengers have disembarked after landing. However, when the only remaining passengers on board are those waiting for special assistance from ground personnel (i.e. wheelchairs), the minimum crew shall be the ISM and one or more cabin crew member(s) at the ISM's discretion.

4.1.7 Incapacitation of the ISM or CCM

Revision: 19 - 14 MAR 21

The symptoms and effects of incapacitation are described in Chapter ***8.3.16 Incapacitation of Crew Members***.

If the ISM or a cabin crew member becomes incapacitated or unfit for continued duty in-flight, the PIC shall be informed immediately and medical assistance shall be administered to the incapacitated crew member. The PIC always retains responsibility for the safety of the flight and should designate a replacement for the incapacitated ISM and ensure that all CCM's are notified of the change.

Subject to the PIC's decision, the usual succession of command for the ISM will be as follows:

1. Senior cabin crew member;

2. Training or check cabin crew member, if applicable;
3. The cabin crew member next in rank or Company seniority; and
4. The cabin crew member next in line who has the most experience.

The ISM (or his replacement) shall assess whether further crew responsibilities should be reassigned among the remaining cabin crew (i.e. cabin crew seating positions and emergency exit responsibilities).

After completion of the flight, an entry shall be made in the Journey Log, an incident report shall be made and flight operations shall be informed as soon as possible.

4.1.8 Personnel Assigned to Specialist Duties

Revision: 19 - 14 MAR 21

APPROVED

Security staff assigned to passenger flights are exempt from emergency training on the type of aircraft he is to be operating on.

4.1.9 Supernumeraries

Revision: 19 - 14 MAR 21

EL AL employees who are former cabin crew members may serve as supernumeraries for the purpose of conducting customer service-related activities only.

The following conditions and requirements apply:

1. The supernumeraries shall be in addition to the Minimum Cabin Crew;
2. The supernumeraries shall not serve in any safety-related capacity (normal or emergency), except for tasks that may be performed by any able-bodied passenger;
3. The supernumeraries shall wear a name tag differentiating them from Cabin Crew Members;
4. The supernumeraries shall not use the crew bunk.

4.1.10 Crewing of Family Members

Revision: 19 - 14 MAR 21

Flight Crew Members who are immediate family members (parents/children or siblings) shall not be planned to operate as part of the same crew. In extenuating circumstances, the Chief Pilot may waive this restriction.

4.2 DESIGNATION OF THE PIC

(*) Revision: 23.1 - 15 MAR 25

For each flight, EL AL will designate one pilot to be the Pilot-in-Command (PIC) for the duration of the flight, based on seniority, but subject to operational considerations such as possible restrictions due to an inexperienced PIC. The Director of Flight Operations, Chief Pilot, Fleet Manager or his deputy may direct Crew Assignment to designate the PIC on any given flight. The handling of an aircraft or conduct of flight may be delegated by the PIC to another suitably qualified pilot who he deems competent and fit for duty.

The PIC is the flight crew member holding overall responsibility for the safety of the aircraft, its crew, its passengers and its load.

The Company will designate a pilot as PIC only if he meets the minimum qualification and recency requirements laid down in Chapter ***5 Qualification Requirements***.

NOTE	No pilot may accept a designation as PIC unless, in addition to his license qualifications and his training, he has the recent experience and knowledge required and considers himself to be in all respects competent and fit for the task.

If more than one pilot on a flight is a Captain qualified to be PIC, one will be nominated PIC, and the other(s) as Co-pilot(s). In such a case, the pilot designated as PIC should decide whether to transfer the command to the other captain before the flight, considering the following factors:

- Possible restrictions due to forecast weather for an inexperienced PIC;
- Fatigue management;
- Recency of experience to maintain qualification;
- Number of sectors flown as PIC during the previous 3 months;
- Pilots requiring IOE.

When allowed by the above considerations, the sectors should be divided equally.

A newly qualified Captain shall be designated as PIC for his first two flight segments following qualification. See Chapter ***4.1.3 Inexperienced Flight Crew Members*** for crewing requirements.

If the designated PIC decides to change the PIC assignment, it shall be done prior to the flight and he shall notify Crew Assignment up to six hours before departure. After that time, the PIC shall inform OCC (if abroad, the Station Manager may be informed and he shall then inform OCC), who shall in turn notify Crew Assignment. Be aware that due to synchronization intervals between computer systems, the flight documents and EFOS/EFF may not be updated even though proper notification was given.

During IOE flights and Line Qualification Checks that follow:

- The Check Airman is the PIC of the aircraft.

During Recurrent Line Checks, SOE flights, and Line Checks that follow SOE (i.e. Differences Training and Re-qualification):

- The captain undergoing the SOE/check is the PIC of the aircraft;
- However, if the captain undergoing the SOE/check has lost his qualification and is being re-qualified, he shall perform the duties of the PIC, but the Check Airman is the PIC of the aircraft.

NOTE	Refer to Chapter ***4.1.4 Crew Composition during IOE & LQC and SOE & LC*** for rules concerning crew composition.

NOTE	For situations in which a pilot other than the PIC may occupy the left seat for landing, see Chapter ***4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight***.

4.3 FLIGHT CREW INCAPACITATION

Revision: 19 - 14 MAR 21

The symptoms and effects of incapacitation are described in Chapter ***8.3.16 Incapacitation of Crew Members***. The following are the priorities to determine the succession of command in the event of the incapacitation of the PIC:

1. A crew member who is a Captain qualified to be PIC (by seniority);
2. A crew member who is a First Officer (by seniority);
3. A company appointed Captain available among the passengers, and in all respects competent for duty with the qualifications to be PIC;
4. A company appointed First Officer available among the passengers;
5. The ISM.

4.3.1 Consideration as an Emergency

Revision: 19 - 14 MAR 21

Any situation in which the PIC or any member of the minimum flight crew (according to table in Chapter ***4.5 Summary – Crew Composition***) is incapacitated and incapable of further duty is to be regarded as an emergency. In this case, nothing shall prevent the remaining crew from asking for the assistance of any person on board the aircraft who they deem to be competent, including dead-heading crew members, to perform any necessary duties on the flight deck.

Any case of incapacitation of the PIC shall be reported immediately to ATC. This is necessary in order that suitable priority treatment of the flight can be claimed and the proper precautions taken by the controller. Furthermore, a full report of the circumstances shall be made by the relief PIC to EL AL and to the CAAI immediately after the emergency landing.

4.4 OPERATION ON MORE THAN ONE TYPE

Revision: 19 - 14 MAR 21

A flight crew member operating more than one type or variant shall comply with all the requirements prescribed in Chapter ***5 Qualification Requirements***.

For cabin crew operation, variants of an aircraft type are considered to be different types if they are not similar in all the following aspects:

- Emergency exit operation;
- Type of safety equipment;
- Emergency procedures.

4.4.1 Flight Crew Scheduling

Revision: 19 - 14 MAR 21

Crew Scheduling will ensure that in any duty period, only aircraft within one type rating or aircraft from one approved grouping shall be flown by a flight crew member qualified to operate more than one type.

4.4.2 Cabin Crew Scheduling

Revision: 19 - 14 MAR 21

There are no restrictions on the scheduling of cabin crew for different types or variants.

4.5 SUMMARY – CREW COMPOSITION

Revision: 19 - 14 MAR 21

For normal commercial flight operations the minimum crew complement shall never be less than the values in the following table:

Aircraft Type	Min. Flight Crew	Min. Cabin Crew
Boeing 777/787	2	8
Boeing 737	2	4

NOTE	The above table is based on the aircraft seating capacity and the demonstrated ability to conduct a safe and expeditious evacuation of the aircraft.

5 QUALIFICATION REQUIREMENTS

5.1 GENERAL

(*) Revision: 23.1 - 15 MAR 25

This Chapter contains a description of the required licenses, ratings, qualifications (e.g., for routes and airports), experience, courses, training, checking and recency requirements for operations personnel to conduct their duties.

The EFOS/EFF application is used for tracking and managing FOO, flight and cabin crew qualifications. For other personnel with qualification requirements, an application developed by SAP — Software and Solutions is used.

The application is used to:

- Manage personnel data including training, route and proficiency checks, route and airport qualifications, licenses and qualifications;
- Assign a course for the qualifications that are prerequisites for participation and the qualifications it imparts. A check is carried out for these when a participant is booked for or completes a course;
- Assign the respective target group to the course;
- Perform follow-up activities for a course and handle the associated correspondence;
- Run reports to analyze courses, participation and resources.

5.1.1 Period of Validity

(*) Revision: 23.1 - 15 MAR 25

All training and checking is based on calendar month system. The calendar month of the Qualification must not be exceeded. In case the qualification has expired, the required Actions/ Training/Check required to renew the qualifications are detailed in the OM Part D.

Flight Crew

If Training/Check is performed in the month of expiration or the preceding month (ie. Within the Grace period), the period of validity will extend as if the Training/Check was performed on the last day of validity and the new expiration will extend accordingly. If the training/check is performed outside the grace period – the new expiration will be awarded as if the training was performed on the last day of the Training/Check month.

The Qualifications extension periods and actions to maintain/regain these Flight Qualifications are detailed in the OM Part D.

It is the Pilot's responsibility to verify that all Flight Qualifications required for his upcoming flights are in effect (and current). Pilot's Flight Qualifications are detailed in EFOS/EFF with the exceptions of Flight Qualifications for Area of Operations, which is available to the pilot from Crew Assignment (as published in the TABLEAU – Pilots Dashboard).

If an action to re-gain qualification has been completed it will only be valid after EFOS/EFF has been updated accordingly.

The Master System for Pilot's Flight Qualifications is EFOS/EFF. In case of a discrepancy, the Flight Qualification as shown in EFOS/EFF override all other systems.

A pilot will not operate, and will not be assigned to operate a flight if his required Flight Qualifications are not in effect for the entire Flight Duty Period of that flight. Special attention should be paid to Flight Qualifications for segments crossing midnight (UTC) at the month's end. Also, it is both the pilot's and crew assignment responsibility to verify that all required qualification are in effect for all following flight segments until return to base.

Cabin Crew

It is the CCM responsibility to verify that all Qualifications required for his duties as are in effect (and current). CCM Qualifications are detailed in EFOS/EFF.

If Training/Check is performed in the month of expiration or the preceding month (i.e. within the Grace period), the period of validity will extend as if the Training/Check was performed on the last day of validity and the new expiration will extend accordingly. If the training/check is performed outside the grace period – the new expiration will be awarded as if the training was performed on the last day of the Training/Check month.

The Qualifications extension periods and actions to maintain/regain these Flight Qualifications are detailed in the OM Part D.

A CCM will not operate, and will not be assigned to operate a flight if his required Qualifications are not in effect for the entire Flight Duty Period of that flight. Also, it is both the CCM and crew assignment responsibility to verify that all required qualification are in effect for all following flight segments until return to base.

Prior to each flight, each CCM shall log in to the EFOS application, refresh the data, and check his status. In order to be qualified for duty, the Revisions and the Read and Sign status bars shall not be Red.

FOO

Each FOO at the start of every shift shell log in to the FOX application, refresh the data, and check his status. In order to be qualified for duty, the Revisions and the Read and Sign status bars shall not be Red. The Expiry Date status bar may be Red providing none of the expired items are required for duty.

If Training/Check is performed in the month of expiration or the preceding month (ie. Within the Grace period), the period of validity will extend as if the Training/Check was performed on the last day of validity and the new expiration will extend accordingly.

5.2 FLIGHT CREW

Revision: 19 - 14 MAR 21

To operate EL AL aircraft, flight crew shall have at least the following:

- Valid pilot license including type rating, Instrument rating or ATPL and English language proficiency;
- Current Class 1 medical certificate;
- CAT II/III qualification (for All-Weather Operations);
- Emergency/first aid training;
- CRM training;
- Security training;
- Radio Telephony License;
- Dangerous goods training;
- Route and airport competence.

No pilot shall act as a flight crew member after reaching his 65th birthday.

The Rotem system has the latest status for each pilot for all of the above.

NOTE	For documents which shall be carried during flight duty, see Chapter ***1.9.2 Personal Documents***.

5.2.1 General

5.2.1.1 Minimum Qualification Requirements

Revision: 23 - 29 AUG 24

The minimum qualification requirements for a flight crew member to act as PIC of a flight are:

- Successful completion of the command course;
- An Israel Airline Transport Pilots License without a SIC remark on the license;
- Recency of experience according to Chapter ***5.2.2 Recency of Experience*** and Chapter ***5.2.2.1 MFF Additional Recency of Experience***;
- Route and airport competence according to Chapter ***5.2.6 Route and Airport Competence Qualification***; and
- Recurrent Training and Checking as relevant to the operation.

The minimum qualification requirements for a flight crew member to act as a Co-pilot of a flight are:

- Successful completion of the initial qualification course;
- An Israel Commercial Pilot License with Instrument Rating, or Airline Transport Pilots License;
- A proficiency check as Co-pilot;
- Recency of experience according to Chapter ***5.2.2 Recency of Experience*** and Chapter ***5.2.2.1 MFF Additional Recency of Experience***; and
- Recurrent Training and Checking as relevant to the operation. (See exception concerning Recurrent Line Check in Chapter ***5.5.1.6 Line Check***)

NOTE	All courses and training are detailed in the OM Part D. For failure or lapsed qualification, refer to the OM Part D.

5.2.1.2 Captain's Qualification to Operate in Either Pilot's Seat

Revision: 19 - 14 MAR 21

Captains (including Instructors and Check Airmen) may be required to operate from the right hand seat. In order to be qualified to occupy the right hand seat during take-off and landing, the Captain shall have undergone right hand seat training according to the Check Airmen course or have done the Right Hand Seat Training Module, which is performed initially as part of the Simulator Training during Upgrade Training (and Type Conversion, if applicable). Renewal of qualification to occupy the right hand seat for take-off and landing is achieved by performing this module during Recurrent Proficiency Checks. The qualification then remains valid for 12 months.

During initial training and checking for Instructors and Check Airmen, they are trained to operate from both seats. This qualifies check airmen to act as PIC while in the right hand seat.

See Chapter ***4.1.2.2 Right-Hand Seat Restrictions for Captains***.

5.2.2 Recency of Experience

(*) Revision: 23.1 - 15 MAR 25

A pilot shall not operate an aircraft as part of the minimum crew during take-off and landing, either as pilot flying or pilot monitoring, unless he has carried out three take-offs and three landings in the previous 90 days as pilot flying manipulating the controls (manual flight) in an aircraft, or in a flight simulator, of the same type.

- For MFF see additional requirement – Chapter ***5.2.2.1 MFF Additional Recency of Experience***.

A pilot who has not met these requirements shall reestablish recency of experience by making at least three take-offs and landings under the supervision of a check airman in an approved simulator. See OM Part D.

However, if the recency of experience has not been met, such a pilot may replace a pilot during cruise if within the preceding 90 days that pilot has operated as a PIC or Co-pilot on the same type of aircraft.

The EFOS/FOX application tracks the recency of experience and displays when any of the above are not met.

5.2.2.1 MFF Additional Recency of Experience

Revision: 19 - 14 MAR 21

For MFF pilots, in the previous 90 days, the minimum requirements are as follows:

1. One take-off and one landing as PF on B777;
2. One take-off and one landing as PF on B787; and
3. One more take-off and landing on either variant.

A MFF pilot who has not met this additional requirement shall reestablish recency of experience (see OM Part D).

However, if this additional MFF recency of experience has not been met, such a pilot may replace a pilot during cruise with the Chief Pilot's approval.

5.2.3 Operation on More Than One Variant or Type

Revision: 19 - 14 MAR 21

No pilot will operate more than two different aircraft types, unless approved by the Chief Pilot.

Operation on different types

Operation on different types requires the approval of the Company Chief Pilot.

Only one aircraft type will be flown in any one duty period. Each fleet manager shall verify that the pilots licenses are valid for his fleet and that his pilots' professional level is at the required level. The pilot shall maintain the Minimum Qualification Requirements and Recency of Experience for each type of aircraft.

MFF – Mixed Fleet Flying

The minimum qualification requirements for a flight crew member to operate in a Mixed Fleet Flying Operation are:

- Minimum Qualification Requirements in Chapter ***5.2.1.1 Minimum Qualification Requirements***;
- MFF Qualification (see OM Part D, Chapter 2.1.5.5).

5.2.4 Language Proficiency

Revision: 19 - 14 MAR 21

1. All pilots required to use the radio telephone aboard an aircraft in-flight operations shall be evaluated by the CAAI for their ability to speak and understand the English language as used for radio telephony communications:
    - This evaluation will be accomplished before initial assignment to duty and at intervals specified in paragraph (2);
    - The results of this evaluation appear on the back of the Pilot License.
2. Those persons demonstrating proficiency below the Expert Level (ICAO Language Proficiency Level 6) shall be formally evaluated at least once every:
    - 3 calendar years, for Operational Level (Level 4);
    - 6 calendar years, for Extended Level (Level 5).

5.2.5 All-Weather Operations, Training and Qualifications

Revision: 19 - 14 MAR 21

Take-off

The initial and recurrent training program and qualification requirements, for all aspects of Low Visibility take-off operations are prescribed in the OM Part D.

Recency for Low Visibility Take-off (LVTO) is maintained by retaining CAT II and CAT III qualifications.

Category II and III Approaches

To maintain a CAT II and/or CAT III qualification, pilots shall have completed their recurrent training and proficiency check. See OM Part D.

5.2.6 Route and Airport Competence Qualification

Revision: 23 - 29 AUG 24

Area of Operation – An area which includes several routes and airports with similar characteristics. The Approved Operating Areas (as defined in ICAO Doc 7030) are defined in the OPS SPECS.

A PIC shall not serve as a Flight Crew Member on a flight operating to any Area, Route or Airport, unless he has been qualified. Qualification for Areas of Operation is defined in the OM Part D, Chapter 2.1.8.1 “All Operating Areas, Routes, and Airports”.

To maintain qualification to act as PIC, a PIC must have served as a Flight Crew Member or observer along any route within the Operating Area within the previous 12 months.

There is no recency requirement for Co-Pilots.

A PIC who has lost qualification shall be re-qualified as defined in OM Part D, Chapter 2.1.8.1 “All Operating Areas, Routes, and Airports - Requalification”.

Routes

- **Regular Routes** (All routes) – The route competence requirements are as defined for the Operating Area above.

Airports Excluding USA

Airports are specified in 3 categories. The least demanding airports are Category A. Categories B and C are applied to progressively more demanding airports. The definitions used for categorizing the airports into A, B or C appear in Chapter ***8.1.2.4 Airport Categorization for Flight Crew Competence***.

The list of Airports appears in the OM Part A folder in EFOS/EFF (List of Approved Airports).

Flight Crew qualifications prior to operating into these categorized airports are as follows:

- **Category A airports** – Unrestricted to all PICs who have an Operating Area competence for the area in which the airport is situated;
- **Category B and C airports** – In addition to the Basic Requirements stated above, a pilot shall not be assigned as PIC or operate as PIC to a Category B or C airport unless the PIC has completed the OM Part D “Route and Airport Competence Qualification”. In addition:
  a. **For Category B airports** – The PIC shall be briefed or self-briefed using the Jeppesen charts and a presentation on the Category B airport, and shall certify this by signing the OFP;
  b. **For Category C airports** – The PIC shall be briefed and have visited the airport as an observer on the flight deck or undertake instruction in an approved flight simulator.

USA Airports

In the USA airports are divided into regular airports and into Special PIC Airports.

The list of USA Special PIC Airports appears in the EFOS/EFF library OM Part A (List of Approved Airports). All other USA airports listed in the appendix are regular airports.

Before operating into or out of USA Special PIC Airports –

1. The PIC shall be qualified by using the pictorial presentation of the airport in the OM Part C on FD Pro; or
2. The PIC has made a landing and take-off while occupying the flight deck observer seat, they are qualified on the aircraft type and monitor radio communications during the arrival, approach, landing, take-off and departure; or
3. The PIC has landed and taken off from that airport using an aircraft or level D simulator or better while serving as a pilot flight crew member within the preceding 12 months.

Qualification is not required, if the take-off or landing is performed when the ceiling is at least 1,000 ft above the lowest MEA or MOCA or initial approach altitude prescribed for the instrument approach procedure for that airport, and the visibility at that airport is at least 3 statute miles.

Category Q Airports

The list of Category Q Airports appears in the EFOS/EFF library OM Part A (List of Approved Airports) and may be updated by Company NOTAMs. The Standards Pilot shall update Crew Assignment when any changes are made to the list.

At least one Captain operating a flight to or from a Category Q Airport shall be an Instructor or Check Airman, a Fleet Manager or his deputy.

Specific flight operating instructions shall be established by each Fleet Manager and published as an Airport NOTAM or reference by NOTAM.

NOTE	If a Category Q airport is also Category B, C, or a USA Special PIC airport, the relevant requirements stated above shall also apply.

5.2.7 Degradation of Competence

Revision: 22 - 20 FEB 24

Degradation of competence may manifest itself in several ways. It may be in the form of an accident or incident, a report by another crew member, results of unsatisfactory proficiency checks/line check, or self disqualification.

The knowledge of degradation of any flight crew member's competence shall be brought to the immediate attention of the Chief Pilot who shall take action as deemed necessary for the purpose of maintaining flight safety. The Chief Pilot is authorized to remove the flight crew member from all flight duties, including the removal from his current flight assignment. The affected flight crew member shall be notified in writing (by fax or email), stating the reason for his removal and the name of the authorizing supervisor.

Further action with respect to a flight crew member who has been removed from flight duties, shall be decided upon by the Chief Pilot. He shall consult with the relevant Fleet Manager, his deputy, and with other persons as deemed necessary. It is important that all facts be properly verified, especially if the process was initiated by reports from sources not qualified to assess a flight crew member's performance. The Chief Pilot shall decide on one of the following courses of action:

1. To reinstate the flight crew member to flight duties:
   a. Without limitations;

b. Subject to specific restrictions;
c. Subject to completion of appropriate training and checks;
d. If the flight crew member is a Captain Qualified to be PIC, as a Co-pilot subject to completion of appropriate training and checks*.

2. To ground the flight crew member*.

A copy of the decision shall be inserted in the crew member's Technical File.

Decisions marked with an * shall not take effect unless endorsed by the Technical Panel.

5.3 CABIN CREW

5.3.1 Minimum Requirements

Revision: 19 - 14 MAR 21

A Cabin Crew Member shall:

- Remain medically fit to discharge the duties specified in the OM Part A and/or CFSM;
- Have successfully completed initial training, including emergency and first aid training, training for each aircraft type, and a check flight before operating as cabin crew member;
- Have undergone recurrent training for each aircraft type or variant (every 12 months); and
- Be competent to perform duties as specified in this manual and in the CFSM;
- Be able to read, write, and speak English and Hebrew.

5.3.2 In-Flight Safety/Service Manager

Revision: 19 - 14 MAR 21

The designated ISM shall have at least five year's experience as an operating cabin crew member and shall have completed an ISM training course.

5.3.3 Cabin Crew Members During IOE Flights

Revision: 19 - 14 MAR 21

After completion of conversion training, a cabin crew member shall undertake IOE flights and a check flight (a minimum of 5 hrs) under the supervision of a check cabin crew member.

5.3.4 Operation On More Than One Variant

Revision: 19 - 14 MAR 21

Before commencing assigned duties on different variants of aircraft, each cabin crew member shall have completed the appropriate differences training for each aircraft variant concerned.

5.3.5 Recency of Experience

Revision: 19 - 14 MAR 21

A cabin crew member who has been absent from all flying duties for more than six months shall complete refresher training, see Chapter ***5.5.2 Cabin Crews***.

5.4 FLIGHT OPERATIONS OFFICER - FOO

5.4.1 Basic Qualification Requirements

Revision: 19 - 14 MAR 21

- No person may act as a FOO (exercising responsibility with the PIC in the operational control of a flight) in connection with any EL AL flight unless that person has in his personal possession a valid FOO certificate;
- A FOO shall not be assigned to duty after 12 consecutive months of absence from such duty, unless the provisions detailed in the OM Part D for re-qualification training are met.

5.4.2 Eligibility Requirements

Revision: 19 - 14 MAR 21

To be eligible to work as a FOO, a person shall:

- Hold a valid FOO license;
- Complete company initial training (conversion course);
- Complete transition training for each aircraft type;
- Complete "on the job" training;
- Pass a competency check for each aircraft type;
- Be familiar with all essential operating procedures for that Area of Operation over which he exercises operational control;
- Have completed his recurrent ground training, familiarization flights and checks during the previous 12 months prior to being assigned to duty;
- Demonstrate the ability to speak and read Hebrew and English;
- Be at least 21 years of age;
- Hold an assignment letter from the Chief Dispatcher stating that he/she has met all eligibility requirements.

NOTE	The minimum qualification, and training requirements for FOO are detailed in the OM Part D.

5.4.3 Skill Requirements

Revision: 19 - 14 MAR 21

A FOO shall pass training and tests as published in the OM Part D.

5.4.4 Loss of Qualification

5.4.4.1 General

Revision: 19 - 14 MAR 21

A FOO shall be considered as having lost his qualification if any one of the following has occurred:

- Non compliance with the requirements of recurrent training (see OM Part D);
- Failure to meet recent experience requirements;

- Degradation of competence;
- A failure of a proficiency check.

5.4.4.2 Non Compliance with the Requirements of Recurrent Training

Revision: 19 - 14 MAR 21

A FOO who has not complied with the recurrent training requirements (e.g. pass a competency check), shall not be assigned to duty until satisfactory completion of the applicable re-qualification training program.

5.4.4.3 Failure to Meet Recent Experience Requirements

Revision: 19 - 14 MAR 21

A FOO who does not meet the Recent Experience requirements shall not be assigned to duty until the requirements for the re-establishment of his qualification, as outlined in the OM Part D, have been met.

5.5 TRAINING AND CHECKING

Revision: 19 - 14 MAR 21

For detailed training and checking requirements for crew members and FOOs, refer to the OM Part D.

5.5.1 Flight Crews

5.5.1.1 Initial and Conversion Training and Checking

Revision: 19 - 14 MAR 21

Before commencing unsupervised line flying in EL AL a flight crew member shall complete a conversion course:

- When joining the company; and
- When changing aircraft for which a new type or class rating is required.

A Flight Crew Member will not be assigned flying duties on another type or class until the conversion course is completed.

Refer to the OM Part D.

5.5.1.1.1 Ground Training

Revision: 19 - 14 MAR 21

Ground training comprises a properly organized program of ground instruction by training staff supplemented by mechanical and visual aids. The basis for the training is the applicable OM Part A, B and D.

5.5.1.1.2 Security Training

Revision: 19 - 14 MAR 21

A security training and awareness program is included in the emergency training program as detailed in the OM Part D.

5.5.1.1.3 Emergency and Safety Equipment Training

Revision: 19 - 14 MAR 21

Emergency and safety equipment training will be performed according to the programs laid down in the OM Part D and will be conducted in an aircraft or a suitable alternative training device.

5.5.1.1.4 Initial Operating Experience (IOE)

Revision: 19 - 14 MAR 21

No pilot may be assigned or serve as a required flight crew member unless he has satisfactorily completed, or is currently undergoing Initial Operating Experience (IOE) on a given flight. IOE shall be done at EL AL on each airplane type and in each crew member position to be flown. However, pilots who have completed IOE as PIC on a given airplane type are not required to repeat IOE as co-pilot on that type. Refer to the OM Part D for details.

Refer to Chapter ***4.1.4 Crew Composition during IOE & LQC and SOE & LC*** for crew composition requirements.

IOE flight time is intended for consolidation of knowledge and skills, and therefore shall be done after satisfactory completion of the appropriate ground and simulator training for the particular airplane type and crew member position. IOE pilots shall hold the appropriate certificates and ratings for the crew member position and the airplane, including those to serve as PIC in the case of pilots undergoing IOE to be Captain.

5.5.1.1.5 Flight Simulator Training (Flying Training)

Revision: 19 - 14 MAR 21

The flight simulator training course defined in the OM Part D addresses all aspects of limitations and normal operation of the aircraft, including the use of all flight deck equipment, and with all abnormal and emergency procedures.

5.5.1.2 Differences Training

Revision: 19 - 14 MAR 21

Differences training shall be completed by every flight crew member:

- Before operating another variant of an aircraft of the same type or another type of the same class currently operated; or
- When a change of procedures and/or equipment on types or variants currently operated requires additional knowledge and training on an appropriate training device or on the aircraft.

The OM Part D includes specific details of differences training.

5.5.1.3 Recurrent Training and Checking

Revision: 19 - 14 MAR 21

Each flight crew member shall undergo recurrent training and checking for revalidation of the type rating. For pilots, this will be combined with the revalidation of the instrument rating. The training and checking shall be relevant to the type or class of aircraft on which the crew member is certificated to operate.

Recurrent training and checking programs for flight crew members are established in the OM Part D.

5.5.1.4 Re-qualification Training

Revision: 19 - 14 MAR 21

Pilots who have not completed required training are required to do re-qualification training as defined in the OM Part D.

5.5.1.5 Operator Proficiency Check

Revision: 19 - 14 MAR 21

Each flight crew member undergoes operator proficiency checks as part of a normal flight crew complement. During the proficiency check at the end of training or for the revalidation of a rating a flight crew member shall demonstrate his competence in carrying out normal, abnormal and emergency procedures according to a program laid down in the OM Part D.

5.5.1.6 Line Check

Revision: 19 - 14 MAR 21

During a line check, a crew member shall demonstrate his ability to satisfactorily perform a complete line operation from start to finish, including pre-flight and post-flight procedures and use of the equipment provided.

- A line qualification check is a line check conducted after completing required IOE;
- A recurrent line check is part of the Recurrent Training and Checking Program defined in the OM Part D. No pilot may act as PIC without a valid line check. However, flight crew members may act as Co-pilot for up to four months past the expiration of their last recurrent line check or upon approval of the Chief Pilot.

Refer to the OM Part D.

5.5.1.7 Upgrade Course

Revision: 19 - 14 MAR 21

The upgrade course for First Officers transitioning to Captain is detailed in OM Part D.

5.5.1.8 Records

Revision: 19 - 14 MAR 21

A training summary for each flight crew member and all records of training, checking and qualification undertaken by him will be maintained by the Company, as detailed in the OM Part D. Records will be made available to crew members upon request.

5.5.1.9 Training and Checks in Operations

Revision: 19 - 14 MAR 21

No checks or training may be conducted during regular operations, except for IOE and line checks (including recurrent line checks, qualification line checks, and final line checks).

5.5.2 Cabin Crews

Revision: 19 - 14 MAR 21

As part of the qualification process for individuals who have not previously been qualified as a CCM for EL AL and before undertaking assigned duties, a trainee shall have completed the training specified below. He shall also have passed the prescribed checks covering the training received in order to verify proficiency in carrying out safety and emergency procedures.

For qualification to operate as one of the minimum required cabin crew, each cabin crew member shall have completed for each type of aircraft, the training as defined in the OM Part D.

5.5.2.1 Initial Safety Training

Revision: 19 - 14 MAR 21

Initial safety training for cabin crew members is detailed in the OM Part D.

5.5.2.2 Conversion and Differences Training

Revision: 19 - 14 MAR 21

Before undertaking assigned duties each cabin crew member shall have completed the appropriate conversion or differences training as specified in the OM Part D..

5.5.2.2.1 Conversion Training

Revision: 19 - 14 MAR 21

Conversion training emphasizes type specific emergency equipment and procedures. It consists of theoretical and practical training.

Conversion training is detailed in the OM Part D and shall be completed before:

- First being assigned to operate as a cabin crew member in EL AL; or
- Being assigned to operate on another aircraft type.

5.5.2.2.2 Differences Training

Revision: 19 - 14 MAR 21

Differences Training in the OM Part D shall be completed before being assigned to operate:

- On a variant of an aircraft type currently operated; or
- With different equipment, equipment location, or safety procedures on currently operated aircraft types or variants.

5.5.2.3 Observation and Check Flights

Revision: 19 - 14 MAR 21

Prior to operating as one of the minimum number of cabin crew required, each trainee shall undertake observation and check flights under the supervision of a check cabin crew member.

The number of IOE flights appears in the OM Part D.

5.5.2.4 In-Flight Safety/Service Manager Training

Revision: 19 - 14 MAR 21

The training includes theoretical and practical instructions, together with individual practice and is normally divided into ground training carried out in classrooms and in-flight training for the practical parts.

After successful completion of all ground, observer training and the check flights laid down in the OM Part D, the cabin crew member may be released by the Chief Steward to be assigned as an ISM.

5.5.2.5 Recurrent Training

Revision: 19 - 14 MAR 21

Cabin crew members shall undergo Recurrent Training to ensure continued proficiency with all equipment relevant to every aircraft type they operate.

Training will cover the actions assigned to each crew member in emergency situations and the appropriate procedures and drills.

Recurrent Training includes theoretical and practical training as specified in the OM Part D.

The intervals between recurrent training on each item appears in the OM Part D.

5.5.2.6 Re-qualification Training

Revision: 19 - 14 MAR 21

A cabin crew member shall complete a re-qualification training course after a period of absence from all flying duties for more than twelve months, as specified in the OM Part D.

5.5.2.7 Proficiency Check

Revision: 19 - 14 MAR 21

Proficiency Checks are prescribed for cabin crew members after completion of:

- Conversion and differences training;
- Recurrent training; and
- Refresher training.

Refer to the OM Part D.

5.5.2.8 Crowd Control

Revision: 19 - 14 MAR 21

The training is defined in the OM Part D.

5.5.2.9 Training Records

Revision: 19 - 14 MAR 21

A record of training and checks undertaken by each cabin crew member will be maintained by the cabin crew training department. It will be used to prove a trainee's completion of every stage of training and will be made available to him, on request.

Cabin crew training records will be retained by the Company according to the document storage periods, detailed in the OM Part D.

5.5.3 FOO Training and Checking

5.5.3.1 Transition Training

Revision: 19 - 14 MAR 21

Transition training for each aircraft type shall include a general description of the aircraft with emphasis on operating and performance characteristics, navigation equipment, instrument approach and communication equipment, emergency equipment and procedures, and other subjects related to FOO duties and responsibilities. See details in the OM Part D.

5.5.3.2 OJT - On the Job Training

Revision: 19 - 14 MAR 21

Introduction to the working environment ("on the job training"). See details in the OM Part D.

5.5.3.3 Familiarization Flight

Revision: 19 - 14 MAR 21

A person may not serve as a FOO with regards to an aircraft type, unless he has observed operations from the flight deck as detailed in the OM Part D.

5.5.3.4 Competency Check

Revision: 19 - 14 MAR 21

A person may not serve as a FOO unless he has passed a competency check as detailed in the OM Part D.

5.5.3.5 Recurrent Training

Revision: 19 - 14 MAR 21

Each year Recurrent Training will be carried out to maintain a high level of qualification. The details appear in the .

5.5.3.6 Re-qualification Training

Revision: 19 - 14 MAR 21

FOO’s that fail to complete recurrent training, a competency check, or operating familiarization within the eligibility period shall complete re-qualification training before they can perform unsupervised in revenue service. See details in the OM Part D.

5.5.3.7 New Dispatch Sector Training

Revision: 19 - 14 MAR 21

This category of training is for current and qualified FOO’s who are assigned by EL AL to a different area of responsibility (i.e. a FOO changing from European operations to Oceanic operations). See details in the OM Part D.

5.5.3.8 Aircraft Differences Training

Revision: 19 - 14 MAR 21

This training is required for FOO’s who have qualified on a particular aircraft type, or when the CAAI finds differences training is necessary, before a FOO is qualified on a particular variation of that aircraft. See details in the OM Part D.

5.5.4 Crew Resource Management (CRM) Training

Revision: 19 - 14 MAR 21

An overview of all CRM-elements together with the elements necessary to be covered over the respective phases of initial or recurrent training is detailed in the OM Part D. CRM training is prescribed for Cabin Crew, Flight Crew, and FOOs (also known as DRM – Dispatcher Resource Management).

6 CREW HEALTH PRECAUTIONS

6.1 CREW AND OTHER OPERATIONAL PERSONNEL HEALTH REGULATIONS AND PRECAUTIONS

6.1.1 General

Revision: 21 - 5 MAY 23

A Crew Member's sickness/illness, his feeling unwell/indisposed or the impairment of his senses and reflexes by narcotics, drugs or pharmaceutical preparations/medicaments have quite often contributed to incidents and accidents.

Crew health is of the highest importance and has a direct impact upon flight safety. This is reflected in very stringent requirements for regular medical examinations and medical certificates.

NOTE	For incapacitation of crew members see Chapter *8.3.16 Incapacitation of Crew Members*.

A Crew Member shall not perform duties on an aircraft at any time when he is aware of any decrease in his medical fitness which might render him unable to safely exercise his duties.

A Crew Member shall, without undue delay, seek the advice of an Aviation Medical Examiner (AME) when becoming aware of:

- Hospital or clinic admission for more than 12 hrs; or
- Surgical operation or invasive procedure; or
- The regular use of medication; or
- The need for regular use of correcting lenses; or
- Involvement in an accident.

NOTE	At all times, the crew shall comply with relevant local public health regulations and policies. EL AL will publish regulations, recommendations and/or information from time to time in all the relevant channels.

CAAI Civil Air Surgeon

Dr. Eran Shenkar

Office:	+972 (3) 977-4575
Email:	schenkere@mot.gov.il

Company Medical Advisor (for Flight Crew)

Dr. Avinoam Bar Lev

Office:	+972 (3) 971-6809
Cellular:	+972 (54) 301-3747
Email:	Barlev.aviation.medicine@gmail.com

6.1.2 Medical Certificate

Revision: 23 - 29 AUG 24

The medical certificate is valid until the "Commercial" expiry date indicated on the certificate or the maximum period of 12 months, whichever is earlier.

The medical certificate shall be void and the flight crew member shall notify the CAAI Civil Air Surgeon and the Company Medical Advisor (contact information appears in the previous chapter) as soon as possible when any of the following occur:

- When the flight crew member has been involved in an accident as defined in Chapter ***11.2 Definitions***;
- At the commencement of hospitalization;
- At the end of the fifteenth day of continuous absence from duty due to medical reasons;
- When the flight crew member's fitness might prevent him from carrying out his license privileges.

The re-validation of a void Medical Certificate shall be authorized by the CAAI Civil Air Surgeon after the flight crew involved in any of the above cases successfully passes a medical examination.

6.1.3 Sickness Abroad – On Duty

Revision: 19 - 14 MAR 21

At most Stations abroad, the Company has contracted the services of one or more physicians to meet the various Company requirements – the Designated Medical Officer (DMO).

The contact details of the local DMO will be shown in the Station crew briefing sheet. A crew member who is taken ill or is injured while on duty abroad, shall receive medical attention and will not be scheduled for flight assignment, without having been released by the Designated Medical Officer or by a physician specifically authorized by the Station.

A crew member who has returned home after illness or injury as deadhead without receiving the "Fit for duty" clearance may not be assigned to a flight, nor may he commence a vacation without written clearance from the CMA. A telephone call to Crew Assignment will meet this requirement, provided that the crew member is in fact in possession of a written clearance from the CMA and that he will deliver it to Personnel Administration at the earliest possible opportunity.

A crew member who is taken ill or is injured while on duty abroad shall:

- Contact the Station Manager and provide him with information regarding his illness and his next assignment;
- Contact the DMO for medical attention. If the DMO is not available, or where there is no DMO, the crew member will be referred to an appropriate physician by the Station Manager;
- The sick crew member should make every effort to go to the doctor. If unable, the doctor shall be contacted for arrangements to be made to see the crew member;
- Prior to his return to Israel, the crew member shall receive from the attending physician a medical report, which he shall present to the CMA as soon as possible after his return to Israel.

The Station Manager is responsible at his Station for the handling and for the welfare of sick or injured crew members. Upon being advised of a sick or injured crew member, the Station Manager shall ensure that the crew member is examined by the DMO and treated as required. If no DMO is available he shall refer the crew member to another doctor, while making sure that the doctor is aware of the EL AL administrative requirements.

6.1.4 Sickness at Home Base

Revision: 19 - 14 MAR 21

Every crew member who becomes aware that he is unfit for flight assignment shall inform Crew Assignment without delay. He shall also inform Crew Assignment as soon as he is fit again for flight assignment. In addition to the above, a crew member who's condition indicates that he may be unfit for flight assignment for 4 days or more, shall inform the CMA without delay and definitely not later than on the fourth day of his sickness. Thereafter he shall keep the CMA informed at intervals not exceeding one week.

A crew member who, for medical reasons, was unfit for flight assignment for a period of six days or more, shall not be assigned to a flight, nor may he commence a vacation without written clearance from the CMA. A telephone call to Crew Assignment meets this requirement, providing that the crew member is in fact in possession of a written clearance from the CMA.

The CMA shall be entitled to visit a sick crew member at his home.

6.1.5 Family Sickness – Reporting

Revision: 19 - 14 MAR 21

A crew member who becomes aware that, due to the need to attend to a sick member of his family, he will not be available for flight assignment, shall inform Crew Assignment without delay.

He shall also inform Crew Assignment as soon as he becomes available.

6.1.6 Narcotics, Alcohol and Other Intoxicating Liquor

Revision: 19 - 14 MAR 21

No person may act or attempt to act as a crew member or as a FOO:

- Within 8 hrs after the consumption of any alcoholic beverage;
- While under the influence of alcohol;
- While having an alcohol concentration of 50 miligrams or more of alcohol per 100 mililiters of blood; or
- While having an alcohol concentration of 240 micrograms or more of alcohol per 1 liter of breath.

Since the metabolism of alcohol in the blood is very slow, it is highly recommended that Crew Members refrain from the consumption of alcohol 24 hours before the expected commencement of flight duty or standby.

In addition, deadheading crew members in uniform shall not consume alcoholic beverages.

In addition, if any irregularity occurred during a flight, the flight crew shall abstain from consuming alcohol within 4 hours after the flight. This is in case the authorities decide to perform an alcohol test.

For crew members and FOOs, the consumption or use of narcotics is strictly prohibited unless a medical doctor has determined that such use is absolutely necessary in the interest of his patient's health. However, in such extremely rare cases, the personnel concerned shall commence duty only if the CMA has certified that the physical and mental fitness for such duty is not being impaired.

Any crew member or FOO identified as engaging in any kind of problematic use of alcohol or narcotics shall be removed from operational duty.

A crew member shall submit to a test to indicate the alcohol/narcotics concentration in the blood, urine or breath, when a law enforcement officer or inspector suspects that the crew member is performing duties under the influence of alcohol or drugs.

The CAAI may authorize any clinic, hospital, or doctor, or other person to perform the above mentioned tests.

The CAAI may demand that the crew member furnish to the CAAI or give his approval to any clinic, hospital, or doctor, or other person to release to the CAAI, the results of each test taken 4 hours before acting or attempting to act as a crew member, and 4 hours after completing duty when an alcohol and or drug concentration in the blood specimen is suspected.

If a crew member refuses to submit to a test, and until the crew member agrees to be tested, the CAAI may prevent the person from performing the duties of a crew member.

6.1.7 Use of Medication, Drugs and Other Treatments

Revision: 19 - 14 MAR 21

Crew Members shall not take any prescription or non-prescription medication or drug, or undergo any other treatment, unless they are completely sure that the medication, drug or treatment will not have any adverse effect on their ability to perform their duties safely. If there is any doubt, advice shall be sought by an Aviation Medical Examiner.

6.1.7.1 Drugs

Revision: 19 - 14 MAR 21

A crew member shall not perform any duties on an aircraft while under the influence of any drug that may affect his faculties in a manner contrary to safety.

6.1.7.2 Medicines

Revision: 19 - 14 MAR 21

Antibiotics such as the various Penicillins, Tetracyclines and others may have short term or delayed side effects which can affect pilot performance. More significantly, however, their use usually indicates that an infection is present and thus the effects of this infection will normally mean that a pilot is not fit to fly.

Inability to react properly due to the use of tranquillisers, antidepressants and sedatives has been a contributory cause to fatal aircraft accidents. Again, as with antibiotics, the underlying condition for which these medications have been prescribed will almost certainly mean that a pilot's mental state is not compatible with the flying task.

Stimulants such as caffeine, amphetamines, etc. (often known as “pep” pills) used to maintain wakefulness or suppress appetite are often habit forming. Susceptibility to different stimulants varies from one individual to another, and all may cause dangerous over confidence. Overdosage causes headaches, dizziness and mental disturbance. The use of “pep” pills while flying is not permitted. Remember that excessive coffee drinking has harmful effects including disturbance of the heart’s rhythm.

Anti histamines can cause drowsiness. They are widely used in “cold cures” and in treatment of hay fever, asthma and allergic rashes. They may be in tablet form or a constituent of nose drops or sprays. In many cases the condition itself may preclude flying, so that, if treatment is necessary, advice from the AME should be sought so that modern drugs, which do not degrade human performance, can be prescribed.

Certain drugs used to treat high blood pressure can cause a change in the normal cardiovascular reflexes and impair intellectual performance, both of which can seriously affect flight safety. If the level of blood pressure is such that drug therapy is required the pilot shall be temporarily grounded and monitored for any side effects. Any treatment instituted should be discussed with the AME and a simulator assessment or Line Check may be appropriate before return to flying.

Following local, general, dental and other anaesthetics, a period of time should elapse before return to flying. The period will vary considerably from individual to individual, but a pilot should not fly for at least 12 hrs after a local anaesthetic and for 48 hrs after a general or spinal anaesthetic.

The more potent analgesics may produce a significant decrement in human performance. If such potent analgesics are required, the pain for which they are taken generally indicates a condition which precludes flying.

6.1.7.3 Pharmaceutical Preparations

Revision: 19 - 14 MAR 21

Many preparations are now marketed containing a combination of medicines. It is essential therefore that if there is any new medication or dosage, however slight, the effect should be observed by the pilot on the ground prior to flying. Although the above are the commonest medicines which adversely affect pilot performance, it should be noted that many other forms of medication, although not normally affecting pilot performance, may do so in individuals who are “sensitive” to a particular preparation. Individuals are therefore advised not to take any medicines before or during flight unless they are completely familiar with their effects on their own bodies. In cases of doubt, pilots should consult an AME.

1. If you are taking any medicine you should ask yourself the following three questions:
   - Do I feel fit to fly?
   - Do I really need to take medication at all?
   - Have I given this particular medication a personal trial on the ground of at least 24 hours before flight to ensure that it will not have any adverse effects whatever on my ability to fly?
2. Confirming the absence of adverse effects may well need expert advice and the assistance of the AME;
3. If you are ill and need treatment, it is vitally important that the doctor whom you consult knows that you are a member of air crew and whether or not you have recently been abroad.

Other Treatments

Alternative or complementary medicine, such as acupuncture, homeopathy, hypnotherapy and several other disciplines, is developing and gaining greater credibility. Some such treatments are more acceptable in some countries than others. There is a need to ensure that “other treatments” or alternative medicine, as well as the underlying condition, are declared and considered by the CMA when assessing fitness.

6.1.8 Immunisation

Revision: 19 - 14 MAR 21

In accordance with the World Health Organization's (WHO) International Health Regulations many countries prescribe vaccination of crew members and passengers against defined diseases, often specifying that such immunisation is only required upon entry "after leaving or transiting infected areas".

Each crew member scheduled for flight duty abroad shall satisfy any requirement(s) for vaccination(s), to have himself vaccinated in time, and to be able to produce – during his tour of duty – the appropriate WHO-approved "Certificate of Vaccination or Revaccination".

Vaccination/revaccination shall take place not less than 24 hours before commencement of flight duty and in case of strong reaction, medical advice shall be obtained due to a possible impairment of fitness for flight duty. No alcoholic beverages shall be consumed for a period of at least 24 hours after vaccination.

Vaccinations which may be obligatory and their validity:

- Yellow fever (from 10 days after until 10 years after vaccination).

Vaccinations which are recommended and their validity:

- Cholera (from 7 days until 6 months after vaccination);
- Typhoid (from 7 days until 3 years after vaccination);
- Poliomyelitis (after 3 vaccinations up to 10 years);
- Tetanus (after 3 vaccinations up to 10 years).

Malaria prophylaxis, though not immunisation in the strict sense of the word, should be mentioned here: crew members scheduled for flight duty to malaria infected countries shall obtain, on the advice of their flight medical doctor, the appropriate medication and apply it as prescribed.

NOTE	Crew members shall be aware of the fact that there are many extremely dangerous diseases against which vaccination is not possible. Only general rules may be given here for health-conscious behavior in foreign countries: 1. Observe strict hygiene in eating/drinking (amoebic dysentery, brucellosis); 2. Do not bathe in stagnant water (bilharziosis); 3. In infested (e.g., bush/jungle) areas, wear long-sleeved shirts and long trousers to prevent or minimise bites by disease-carrying insects (filariasis, malaria, encephalitis, sleeping sickness) or by outright poisonous insects or animals (spiders, scorpions, snakes); 4. Use insect repellant.

6.1.9 Deep Diving

Revision: 19 - 14 MAR 21

Crew members whose sporting activities include deep sea diving to a depth exceeding 10 meters shall not fly within 48 hours of completing such diving activity.

6.1.10 Blood/Bone Marrow Donation

Revision: 20.2 - 14 DEC 22

After giving blood or bone marrow:

- Flight and cabin crew members shall not undertake flying duties for at least 24 hrs.

6.1.11 Meal Precautions Prior to and During Flight

Revision: 19 - 14 MAR 21

In the interest of safety, crew members are urged not to partake between 3 hours before taking up flight duty until the termination of their flight of identical dishes prepared by the same caterer, restaurant or person.

6.1.12 Sleep and Rest

Revision: 19 - 14 MAR 21

Flight safety requires that all crew members receive regular and sufficient sleep and are well rested when commencing flight duty. Legal provisions (see Chapter ***7 Flight Time Limitations***) therefore prescribe maximum duty and minimum rest times. All crew members are expected to utilise their times of rest to relax and to regain their fitness. Therefore, during rest times all activities shall be avoided which run counter to those purposes.

6.1.13 Surgical Operations

Revision: 19 - 14 MAR 21

A fitness certificate signed by an AME shall be produced prior to returning to flying duties after any surgical procedure.

6.1.14 Pregnancy

Revision: 19 - 14 MAR 21

Flight crew shall inform the company in writing of her pregnancy, upon which the medical certificate shall be deemed to be suspended immediately. The CAAI Civil Air Surgeon may lift the suspension subject to any conditions he deems fit. The medical certificate may be re-validated after the pregnancy by a routine medical examination performed by an AME.

Cabin crew shall inform the company in writing of her pregnancy (refer to the CSOM for procedures and further information). She shall be considered unfit to fly upon reaching 27 weeks and 5 days of the pregnancy.

6.1.15 Corrective Lenses/Spectacles

Revision: 19 - 14 MAR 21

Each flight crew member assessed as fit to exercise the privileges of a licence subject to the use of suitable correcting lenses or spectacles, shall use those lenses/spectacles or have them immediately available when performing as a required crew member.

A spare set of the correcting spectacles shall be readily available when performing as a crew member.

If near correction for distances other than those tested for the medical certificate are necessary for visual flight deck tasks relevant to the types of aircraft in which the applicant is likely to function, the crew member shall obtain and use such lenses in the medical evaluation.

7 FLIGHT TIME LIMITATIONS

7.1 GENERAL

Revision: 19 - 14 MAR 21

This chapter describes the flight and duty limitations and rest requirements for crew members.

Limitations and requirements have been established for flight time, flight duty periods and rest to reduce the probability that fatigue may adversely affect safety.

The Flight and Duty Time Limitations and Rest Requirements published under this chapter shall be adhered to in the interest of safety.

The chapter describes the requirements of the ANR and does not reflect any work contract or union type requirements. Contractual limits may be more restrictive than the limits in this chapter but never less restrictive.

In case of inconsistencies or doubt regarding an assignment and the limitations/requirements described in this chapter, it shall be brought to the attention of Crew Assignment prior to report time; after report time any such issues shall be brought to the attention of OCC.

7.1.1 Management Crew Members

Revision: 19 - 14 MAR 21

The following policy applies to crew members performing EL AL-assigned/approved non-flying duties. For the purposes of this section, all crew members meeting these criteria will be referred to as Management Crew Members.

Verification of Work/Rest History

Prior to requesting or accepting a flying assignment, Management Crew Members shall review their schedule to validate that it reflects their work/rest history and shall notify Crew Assignment of any required corrections to the schedule.

Crew Member Responsibility to Account for Performance of Company-Assigned Duties

Management Crew Members performing EL AL-assigned duties should normally plan their duties so as not to interfere with the requirements of this Chapter. Crew Members performing EL AL-assigned non-flying duties that could impact an FDP/Duty Period or required rest period are responsible for ensuring that Crew Assignment is aware of time spent in such duties prior to performing any assigned flight duty or modifying their flying schedule.

If EL AL-assigned duties are performed prior to reporting for an FDP/Duty Period without an intervening rest period, the Crew Member is responsible for notifying Crew Assignment of the adjusted duty report time prior to reporting for the FDP/Duty Period.

EL AL-assigned duty should be added to the Crew Member’s schedule prior to performing the assigned duty. It is the Crew Member’s responsibility to ensure that the assigned duty is added to their schedule prior to performing an assigned FDP/Duty Period or modifying their schedule.

7.2 FLIGHT CREW

7.2.1 Definitions

Revision: 22.1 - 1 JUN 24

Acclimated	A condition in which a flight crew member has been in a theater for 72 hours or has been given at least 36 consecutive hours free from duty.
Calendar Day	A 24-hour period from 00:00 through 23:59 using UTC.
Deadhead Transportation	Transportation of a flight crew member as a passenger or non-operating flight crew member, by any mode of transportation, as required by EL AL, excluding transportation to or from a suitable accommodation. All time spent in deadhead transportation is duty and neither rest nor flight time. For purposes of determining the maximum FDP in Table B of this chapter, deadhead transportation is not considered a flight segment.
Duty	Any task that a flight crew member performs as required by the Company, including but not limited to FDP, flight duty, pre- and post-flight duties, administrative work, training, deadhead transportation, aircraft positioning on the ground, aircraft loading, and aircraft servicing. Duty start and end times: • Deadhead transportation – starts 20 minutes before STD and ends at On Blocks; • FDP – See Flight Duty Period (FDP); • Post-flight duty – starts at the end of FDP and ends 15 minutes later (see note below); • All other duty – from planned start of duty until the end of duty. **NOTE** 15 minutes is the default for the end of duty and is used unless the flight crew member is required for a longer duty, in which case he is responsible to update crew assignment immediately at the end of duty.
Fatigue	A physiological state of reduced mental or physical performance capability resulting from lack of sleep or increased physical activity that can reduce a crew member's alertness and ability to safely operate an aircraft or perform safety-related duties.
Fit for Duty	Physiologically and mentally prepared and capable of performing assigned duties at the highest degree of safety.

Flight Duty Period (FDP)	A period that begins when a flight crew member is required to report for duty with the intention of conducting a flight, a series of flights, or positioning or ferrying flights, and ends when the aircraft is parked after the last flight and there is no intention for further aircraft movement by the same flight crew member. A FDP includes the duties performed by the flight crew member on behalf of EL AL that occur before a flight segment or between flight segments without a required intervening rest period. Examples of tasks that are part of the FDP include deadhead transportation, training conducted in an aircraft or flight simulator, and airport reserve, if the above tasks occur before a flight segment or between flight segments without an intervening required rest period.
Flight Time	For the purposes of Flight Time Limitations, Flight Time (also known as "Move Time") commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing.
Home Base	Ben-Gurion Airport (LLBG).
Line Holder	A flight crew member who has an assigned FDP and is not acting as a reserve flight crew member.
Physiological Night's Rest	10 hours of rest that encompasses the hours of 01:00 and 07:00 in Israel, unless the individual has acclimated to a different theater. If the flight crew member has acclimated to a different theater, the rest shall encompass the hours of 01:00 and 07:00 at the acclimated location.
Report Time	The time that EL AL requires a flight crew member to report for an assignment. Report times prior to STD for scheduled flights: • In Tel Aviv: • 737 aircraft: 60 minutes; • All other aircraft: 1. Single crew between 05:00-06:30 LT: 60 minutes; 2. All other flights: 90 minutes. • All other stations - 60 minutes. **NOTE** For non-scheduled flights (for example, Prime Minister flights), Report Time may be defined as appropriate.
Reserve Availability Period (RAP)	A duty period during which the Company requires a flight crew member on short call reserve to be available to receive an assignment for a flight duty period.

Reserve Flight Crew Member

A flight crew member who EL AL requires to be available to receive an assignment for duty.

Airport Reserve

A defined duty period during which a flight crew member is required by EL AL to be at an airport for a possible assignment.

Short Call Reserve

A period of time in which a flight crew member is assigned to a Reserve Availability Period (RAP).

Long Call Reserve

Prior to beginning the rest period required by this chapter, the flight crew member is notified by EL AL to report for an FDP following the completion of the rest period. Unless specifically designated as airport or short-call reserve by EL AL, all reserve is considered long-call reserve.

NOTE	Unscheduled assignments are essentially Long Call Reserve.

Rest Facility

A bunk or seat accommodation installed in an aircraft that provides a flight crew member with a sleep opportunity.

NOTE	Classifications of the Company aircraft rest facilities appear in *7.4 Aircraft Rest Facility Class*.

Class 1

A bunk or other surface that allows for a flat sleeping position and is located separate from both the flight deck and passenger cabin in an area that is temperature controlled, allows the crew member to control light, and provides isolation from noise and disturbance.

Class 2

A seat in an aircraft cabin that allows for a flat or near flat sleeping position; is separated from passengers by a minimum of a curtain to provide darkness and some sound mitigation; and is reasonably free from disturbance by passengers or flight crew members.

Class 3

A seat in an aircraft cabin or flight deck that reclines at least 40 degrees and provides leg and foot support.

Rest Period	A continuous period determined prospectively during which the flight crew member is free from all restraint by EL AL, including freedom from present responsibility for work should the occasion arise.
Scheduled	To appoint, assign, or designate for a fixed time.
Split Duty	A flight duty period that has a scheduled break in duty that is less than a required rest period.
Suitable Accommodation	A temperature controlled facility with sound mitigation and the ability to control light that provides a flight crew member with the ability to sleep either in a bed, bunk or in a chair that allows for flat or near flat sleeping position. Suitable accommodation only applies to ground facilities and does not apply to aircraft on board rest facilities.
Theater	A geographical area in which the distance between the flight crew member's flight duty period departure point and arrival point differs by no more than 60 degrees longitude.
Unforeseen Operational Circumstance	An unplanned event of insufficient duration to allow for adjustments to schedules, including non-forecast weather, equipment malfunction, or air traffic delay that is not reasonably expected.
Vacation Day	A 24-hour period from 00:00 LT through 23:59 LT in Israel, determined prospectively during which the flight crew member is free from all restraint by EL AL, including freedom from present responsibility for work should the occasion arise.
Window of Circadian Low (WOCL)	A period of maximum sleepiness that occurs between 02:00 and 05:59 during a physiological night.

7.2.2 Fitness for Duty

Revision: 23 - 29 AUG 24

Each flight crew member shall report for any FDP rested and prepared to perform his assigned duties. Flight crew members should make optimum use of the rest facilities and opportunities for rest provided by EL AL.

EL AL shall not assign and a flight crew member shall not accept assignment to an FDP if the flight crew member has reported for the FDP too fatigued to safely perform his assigned duties.

Crew Assignment shall not permit a flight crew member to continue an FDP if the flight crew member has reported himself to Crew Assignment or to OCC that he is too fatigued to continue the assigned FDP.

Prior to commencing each flight, each operating flight crew member shall affirmatively state that he is fit for duty. This will be done by signing the fit for duty statement, which is normally done digitally.

A copy of the signed statement shall be stored by:

1. Stored by OCC or the station as appropriate;

2. When signed in the EFF application, the statement is automatically saved on the EL AL server.

7.2.3 Applicability

Revision: 19 - 14 MAR 21

The limits of this chapter apply to flights conducted on behalf of EL AL or other flights under Chapter 13 of the ANR, and do not include flights such as private/recreational flying or Air Force reserve flights. All flying on behalf of another company conducted under Chapter 13 of the ANR is subject to the limits of this chapter, and is not allowed unless prior approval has been granted by EL AL.

7.2.4 Un-augmented Operations

Revision: 19 - 14 MAR 21

EL AL shall not assign and a flight crew member shall not accept assignment or continue an assigned flight duty period if the total flight time will exceed the limits specified in Table A below.

Table A – Flight Time Limits for Un-augmented Operations

Report Time (Acclimated Time Zone)	Maximum Flight Time (Hours)
00:00 - 04:59	8
05:00 - 19:59	9
20:00 - 23:59	8

Except as provided for in Chapter *7.2.13 Split Duty Rest*, EL AL shall not assign and a flight crew member shall not accept an assignment if the scheduled flight duty period will exceed the limits specified in Table B below.

Table B – FDP Un-augmented Operations

Report Time (Acclimated Time Zone)	Maximum FDP (hours) for Line Holders based on Number of Flight Segments[3]						
	1	2	3	4	5	6	7+
00:00 - 03:59	9	9	9	9	9	9	9
04:00 - 04:59	10	10	10	10	9	9	9
05:00 - 05:59	12	12	12	12	11,5	11	10,5
06:00 - 06:59	13	13	12	12	11,5	11	10,5
07:00 - 11:59	14	14	13	13	12.5	12	11,5
12:00 - 12:59	13	13	13	13	12,5	12	11,5
13:00 - 16:59	12	12	12	12	11,5	11	10,5
17:00 - 21:59	12	12	11	11	10	9	9
22:00 - 22:59	11	11	10	10	9	9	9
23:00 - 23:59	10	10	10	9	9	9	9

7.2.5 Augmented Operations

Revision: 21 - 5 MAY 23

EL AL shall not assign and a flight crew member shall not accept assignment or continue an assigned flight duty period if the total flight time will exceed the limits specified below.

3 Reduce FDP by 30 minutes if not acclimated to departure station.

Maximum Flight Time Limits for Augmented Operations

Number of Pilots	Maximum Flight Time
3	13
4	17

EL AL shall not assign and a flight crew member shall not accept an assignment if the scheduled flight duty period will not meet the limitations and requirements specified in Table C below.

Table C – FDP Augmented Operations

Report Time (Acclimated Time Zone)	Maximum FDP (hours) Based on Rest Facility and Number of Pilots[4]					
	Class 1 Rest Facility		Class 2 Rest Facility		Class 3 Rest Facility	
	3 Pilots	4 Pilots	3 Pilots	4 Pilots	3 Pilots	4 Pilots
00:00 - 05:59	15	17	14	15,5	13	13,5
06:00 - 06:59	16	18,5	15	16,5	14	14,5
07:00 - 12:59	17	19	16,5	18	15	15,5
13:00 - 16:59	16	18,5	15	16,5	14	14,5
17:00 - 23:59	15	17	14	15,5	13	13,5

Minimum Time Made Available for In-flight Rest for Augmented Operations

For augmented operations, EL AL shall not schedule and a flight crew member shall not accept an assignment unless during the flight duty period:

1. For tracking purposes, two consecutive hours in the second half of the flight duty period are available for in-flight rest for the pilot flying the aircraft during landing.

   Any deviation from this guideline is subjected to the PIC's discretion.

2. Ninety consecutive minutes are available for in-flight rest for the pilot performing monitoring duties during landing.

7.2.6 Cumulative Limitations

Revision: 19 - 14 MAR 21

EL AL shall not schedule and a flight crew member shall not accept an assignment if the flight crew member's total flight time or Flight Duty Period will exceed the following:

Cumulative Limitations

Flight Time		FDP	
Consecutive Period	Maximum Hours	Consecutive Period	Maximum Hours
672 Hours	100	168 hours	60
365 Calendar Days	1,000	672 hours	190

4 Reduce FDP by 30 minutes if not acclimated to departure station.
The number of flight segments is limited to 3.

7.2.7 Rest Requirements

Revision: 22 - 20 FEB 24

EL AL shall not assign and a flight crew member shall not accept an assignment to any reserve or duty during any required rest period.

Required Rest Periods

Requirement	Rest Period (Consecutive Hours)
Minimum time free from duty within the past 168 consecutive hours before beginning any reserve or flight duty period	30
Minimum rest immediately before beginning the RAP or FDP measured from the time the flight crew member is released from duty	10 (8 uninterrupted sleep opportunity) See Notes 1 and 2 below
Minimum rest upon return to home base(*) after travel of more than 60° longitude during a flight duty period (or a series of flight duty periods) and 168 consecutive hours of time away from home base(*)	56 (Shall encompass 3 physiological nights rest based on local time)
(*) means the location designated by the company where a flight crew member normally begins and ends his or her duty periods.	

NOTE 1	If a flight crew member determines that a rest period as in the table in this section will not provide eight uninterrupted hours of sleep opportunity, or 10 hours free from duty, the flight crew member shall notify Crew Assignment.
NOTE 2	If a flight crew member engaged in deadhead transportation exceeds the applicable FDP in "Table B – FDP Un-augmented Operations" (see Chapter ***7.2.4 Un-augmented Operations***), see Chapter ***7.2.14 Deadhead Transportation***.

7.2.7.1 Telephone Calls

Revision: 19 - 14 MAR 21

In order to avoid violation of a flight crew member's rest period, EL AL shall not phone or text message a flight crew member prior to any duty or reserve period, until the following times:

- In Israel – 30 minutes before pickup;
- At outbase stations – 15 minutes before pickup.

The above restriction is waived for emergency notification regarding the Golden Wings procedure.

7.2.8 Flight Augmentation

Revision: 22.1 - 1 JUN 24

The Fleet Manager has the authority to augment the flight crew, ad hoc, for safety reasons. The augmentation and the reason for the augmentation shall be documented by Crew Assignment who shall send a weekly report of all augmentations with the reason for each augmentation to the Director of Flight Operations.

A flight crew member's FDP cannot be increased after report time by augmenting a single crew. However, an augmented crew's FDP may be increased by adding a fourth flight crew member until Off Blocks time.

7.2.9 Flight Delays before an FDP

Revision: 19 - 14 MAR 21

The scheduled report time for an FDP is established once that FDP has been assigned to a flight crew member.

In order to change this scheduled report time, the flight crew member would have to be shifted into either long-call or short-call reserve for the pertinent FDP.

- If an FDP start time is not changed pursuant to the long-call or short-call reserve provisions below, then the FDP begins at the time that it was originally scheduled to begin;
- If long-call reserve is used to change the FDP start time, the flight crew member shall be provided with the required rest period before beginning the new FDP;
- If short-call reserve is used to change the FDP start time, the flight crew member would have to be placed on short-call reserve no later than the time that his FDP was originally scheduled to begin. In such a case, instead of beginning an FDP at the originally-scheduled start time, the flight crew member would begin a reserve availability period (RAP).

7.2.10 FDP Extensions and Flight Time Exceedance

Revision: 19 - 14 MAR 21

FDP extension of up to 2 hours may be available. Any extension requests made by EL AL require approval of the PIC.

If the PIC initiates the extension, and communication with the FOO is not available, the PIC shall check the possibility of extension for all flight crew members. If extension is possible, he may proceed with the extension subject to the limitations of the entire flight crew, and report to OCC as soon as communication is restored.

All extensions shall be recorded by OCC. The record of the extension shall include a description of the extension and the circumstances surrounding the need for the extension.

Extensions of more than 30 minutes to the FDP or any exceedance of the flight time shall be reported to the CAAI – refer to Chapter *11.4.2 Notification and Reporting* (see table, item "Extension of Flight Duty Period or Flight Time").

Corrective action(s) for reported extensions shall be implemented within 30 days from the date of the extended flight duty period.

Flight Time

Before Take-off

Maximum and accumulated flight time limits shall not be exceeded.

After Take-off

If unforeseen operational circumstances arise that are beyond EL AL's control, a flight crew member may exceed the maximum flight time and the cumulative flight time limits to the extent necessary to safely land the aircraft at the destination airport or alternate, as appropriate.

Flight Duty Period

Before Take-off

If unforeseen operational circumstances arise:

- The PIC and the FOO may extend the maximum FDP permitted by up to 2 hours. They may also extend the maximum combined FDP and RAP by up to 2 hours;
- An extension of the FDP of more than 30 minutes may occur only once prior to receiving at least 30 consecutive hours free from all duty as described in Chapter *7.2.7 Rest Requirements*;
- Cumulative FDP limits may not be exceeded.

After Take-off

If unforeseen operational circumstances arise:

- The PIC and the FOO may extend maximum FDPs to the extent necessary to safely land the aircraft at its intended destination airport or alternate airport, as appropriate;
- An FDP extension of more than 30 minutes may occur only once prior to receiving at least 30 consecutive hours free from all duty within the past 168 consecutive hour period;
- Cumulative FDP limits may be exceeded.

7.2.11 FTL Information to Flight Crew

Revision: 19 - 14 MAR 21

Latest Take-off Time (LTT) – The latest take-off time that ensures the flight crew will remain within limitations.

The LTT and cumulative FDP and flight time data is made available to pilots on the ELP Notify application.

The following information shall be made available to the flight crew either as part of the briefing package or via iPad applications:

1. **Latest Take-off Time;**
2. **Maximum Taxi Time;**
3. Maximum FDP;
4. Maximum FDP with extension;
5. Planned FDP;
6. Maximum flight time;
7. Planned flight time;
8. List of all operating flight crew members;
9. Fitness for duty statement and a signature line for each crew member;
10. Flight identification: call sign, flight number and date.

If the LTT is within 30 minutes, promptly after “OUT” time the most restrictive LTT will be sent via ACARS to the aircraft. The message should be verifiable as relevant to this flight/crew.

If the take-off cannot begin before the LTT, **do not take-off** and contact OCC.

EXAMPLE	**ELY001/31** **LATEST TAKE-OFF TIME 2135(Z)**

If a pilot approaches his LTT limit and an extension is available, the FOO will send a manual ACARS message to reflect the crew's extension time. The message will have an asterisk (*) to indicate that the new LTT time was manually sent.

EXAMPLE	**(*)ELY001/31** **LATEST TAKE-OFF 2135Z / MAX EXTENSION FOR LATEST TAKE-OFF 2335Z** **YOUR FDP MAY REQUIRE AN EXTENSION THAT IS ALLOWABLE WITH PIC'S APPROVAL. PLEASE REPLY (ENTER "ABLE TO EXTEND" OR "NOT ABLE TO EXTEND").**

The PIC shall either approve or decline the extension request. The PIC's decision applies to all Flight Crew Members on the crew. Acceptance of the extension requires that take-off shall be initiated by the LTT, or the flight **shall return to the gate**. If declining the extension, contact OCC.

If a pilot approaches his LTT limit and an extension is **not available**, the FOO will manually send an ACARS message.

EXAMPLE	**(*)ELY001/31** **LATEST TAKE-OFF 2135Z / NO EXTENSION ALLOWED**

If take-off cannot be initiated by the LTT, the flight **shall return to the gate**.

These alerts shall be sent via ACARS or any available means. The FOO is responsible to verify that the message has been received by the crew.

All messages communicated shall be recorded by ACARS or by other means if ACARS is unavailable.

7.2.12 Reserve Status

Revision: 19 - 14 MAR 21

Reserve status is divided into 3 types according to the availability required by EL AL:

1. Airport reserve;
2. Short-call reserve;
3. Long-call reserve.

Any reserve that meets the definition of airport reserve shall be designated as airport reserve.

Airport Reserve

The FDP begins at report time. All time in airport reserve is considered FDP.

Short-call Reserve

- An RAP may not exceed 14 hours;
- For an un-augmented operation, the total hours a flight crew member may spend in an FDP and an RAP may not exceed the lesser of Table B in Chapter *7.2.4 Un-augmented Operations* plus 4 hours, or 16 hours, as measured from the beginning of the RAP;
- For an augmented operation, the total hours a flight crew member may spend in an FDP and an RAP may not exceed Table C in Chapter *7.2.5 Augmented Operations* plus 4 hours, as measured from the beginning of the RAP;
- A flight crew member on short-call reserve shall be ready for pickup no later than 1 hour (or if not using EL AL transportation, shall report for duty no later than 2 hours) after being assigned an FDP.

Long-call Reserve

A flight crew member may be assigned to an FDP or RAP if the flight crew member receives at least 10 hours rest with 8 hours uninterrupted sleep opportunity after notification. If the FDP assigned will begin before and operate into the flight crew member's window of circadian low, the flight crew member shall receive a 12 hour notice of report time.

7.2.13 Split Duty Rest

Revision: 19 - 14 MAR 21

For an un-augmented operation only, split duty time does not count towards the FDP if all of the following conditions are met:

- The flight crew is provided with a minimum of 3 hours opportunity to sleep in a suitable accommodation;
- The rest is between 22:00 LT and 05:00 LT;
- The rest is scheduled before the beginning of the FDP in which the rest opportunity is taken;
- The rest is not reduced from the rest opportunity that was scheduled;
- The rest is provided after the first flight segment of the FDP; and
- The combined FDP and rest shall not exceed 14 hours.

NOTE	Split duty is **not permitted**.

7.2.14 Deadhead Transportation

Revision: 19 - 14 MAR 21

Deadhead transportation that is followed by a flight segment without an intervening rest period is part of an FDP. All other deadhead transportation is not part of an FDP.

However, if a flight crew member is engaged in deadhead transportation that exceeds the applicable FDP in Table B (see Chapter ***7.2.4 Un-augmented Operations***), the flight crew member shall be given a rest period equal to the length of the deadhead transportation but not less than 10 consecutive hours (including the minimum of 8 uninterrupted hours of sleep opportunity) before beginning the next FDP.

7.2.15 Consecutive Night Time Operations

Revision: 19 - 14 MAR 21

EL AL may schedule up to 3 consecutive night time flight duty periods that infringe on the window of circadian low without restrictions.

EL AL may schedule up to 5 consecutive night time flight duty periods that infringe on the window of circadian low, if all of the following conditions are met:

- The flight crew is provided with a minimum of 2 hours opportunity to sleep in a suitable accommodation;
- The rest is between 22:00 LT and 05:00 LT;
- The rest is scheduled before the beginning of the FDP in which the rest opportunity is taken;
- The rest is not reduced from the rest opportunity that was scheduled; and
- The rest is provided after the first flight segment of the FDP.

7.2.16 Emergency and State Sponsored Operations

Revision: 19 - 14 MAR 21

This section applies to operations conducted pursuant to contracts with the State of Israel and operations conducted pursuant to a deviation granted by the CAAI that cannot otherwise be conducted under this chapter because of circumstances that could prevent flight crew members from being relieved by another crew or safely provided with the rest required in this chapter at the end of the applicable flight duty period.

The PIC may determine that the maximum applicable FDP, flight time, and/or combined FDP and RAP limits must be exceeded to the extent necessary to allow the flight crew to fly to the closest destination where they can safely be relieved from duty by another flight crew or can receive the requisite amount of rest prior to commencing their next FDP.

An FDP may not be extended for an operation conducted pursuant to a contract with the State of Israel, if it causes a flight crew member to exceed the cumulative flight time limits and the cumulative FDP.

The flight crew shall be given a rest period immediately after reaching the closest destination where they can safely be relieved from duty equal to the length of the actual FDP or 24 hours, whichever is less.

Any kind of FDP or flight time exceedance shall be reported by crew assignment according to Chapter *11.4.2 Notification and Reporting*.

7.2.17 Adjustment to Work/Rest Schedules of Management Pilots/Pilots Performing Company Business

Revision: 19 - 14 MAR 21

Refer to Chapter *7.1.1 Management Crew Members*.

7.3 CABIN CREW

7.3.1 Definitions

Revision: 22.1 - 1 JUN 24

For Cabin Crew Members Only

Cabin Crew	A crew member, other than a flight crew member, who performs duties assigned to him by EL AL or the PIC of the aircraft, in the interest of safety of passengers.
Calendar Day	The period of elapsed time, using UTC that begins at midnight and ends 24 hours later at the next midnight.
Duty Period	The period of elapsed time between reporting for an assignment involving flight time and release from that assignment by EL AL. The time is calculated using UTC to reflect the total elapsed time. A duty period includes the duties performed by the cabin crew member on behalf of EL AL that occur before a flight segment or between flight segments without a required intervening rest period.
Flight Time	For the purposes of Flight Time Limitations, Flight Time (also known as "Move Time") commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing.
Report Time	The time that EL AL requires a cabin crew member to report for an assignment. Report times prior to STD for scheduled flights is 90 minutes.
Rest Period	The period free of all restraint or duty for EL AL and free of all responsibility for work or duty should the occasion arise.
Unforeseen Operational Circumstance	An unplanned event of insufficient duration to allow for adjustments to schedules, including non-forecast weather, equipment malfunction, or air traffic delay that is not reasonably expected.

7.3.2 Duty Period and Rest

Revision: 23 - 29 AUG 24

EL AL may assign a duty period to a cabin crew member only when the applicable duty period limitations and rest requirements of this item are met.

1. Except as provided in items 3., 4. and 5. of this section, EL AL shall not assign a cabin crew member to a scheduled duty period of more than 14 hours;
2. A cabin crew member scheduled to a duty period of 14 hours or less as provided under item 1. of this section shall be given a scheduled rest period of at least 10 consecutive hours. This rest period shall occur between the completion of the scheduled duty period and the commencement of the subsequent duty period;

3. EL AL may assign a cabin crew member to a scheduled duty period of more than 14 hours, but no more than 16 hours, if EL AL has assigned to the flight or flights in that duty period at least one cabin crew member in addition to the minimum cabin crew complement required for the flight or flights in that duty period according to Chapter ***4.5 Summary – Crew Composition***;
4. EL AL may assign a cabin crew member to a scheduled duty period of more than 16 hours, but no more than 18 hours, if EL AL has assigned to the flight or flights in that duty period at least two cabin crew members in addition to the minimum cabin crew complement required for the flight or flights in that duty period according to Chapter ***4.5 Summary – Crew Composition***;
5. EL AL may assign a cabin crew member to a scheduled duty period of more than 18 hours, but no more than 20 hours, if EL AL has assigned to the flight or flights in that duty period at least three cabin crew members in addition to the minimum cabin crew complement required for the flight or flights in that duty period according to Chapter ***4.5 Summary – Crew Composition***;
6. A cabin crew member scheduled to a duty period of more than 14 hours but no more than 20 hours, as provided in items 3., 4. and 5. of this section, shall be given a scheduled rest period of at least 12 consecutive hours. This rest period shall occur between the completion of the scheduled duty period and the commencement of the subsequent duty period;
7. The rest period required under item 6. of this section 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 shall be scheduled to begin no later than 24 hours after the beginning of the reduced rest period and shall occur between the completion of the scheduled duty period and the commencement of the subsequent duty period;
8. In case EL AL elects to reduce the rest period to 10 hours as authorized by item 7. of this section, EL AL 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;
9. EL AL may not assign a cabin crew member any duty period unless the cabin crew has had at least the minimum rest required under this section;
10. EL AL may not assign a cabin crew to perform any duty with EL AL during any required rest period;
11. Time spent in transportation, not local in character, that EL AL requires of a cabin crew member and provides to transport the cabin crew member to an airport at which that cabin crew member is to serve on a flight as a crew member, or from an airport at which the cabin crew member was relieved from duty to return to the cabin crew member's home station, is not considered part of a rest period;
12. EL AL shall relieve each cabin crew member from all further duty for at least 24 consecutive hours during any 7 consecutive calendar days.

7.3.3 Summary Table

Revision: 23 - 29 AUG 24

Duty Period Limitations

Number of Cabin Crew Members	Duty Time Limit (hours)
Minimum Cabin Crew (according to Chapter *4.5 Summary – Crew Composition*)	14
Minimum Cabin Crew + 1	16
Minimum Cabin Crew + 2	18
Minimum Cabin Crew + 3 or more	20

Rest

Condition	Rest Required (hours)
7 consecutive days	24
Duty period up to 14 hours	10
Duty period up to 20 hours	12 (can reduce to 10 if after next duty given 14)

7.3.4 Adjustment to Work/Rest Schedules of Management Cabin Crew/ Cabin Crew Performing Company Business

Revision: 19 - 14 MAR 21

Refer to Chapter *7.1.1 Management Crew Members*.

7.3.5 Flight Time Limitation

Revision: 22.1 - 1 JUN 24

EL AL shall not assign, and a cabin crew member shall not accept assignment or continue an assigned duty period if the total flight time will exceed the limits specified below:

Limit Type	Condition	Crew Complement	Flight Time Limitation
Single Duty	Narrow body (no crew bunks) Duty up to 14 hours	Minimum crew 4 Cabin	12 hours
Single Duty	Narrow body (no crew bunks) Duty more than 14 hours	Augmented crew 5/6/7 Cabin	14/16/18 hours
Single Duty	Wide body (with crew bunks) Duty up to 14 hours	Minimum crew 8 Cabin	12 hours
Single Duty	Wide body (with crew bunks) Duty more than 14 hours	Augmented crew 9/10/11 Cabin	14/16/18 hours
Cumulative	28 consecutive days	X	140 hours
Cumulative	365 consecutive days	X	1,400 hours

7.3.6 Duty and Flight Time Exceedance

Revision: 22.1 - 1 JUN 24

A cabin crew member is not considered to be scheduled for duty in excess of duty period or flight time limitations if the flights to which the cabin crew member is assigned are scheduled and normally terminate within the limitations but due to unforeseen circumstances beyond the control of EL AL (such as adverse weather conditions) are not at the time of departure expected to reach their destination within the scheduled time.

As provided in the paragraph above, unforeseen circumstances exceedance will be limited to:

Condition	Crew Complement	Duty Time Limitation	Flight Time Limitation
Narrow body (no crew bunks) Duty up to 14 hours	Minimum crew 4 Cabin	22 hours	15 hours (up to 3 hours from limit)
Narrow body (no crew bunks) Duty more than 14 hours	Augmented crew 5/6/7 Cabin	18/20/22 hours (up to 4 hours from limit)	17/19/21 hours (up to 3 hours from limit)
Wide body (with crew bunks) Duty up to 14 hours	Minimum crew 8 Cabin	22 hours	18 hours
Wide body (with crew bunks) Duty more than14 hours	Augmented crew 9/10/11 Cabin	20/22/24 hours (up to 6 hours from limit)	20 hours

7.4 AIRCRAFT REST FACILITY CLASS

Revision: 19 - 14 MAR 21

Aircraft	Configuration	Class	Primary	Alternate
737	With Business Class	3	First row in business class, seats H and K.	First row in business class, seats A and C.
737	Without Business Class	None	–	–
777	Entire Fleet	1	Crew Bunk	Cabin Crew rest facilities as Class 1 or Business Class seats as Class 3
787	Entire Fleet	1	Crew Bunk	Cabin Crew rest facilities as Class 1 or Business Class seats as Class 3

8 OPERATING PROCEDURES

8.0 OPERATIONAL PHILOSOPHY

Revision: 19 - 14 MAR 21

EL AL's goal is to provide safe and efficient transportation, exceed customer expectations, and to make EL AL the first choice for flights to and from Israel.

This chapter lays down the philosophies that form the foundation for the policies and procedures required to achieve the goal stated above.

8.0.1 Operational Priorities

Revision: 19 - 14 MAR 21

Operating a flight requires teamwork between different company personnel, each with their own duties, responsibilities and authorities. The PIC and all crew members should encourage coordination and cooperation between all personnel, in order to meet the operational priorities as defined below.

EL AL's operations shall be conducted according to the following operational priorities:

1. Safety;
2. Regulations, ATC instructions, and company policy;
3. Passenger comfort;
4. Schedule;
5. Economy.

Safety is paramount in our operational priorities. Any time the safety of passengers, personnel, or property is in question, the operation must be stopped or corrected. The PIC or other responsible authority shall act to return the operation to a safe configuration.

8.0.2 Safety Policy

Revision: 19 - 14 MAR 21

EL AL's Safety Policy Statement affirms that “safety is one of our core business functions.” EL AL adopts the “safety culture” concept and is committed to maintaining a high level of safety as its highest priority.

Safety Culture includes:

- Encouraging safe behavior and conduct;
- Encouraging voluntary event reporting, while maintaining a “non-punitive” policy;
- Open and thorough investigation of safety events with the objective of improving safety and preventing safety occurrences;
- Maintaining a high level of proficiency in all types of operations;
- Implementing good crew resource management practices within the flight crew (un-augmented or augmented), with cabin crew and all other professionals involved in the operation of an aircraft.

EL AL places importance on <u>preventing</u> unsafe situations rather than being required to recover from them.

8.0.3 Standard Operating Procedures

Revision: 19 - 14 MAR 21

Standardization is in place in order to discourage unsafe practices, minimize carelessness, complacency and the development of individual procedures, while promoting operational flexibility, good judgment, and professionalism.

Operations shall be conducted in accordance with the Standard Operating Procedures laid down in the Operations Manuals. However, the PIC may always exercise his authority to act as needed to ensure the continued safe operation of the flight.

8.0.4 Chief Pilot and Standards Division Philosophy

8.0.4.1 Conduct of Flight Crew Members

Revision: 19 - 14 MAR 21

Flight Crew Members are expected to demonstrate the following characteristics while conducting their duties:

- **Leadership** – The flight crew, especially the PIC, is expected to provide the guidance and direction necessary according to the Operational Priorities;
- **Professionalism** – Performance and conduct should reflect a high level of skill, competence and attention to detail;
- **Positive attitude** – Be optimistic, engaged, friendly, and goal-oriented in the performance of their duties;
- **Engage our customers** – Keeping our customers informed with timely, truthful information is an essential part of customer service;
- **Engage our colleagues** – Anticipate the need to work out potential problems with the help of station personnel, cabin crew, maintenance, and other personnel for a safe, successful outcome.

8.0.4.2 Two-Man Cockpit

Revision: 19 - 14 MAR 21

EL AL cockpits are two-man cockpits, regardless of the crew composition. The flight will always be operated exclusively by the two pilots who are at the controls at any given time.

Refer to Chapter *CRM Policy in an Augmented Crew*.

8.0.4.3 Pilot Flying and Pilot Monitoring Priorities

Revision: 19 - 14 MAR 21

Pilot Flying (PF)

The PF's primary responsibility is to control and monitor the aircraft's flight path (including monitoring the FMA); to fly the aircraft in a safe manner, compliant with regulations, ATC instructions, and the company policy.

The PF is secondarily responsible for monitoring non-flight path actions (radio communications, aircraft systems, other crew members and other operational activities), but he/she must never allow this to interfere with his or her primary responsibility, controlling and monitoring the flight path.

Pilot Monitoring (PM)

The PM's primary responsibility is to monitor the aircraft's flight path (including FMA) and to immediately bring any concern to the PF's attention; to ensure that the PF flies the aircraft in a safe and compliant manner (flight path monitoring).

The PM is secondarily responsible for accomplishing non-flight path actions (radio communications, aircraft systems, other operational activities, etc.), but he/she must never allow this to interfere with his/her primary responsibility, monitoring the flight path.

8.0.4.4 Automatic and Manual Flight Philosophy

Revision: 19 - 14 MAR 21

In the vast majority of situations, automatic flight control (autoflight) systems provide excellent results. When deviations from expected performance do occur, they are often due to the flight crew having an incomplete understanding of the autoflight system's operations and limitations.

It should also be understood that in some situations it will be more appropriate to reduce the level of automation or control the aircraft manually. Maintaining a high degree of proficiency in manual and automated flight operations is therefore necessary for safe flight operations.

Numerous studies and publications have concluded that the persistent use of autoflight systems could potentially lead to the degradation of a pilot's manual flying skills.

Pilots must maintain manual flying skills to a high degree of proficiency and must develop confidence in their ability to do so. The maintenance of manual flying skills will ensure that pilots are able to safely and accurately control the aircraft in all phases of flight and will be capable of responding to unforeseen events and circumstances.

Refer to Chapter ***8.3.20.1.1 Automatic and Manual Flight Policy***.

8.0.4.5 Professional Development

Revision: 22 - 20 FEB 24

Pilots are hired with the intent to eventually serve as Captains. First Officers should develop their professional skills with this expectation in mind. Captains should mentor their First Officers to assist them in developing the professional skills required of a future Captain.

8.1 FLIGHT PREPARATION INSTRUCTIONS

Revision: 19 - 14 MAR 21

It is the Pilot-in-Command's and the FOO's joint responsibility to ensure that the flight is planned to meet all:

- **Safety**;
- Legal;
- Economic; and
- EL AL Israel Airlines Ltd. requirements.

Apart from checking the technical status of the aircraft, its components and its equipment, careful flight preparation includes:

1. The preparation of an OFP considering all aspects such as minimum flight altitudes, routing, weather forecasts for en-route, destination and alternate airports, fuel planning, etc. (see ***8.1.9 Operational Flight Plan (OFP) and Flight Release***);
2. The preparation of an ATS flight plan (see ***8.1.8 ATS Flight Plans***);
3. The preparation of a loadsheet (see ***8.1.7 Mass and Centre of Gravity***);
4. The determination of the usability of aerodromes. This includes the evaluation of possible performance limits (see ***8.1.2 Criteria and Responsibilities for the Authorization of the Use of Airports***);
5. The relevant AIS briefing - either by appropriate AIS documentation, personal AIS briefing or by a FOO;
6. The relevant MET briefing - either by MET documentation, personal MET briefing or by a FOO (see ***8.1.4 Interpretation of Meteorological Information***);
7. A check, whether "special loads" such as dangerous/hazardous goods or heavy cargo are to be carried (see ***8.2.3.9 Special Loads*** and ***9 Dangerous Goods and Weapons***) and whether safety related handling instructions are being followed;
8. Ensuring that commercial and/or other company requirements are met;
9. A check, whether de-icing/anti-icing procedures - if necessary - have been carried out properly (see ***8.2.5 De-Icing and Anti-Icing on the Ground***);
10. Ensuring availability of maps, instrument approach, arrival and departure charts as required for the intended flight;
11. Reference to items which may effect the planning of the flight (MEL/CDL).

8.1.1 Flight Planning

8.1.1.1 General

Revision: 19 - 14 MAR 21

Flights shall be planned along minimum cost routes, unless route capacity (flow control), altitude availability, severe en-route weather or other adverse factors would make it advisable to select a different route.

Whenever performance limitations do not permit normal dispatch while uplifting available traffic load, the flight shall be dispatched according to the RCF procedure.

RCF for fuel savings is allowed to certain destinations with possible constraints as approved by the Chief Pilot. These shall appear in the Crew and FOO Bulletin for each destination.

The following shall be carried even if an en-route landing is required for refueling; revenue passengers including ID50, Must Ride employees, Dead Head crew (DH, DHS), Air Marshals, ID persons entitled to a confirmed seat, Aircraft On Ground (AOG) consignments (spare parts) and First Class (must ride) cargo.

The following items are not considered "must ride" and may be carried weight permitting according to the following priority:

1. Mail;
2. Diplomatic mail;
3. Courier Consignments;
4. "ID Duty" space available;
5. Dead Head crew space available (DHW);
6. Air Marshal space available;
7. General revenue cargo;
8. "ID Leave" space available.

The maximum FL for flight planning is limited for different aircraft types as defined in Chapter *8.1.1.9.2 Maximum Flight Levels*.

For all flights, the FOO shall file the appropriate flight plan suffixes according to aircraft equipment, dependent on operational aircraft equipment (MEL), and crew qualifications in according with OM Part C, Jeppesen, General Airway Manual ATC, ATC/Appendix 2 Flight Plan Item 10 – Equipment and Capability and Item 18 – Other information.

NOTE	
	In the event of in-flight re-planning, all planning requirements of this chapter (including fuel, weather, alternate airports etc.) must be met at the time of re-planning. After the amended dispatch, the en-route requirements will apply, such as use of contingency fuel and the requirement that only one of either the destination or alternate airport be above applicable minima. After dispatch or re-planning, the planning requirements no longer need to be met in order for the flight to continue to its destination.

8.1.1.2 Selection of Destination Alternates

Revision: 19 - 14 MAR 21

When a flight is planned with a destination alternate, the destination alternate shall be the one that provides the lowest "alternate fuel".

However, when there is an increased risk of diversion, a commercial destination alternate should be used in lieu of the lowest fuel destination alternate.

The following items shall be evaluated when selecting a destination alternate:

- Adverse en-route and terminal weather that might affect the flight or diversion to an alternate (i.e. thunderstorms, fog, blowing dust, surface winds, freezing precipitation, earthquakes, volcanic ash);
- Reduced airport acceptance rates at alternate airports;
- Single runway operations and/or military operations at destination/alternates;

- NOTAMs;
- Aircraft MEL items;
- Other alternate airports available including consideration of hub operations and/or the diversions of other airlines;
- Ground operations and passengers handling.

8.1.1.3 Non-Standard Planning

Revision: 19 - 14 MAR 21

A non-standard route may be planned due to a CTOT received from Eurocontrol. Before changing the route, consider the items below:

- The additional time/cost;
- Crew duty/flight time limitations;
- Departure and arrival times compared to scheduled times (for "on time" performance);
- Expected rotation delay for the next leg to be done by the same aircraft;
- Passenger handling;
- Weather reports and forecasts;
- Other operational limitations (e.g. noise, runway closure).

A non-standard higher or slower than normal cruise speed may be required due to a curfew at the departure and/or destination airport, Shabbat or Jewish Holiday start time at the destination airport, next required aircraft turnaround time or flight crew flight/duty time limitations. The FOO shall prepare and supply to the flight crew an additional OFP with the standard Cost Index. The planned block fuel shall be the higher fuel from both OFP's. The landing or on block time limitation and the reason for the non-standard speed shall be stated on the flight release.

For a slower than normal speed, if the revised ETA (according the low cruise speed) is still before the destination opening times, extra fuel for holding shall be planned accordingly. The following are the Mach number limitations to be used for each aircraft; the Cost Indices are not limitations and are provided for reference:

High Speed

- 777 – C/I 200-500 up to 0.84 M;
- 787 – C/I 250-600 up to 0.870 M;
- 737 – up to 0.79 M.

Low Speed

- 777/787 – 0.80 M;
- 737 – 0.72 M.

8.1.1.4 NAT HLA Flight Levels

Revision: 19 - 14 MAR 21

RVSM allows more flight levels for planning and therefore provides better opportunity to fly closer to an optimum route/profile. It is acceptable to plan and/or request step climbs within the NAT HLA.

8.1.1.5 RAIM Prediction

Revision: 19 - 14 MAR 21

On a particular route at a particular time, it may be that the “geometry” of the satellite constellation, or a known satellite failure, will not enable RAIM. RAIM prediction is normally performed for all RNP SIDs, STARs, and approaches that are used for flight planning. If this cannot be done for any reason, the FOO shall perform RAIM prediction for all airports that are planned based on an RNP Navigation Specification.

The time frame to be checked is the estimated usage time for the route/SID, STAR, Approach for the departure destination and alternate airports -1/+3 hrs.

The results of the RAIM Prediction check should be appended to the briefing package or indicated as a remark to the flight release.

In the event of a predicted, continuous loss of appropriate level of fault detection of more than five minutes for any part RAIM Prediction period, the flight planning shall be revised (e.g. delaying the departure or planning a different route/departure/arrival/approach procedure or alternate airport).

All EL AL aircraft are P-RNAV DME/DME/IRU approved (non GNSS), therefore a RAIM prediction is not required for P-RNAV operations.

8.1.1.6 Limiting Weight

Revision: 19 - 14 MAR 21

Whenever the flight is weight limited for dispatch due to performance, the limiting weight shall be defined and sent to the person preparing the load sheet document so that this can be noted to be the limiting item in the load sheet document. The FOO shall also state the limitation in the comments on the flight release.

8.1.1.7 Shabbat/Jewish Holiday

Revision: 19 - 14 MAR 21

EL AL passenger aircraft shall not fly under “ELY” call sign during Shabbat or Jewish holidays. The Shabbat/Jewish holiday start time together with the latest airborne time that will allow landing before the Shabbat/Jewish holiday, will be added to the flight release as a remark. See non-standard planning for dispatch at a high speed, if required to allow landing before the Shabbat or Holiday.

8.1.1.8 Severe Weather

Revision: 19 - 14 MAR 21

Flights should not be planned within 200 NM of the center of a tropical cyclone (including hurricanes and typhoons).

When the destination and/or destination alternate airport are within 200 miles of the center of the storm, this limitation may be waived as long as all other planning requirements are met.

When Frequent CBs are forecast, the route should be planned to avoid the convective activity if possible. No deviation should be planned for Isolated or Occasional thunderstorms.

In case horses or cattle are carried and turbulence in the category moderate to severe is forecast, re-plan with a considerable margin around the affected area.

For all other flights, when the forecast is:

- Moderate or Moderate Occasional Severe — No limitation;
- Severe or Extreme — Avoidance up to an additional 60 NM to the flight plan. If more than 60 NM or inevitable — The original flight plan route with an additional 15 minutes fuel.

When the temperature forecast for the flight at the planned flight levels is close to the fuel freezing temperatures, use the “Low Fuel Temperature” procedure described in the OM Part B – FCTM. As a guideline for use of the procedure, do so if the temperature is forecast to be below -66 °C SAT for a period of 2 hours any time after the first 4 hours of the flight. If the above procedure is not possible or does not provide a solution, the flight shall be planned along a different route or altitude.

8.1.1.9 Minimum and Maximum Flight Altitudes

Revision: 19 - 14 MAR 21

APPROVED

Except for the take-off/departure or the approach/landing, if a minimum altitude is not defined by published air traffic procedures or ATC instructions, no flight shall be operated below:

- 2,000 ft vertically over the highest terrain/obstacle within a radius of 8 km from the estimated position of the aircraft where the highest reference point is higher than 5,000 ft MSL or in a mountain region. “Mountain Region” in this context is an area where the vertical change of the ground exceeds 3,000 ft over a distance of 10 NM;
- In other areas – 1,000 ft vertically over the highest terrain/obstacle within a radius of 8 km from the estimated position of the aircraft.

However, when a MEA and MOCA has been established for a specific route, the pilot may fly below the minimum route altitude, but not below the MEA and the MOCA within a distance of 22 NM (as estimated by the pilot) from the VOR on which the route was established.

The Lido system used for flight planning uses the MORA method covering a horizontal corridor on each side of the flight path of 10 NM with a vertical clearance added to the terrain altitude depending on actual terrain altitude:

- Up to 5,000 ft – 1,000 ft clearance;
- From 5,001 ft onwards – 2,000 ft clearance.

The estimated position of the aircraft will take into account the navigational accuracy which can be achieved on the relevant route segment with regard to the navigational facilities available on the ground and in the aircraft.

A climb to a higher minimum altitude shall be performed in such a manner that the point beyond which that higher minimum altitude applies shall be crossed at or above the applicable MSA.

NOTE	Local regulations may require higher minimum flight altitudes (for State deviations see Jeppesen Airway Manual, Section AIR TRAFFIC CONTROL).

As a company policy, the MORA shall be used as the minimum altitude for both flight planning and actual flight execution.

The cruising levels to be observed – even or odd levels – are either published in the En-route Charts/AIPs or assigned by ATC and shall meet the ICAO Annex 2 requirements.

8.1.1.9.1 Inoperative Engines – Performance Requirements

Revision: 19 - 14 MAR 21

In addition to the minimum flight altitude requirements stated before, EL AL aircraft shall meet the performance requirements below.

One Engine Inoperative En-route Flight Path

Revision: 19 - 14 MAR 21

In the event of the loss of one engine at the most critical point along the route and in the meteorological conditions expected for the flight, the net flight path shall:

1. Have a positive gradient at 1,500 ft above the airport of intended landing;

   and either;

   a. Have a positive gradient at least 1,000 ft above all terrain and obstructions within 10 NM of either side of the intended track; or

   b. Permit the aircraft to continue flight from the cruising altitude to an airport at which a landing can be made whilst clearing vertically, by at least 2,000 ft, all obstacles within 10 NM either side of the intended track.

The following factors shall be taken into account:

- At altitudes and in conditions requiring ice protection, the effect of their use upon the net flight plan.

The LIDO system checks the above for each flight.

8.1.1.9.2 Maximum Flight Levels

Revision: 19 - 14 MAR 21

Lido plans the optimum Flight Level which shall be limited to the lower of the following:

1. Maximum flight level:

   a. 737, 777 – FL 390;

   b. 787 - FL 410.

2. Maximum operating altitude as defined in the OM Part B (FCOM and FPPM) reduced by the following margins:

   a. 737, 787 – 1,000 feet;

   b. 777 – 0.

8.1.1.10 Tankering Fuel

Revision: 19 - 14 MAR 21

Tankering fuel shall be added only when there is a saving. When a flight is dispatched to a precipitation covered runway, tankering fuel shall be added only after the PIC's approval. RLD and runway contamination shall be considered before adding tankering fuel. Tankering fuel should be limited so that the most limiting of the take-off or landing weight is 1,5 % less than the maximum weight limit. Tankering fuel should not be more than the fuel required for the next leg.

For flights with a planned ground time of less than 3 hours, when the temperatures at the destination airport are forecast to be at or below 10 °C and it is suspected that ice might accumulate on the wing surfaces due to the cooling of the main tank fuel during the flight, tankering fuel should be carefully considered by the PIC and the FOO. In case de-icing is expected at the destination, tankering fuel should be uplifted.

Cost Index

If the planned landing fuel amount (including the tankering fuel) is sufficient for the next leg, the OFP for the next leg should be based on the cost index calculated for the first (tankering) leg.

8.1.1.11 Medical Evacuation Flights

Revision: 19 - 14 MAR 21

When performing medical evacuation flights, any delay or diversion has the potential to result in serious harm or death to the patient. Therefore, such flights should be planned with plenty of margin to minimize the chances of preventable diversion. The OCC Duty Manager has the authority to override EL AL's standard economic policies in this regard.

8.1.2 Criteria and Responsibilities for the Authorization of the Use of Airports

8.1.2.1 General

(*) Revision: 23.1 - 15 MAR 25

Before an airport is first utilised for scheduled operations it shall have been approved as described below. Chief Pilot and Standards Division shall also obtain proper approval from the CAAI for the intended use of that airport (if not already listed in the EFOS/EFF library OM Part A, "List of Approved Airports").

NOTE	When operationally required to use an airport not listed in the OM Part A, the airport may be used pending flight operations' approval, prior to receiving approval from the CAAI. In this case CAAI shall be notified and a FOO and crew NOTAM shall be issued.

For non-scheduled/Charter operations (less than 12 operations per year), the CAAI shall be given advance written notice of the operation. CAAI approval, however, is not required.

For AD-HOC flight operation, the Chief Pilot and Director of Standards shall approve at least 48 hours prior to departure according company procedure.

Destination Airports

Revision: 23 - 29 AUG 24

Approval of new destination airports shall be approved by the VP Flight Operations according to Operations Procedure 88-40-115.

As a general policy an operation to or from an airport will only be permitted provided that normal operating procedures can be used.

Such procedures shall apply not only for the approach/landing and take-off phase, but shall also cover all relevant forms of Ground Handling and operation. In approving a destination airport for EL AL operations, at least the following aspects shall be considered:

- Airport dimensions with regard to performance requirements and safe maneuvering;
- Obstacle and terrain in the approach, missed approach and departure sectors;
- Approach facilities (electronic and visual aids);
- Local conditions such as special weather situations, night flying restrictions or even political aspects which might affect operations; and
- Ground service facilities for fueling, embarking and disembarking of passengers, loading, de-/anti-icing, RFFS (see below), catering, general handling and the availability of immigration and customs authorities.

Alternate Airports

Revision: 23 - 29 AUG 24

The Chief Pilot Division has defined the following automatic criteria for approval of alternate airports. Airports which meet the following criteria are approved for such use:

1. Airport Elevation at or below 8,000 ft MSL;
2. The airport has at least one runway that meets the following requirements:
   a. Minimum LDA: 6,000 ft;
   b. Minimum Runway width: 45 m (148 ft);
   c. Runway bearing strength not limiting for less than the maximum landing weight of the approved aircraft type;
   d. There is at least one ILS CAT I or better approach;
3. Fire category suitable for aircraft type according to Chapter ***8.1.2.2 Rescue and Fire Fighting Services***.

   For approving an airport as Alternate, or for a non-scheduled flight, it may be one category lower than required in ***8.1.2.2 Rescue and Fire Fighting Services***.

Airports not meeting the above criteria require specific approval by the Chief Pilot and Director of Standards.

8.1.2.2 Rescue and Fire Fighting Services

Revision: 19 - 14 MAR 21

ICAO-Annex 14 (Chapter 9) specifies the airport requirements for rescue and fire fighting. Different airport categories are laid down, depending upon:

- The aircraft's overall length;
- The max fuselage width.

For explanation of airport Category for Rescue and Fire Fighting refer to AIP and/or Jeppesen Airway Manual, "AIRPORT DIRECTORY", Legend and Explanation.

As per table below, the types of aircraft used in the company normally require the following airport categories for Fire Fighting and Rescue Service:

Aircraft	Version	Airport Category	
		ICAO	FAA
B737	800/900	7	C
B777	200	9	E
B787	-8	8	D
B787	-9	9	E

8.1.2.3 Minimum Acceptable Airport RFFS Category

(*) Revision: 23.1 - 15 MAR 25

Planning

The published RFFS category for each of the airports used for a given flight (those listed in the OFP) shall be equal to or better than the aircraft RFFS category defined in Chapter ***8.1.2.2 Rescue and Fire Fighting Services***. However, if the aircraft RFFS category is not available at one or more of the airports required to be specified in the operational flight plan, an operator shall ensure that the airport has the minimum level of RFFS which is acceptable for the intended use in accordance with the instructions contained in this Chapter.

Intended operations to airports with RFFS categories below the levels specified for the respective aircraft type should be coordinated between the Company and the airport operator.

Acceptable Airport Category for Rescue and Fire Fighting

Airports **(Required to be specified in the operational flight plan)** **NOTE** If an individual airport serves more than one purpose, the highest required category corresponding to that purpose at the time of expected use applies.	**Acceptable Airport RFFS Category** **(Based on published Airport RFFS category, including any modification by NOTAM)**
Departure and destination airport	RFFS category for each airport should be equal to or better than the aircraft RFFS category. Where a suitable risk assessment has been conducted by the operator: **One** category below the aircraft RFFS category, or **Two** categories below the aircraft RFFS category, in the case of a temporary downgrade of 72 hours or less but not lower than airport RFFS Category 4 for aircraft with maximum certificated take-off mass of over 27,000 kg and not lower than Category 1 for other aircraft.
Take-off alternate and destination alternate airport	Where a suitable risk assessment has been conducted by the operator: **Two** category below the aircraft RFFS category; or

Airports (Required to be specified in the operational flight plan) NOTE: If an individual airport serves more than one purpose, the highest required category corresponding to that purpose at the time of expected use applies.	Acceptable Airport RFFS Category (Based on published Airport RFFS category, including any modification by NOTAM)
	Three categories below the aircraft RFFS category in the case of a temporary downgrade of 72 hours or less but not lower than airport RFFS Category 4 for aircraft with maximum certificated take-off mass of over 27,000 kg and not lower than Category 1 for other aircraft.
En-route alternate airport	If at least 30 minutes notice is given to the airport operator prior to the arrival of the aircraft, a minimum of RFFS Category 4 for aircraft with maximum certificated take-off mass of over 27,000 kg, andRFFS Category 1 for other aircraft. If less than 30 minutes notice can be given to the airport operator prior to the arrival of the aircraft: **Two** category below the aircraft RFFS category; or **Three** categories below the aircraft RFFS category in the case of a temporary downgrade of 72 hours or less but not lower than airport RFFS Category 4 for aircraft with maximum certificated take-off mass of over 27,000 kg and not lower than Category 1 for other aircraft.
EDTO en-route alternate airport	RFFS Category 4, under the condition that at least 30 minutes notice will be given to the airport operator prior to the arrival of the aircraft.

For all-cargo operations, further reductions might be acceptable provided that the RFFS capability is adequate to arrest fire around the flight deck area long enough for the persons on board to safely evacuate the aircraft.

In-Flight

NOTE	The table above is also applicable to in-flight replanning.

In flight, the PIC may decide to land at an airport regardless of the RFFS category if, in the pilot's judgment after due consideration of all prevailing circumstances, to do so would be safer than to divert.

8.1.2.4 Airport Categorization for Flight Crew Competence

Revision: 23 - 29 AUG 24

Airports for Company operations are categorized, in ascending order of difficulty, from Category A to Category C according to characteristics as listed in the categories below. The FAA designates some USA airports as Special PIC Qualification Airports. EL AL designates certain airports as Category Q Airports, as described below.

See Chapter *5.2.6 Route and Airport Competence Qualification* for Flight Crew competence requirements.

Category A

An airport which satisfies all of the following requirements:

- An approved instrument approach procedure;
- At least one runway with no performance limited procedure for take-off and/or landing;
- Published circling minima not higher than 1,000 ft above airport level; and
- Night operations capability.

Category B

An airport which does not satisfy the Category A requirements or which requires extra considerations such as:

- Non-standard approach aids and/or approach patterns; or
- Unusual local weather conditions; or
- Unusual characteristics or performance limitations; or
- Any other relevant considerations including obstructions, physical layout, lighting, etc.

Category C

An airport that requires considerations additional to those for a Category B airport.

Category Q

An airport where EL AL has determined that considerations additional to those for any other category airport are required. Category Q airports are fleet specific.

Category C or Q airports should not be planned as Alternate Airports for the relevant fleet unless so requested by a PIC qualified to operate to that airport.

NOTE	The Category B, C, Q and USA Special PIC airports are listed in the EFOS/EFF library OM Part A (List of Approved Airports) and shall be identified by NOTAM.

8.1.2.5 Performance Considerations

General

Revision: 19 - 14 MAR 21

Aircraft shall always be dispatched considering an engine failure in all flight phases.

When establishing the performance limits/criteria, the data presented in the OM Part B shall be used. The presentation of data in the OM Part B shall always be based upon AFM-data and may contain simplified and conservative data. Take-off and Landing Performance calculations performed by the Flight Crew and FOO's should be carried out by using the OPT performance application.

Take-off Climb Limits

Revision: 19 - 14 MAR 21

Regardless of the obstacle situation at an airport, the mass of the aircraft shall not exceed that mass which assures the minimum gross climb gradient as defined by the airworthiness requirements (for the ambient temperature and pressure altitude).

Runway Length Requirements for Take-off

Revision: 19 - 14 MAR 21

When commencing the take-off, any losses due to runway alignment shall be considered. Furthermore, the following parameters shall be used to determine the runway length mass limits:

- Pressure altitude;
- Temperature;
- Runway slope;
- Wind;
- Runway condition (dry, wet, contaminated).

The TOR (take-off run) shall not exceed the TORA (take-off run available).

The TOD (take-off distance) shall not exceed the TODA (take-off distance available).

The ASD (accelerate-stop-distance) shall not exceed the ASDA (accelerate-stop-distance available).

Obstacle Clearance Requirements

Revision: 19 - 14 MAR 21

The mass of the aircraft at take-off shall allow for clearance of all obstacles during the **net flight path** by 35 ft vertically within the obstacle accountability area (beginning at 35 ft above the take-off surface up to the height when the final en-route configuration has been reached). The ICAO accountability area starts at the end of the TODA at 90 m each side of the extended center line and opens with an angle of 0,125 x the distance from TODA until 600 m from center line are reached for straight-out departures. For aircraft with a wing span of less than 60 m, alternatively to the 90 m distance from center line, the minimum distance of 90 m may be reduced to half wingspan plus 60 m (+ 0.125 D).

When plotting the net flight path respectively when calculating the mass limit, the “nettage factor” as per the airworthiness requirements shall be observed (gross gradient - nettage factor = net gradient).

En-route/Drift Down Requirements

Revision: 19 - 14 MAR 21

The weight of the aircraft shall not exceed that weight which allows remaining above the minimum flight altitude (see Chapter *8.1.1.9 Minimum and Maximum Flight Altitudes*) with one engine out, unless a documented contingency plan to avoid obstacles in the event of engine failure(s) is briefed prior to the departure. If the aircraft will reach the cruise altitude at the point where the aircraft cannot remain above the minimum flight altitude as above, an OXY drift-down procedure is an acceptable contingency plan.

In this case a note shall be entered in the flight release to override the terrain clearance MTOW.

Landing Climb and Approach Climb Requirements

Revision: 19 - 14 MAR 21

The following limitations shall be met during the planning stage:

1. Landing Climb Gradient (landing configuration, all engines operating) of 3,2% or higher;
2. Approach Climb Gradient (one engine inoperative, landing gear retracted) of 2,1% or higher.

The OPT "Landing-Dispatch" includes the above requirements.

Landing Field Length Requirements (Planning)

Revision: 19 - 14 MAR 21

The landing mass of the aircraft for the estimated time of landing at the destination airport and at any alternate airport shall allow a full stop landing from 50 ft above the threshold within 60% of the Landing Distance Available (LDA) on the runway most likely to be assigned, considering the probable wind speed and direction and landing aids;

When the appropriate weather reports and/or forecasts indicate that the runway at the estimated time of arrival may be wet or contaminated or CAT III operations are expected, select the appropriate option in the OPT.

NOTE	An additional safety margin is included when "wet/contaminated/CAT III" is selected in the OPT, as detailed in the OPT user manual.

NOTE	If the Landing Weight is limited due to the Required Landing Distance, the limit shall be stated so in the flight release.

NOTE	Use the limit weight from the Landing Dispatch Tab in the OPT or from the Performance Dispatch, or from the FPPM.

8.1.3 Methods for Establishing of Airport Operating Minima

8.1.3.1 Selection of Airports – AOM Requirements at the Planning Stage

8.1.3.1.1 Take-off Alternate Airport

Revision: 19 - 14 MAR 21

A flight shall not be dispatched from an airport if from one hour before until one hour after the planned take-off time, the weather minima at the departure airport is less than the minima for landing at that airport, or if it would not be possible to return to the departure airport for any other reason (i.e. aircraft and crew qualification, or any limitation related to one engine inoperative operations), unless a take-off alternate at or above the planning alternate minima is available during a period of 1 h before and ending 1 h after the ETA. The Take-off alternate shall be listed in the flight release and in the OFP. The Take-off Alternate shall be planned and available within:

A range of 1 hr flying time at single-engine cruising speed based on the actual take-off mass (still air, standard conditions). If an alternate airport which meets the planning alternate minima is not available and the flight is an EDTO flight, then the airport may be at the approved EDTO diversion time at the engine out cruising speed based on the actual take-off mass (still air, standard conditions).

8.1.3.1.2 En-route Alternate Airports

Revision: 19 - 14 MAR 21

En-route alternate airports shall be no further than 60 minutes flight time from any point along the route in still air at one engine inoperative long range cruise speed as defined in the OM Part B. If no such airports can be found the flight shall be dispatched as an EDTO flight if allowed. Refer to Chapter ***8.5 Extended Diversion Time Operation (EDTO)***.

The en-route alternate airports appear in the Upper Air Data sheet in the Lido flight briefing material.

En-route alternate airports may be defined for fuel contingency calculations. see Chapter ***8.1.6 Determination of Fuel Quantities***. These are referred to as 3% En-route Alternates (3% ERA). The location requirements of 3% ERA appear in Chapter ***8.1.6 Determination of Fuel Quantities***.

8.1.3.1.3 Destination Airport(s)

Revision: 19 - 14 MAR 21

For the destination airport either:

1. The appropriate weather reports or forecasts or any combination thereof indicate, that at the expected time of arrival, the weather conditions will be at or above the landing minima as follows:
   - All countries excluding USA and Canada — RVR/CMV/VIS in accordance with the AOM for the anticipated approach; and ceiling at or above the MDH/DH for NPA/APV and circling approaches;
   - For USA and Canada — RVR/CMV/VIS in accordance with the AOM for the anticipated approach; and ceiling at or above the MDH/DH for all approaches.

   or

2. Two destination alternate airports are selected.

NOTE	The anticipated approach shall be a usable approach considering wind, facilities, crew and aircraft limitations.

8.1.3.1.4 Destination Alternate Airport(s)

Revision: 19 - 14 MAR 21

The destination alternate airport(s) as applicable, shall be specified in the Operational Flight Plan, in the ATS Flight Plan and in the flight release.

At the planning stage:

1. At least one destination alternate airport (see Chapter ***8.1.3.1.5 Alternate Airport Planning Minima***) is required unless a destination alternate is not required;
2. Two destination alternate airports shall be selected, when:
   a. According to the Meteorological Information available, the forecasts for the destination airport, indicate that at the estimated time of arrival, the weather conditions will be below the landing minima; or
   b. No meteorological information is available.

A destination alternate is not required if:

1. The duration of the planned flight from take-off to landing or, in the event of in-flight re-planning, the remaining flying time to the destination does not exceed 6 hrs; and
2. For the period from one hour before until one hour after the expected time of arrival at the destination airport, the appropriate weather reports or forecasts for the destination airport, or any combination thereof, indicate that, the ceiling will be either 2,500 ft above the airport if a circling approach is required, or at least 1,500 ft above the instrument approach minima or 2,000 ft above the airport, whichever is greater, and the visibility will be at least 5 km or 3 km above the minimum visibility for the instrument approach, whichever is greater; and
3. Two separate runways, where at least one of them has an operational instrument approach, are available and usable at the destination airport at the expected time of arrival at the destination airport.

Destinations approved for planning with a destination alternate not required:

1. Pre-flight planning: Allowed for flights to Tel Aviv, or as defined by Company NOTAM for each destination;
2. In-flight re-planning: All destination airports.

8.1.3.1.5 Alternate Airport Planning Minima

Revision: 23 - 29 AUG 24

An airport shall not be selected as an alternate if the forecast crosswind exceeds the limits laid down in the QRH - Ops Info.

A destination alternate airport, a 3% en-route alternate airport or a take-off alternate airport may only be selected when appropriate weather reports or forecasts or any combination thereof indicate, that the weather conditions will be at or above the planning minima as in the tables below, for the following time periods:

1. Pre-flight planning – From one hour before the ETA until one hour after the ETA;
2. In-flight – At the ETA.

All Countries Excluding USA and Canada

Type of Approach	Planning Minima
CAT II or III	CAT I RVR
CAT I	NPA RVR/VIS Ceiling shall be at or above DH/MDH
NPA/APV	NPA RVR/VIS + 1,000 m Ceiling shall be at or above DH/MDH + 200 ft
Circling	Circling

NOTE For EDTO planning minima, see Chapter *8.5 Extended Diversion Time Operation (EDTO)*.

NOTE Type of Approach shall be a usable approach considering wind, facilities, crew and aircraft limitations.

USA Only

The minima listed in the table below override the “FOR FILING AS ALTERNATE” minima that appear on the Jeppesen charts.

NOTE	Do not use any published instrument approach procedure, which specifies that alternate airport weather minima are not authorized.

Alternate Airport Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in Non-Precision Approach procedure, or Category I precision approach.	Add 400 ft to MDH or DH, as applicable.	Add 1 SM (1,600 m) to the visibility landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different[5] suitable runways.[6]	Add 200 ft to the higher DH or MDH of the two approaches used.[7]	Add 1/2 SM (800 m) to the higher authorized landing visibility minimum of the two approaches used.[7]
One usable authorized CAT II ILS instrument approach procedure. (Applicable to 777/787 only).	300 ft	3/4 SM (1,200 m) or RVR 4,000 ft (1,200 m).
One usable authorized CAT III ILS instrument approach procedure. (Applicable to 777/787 only).	200 ft	1/2 SM (800 m) or RVR 1,800 ft (550 m).

Canada Only

Planning minima ceiling and ground visibility for a Canadian alternate airport listed in the Flight Release shall be equal to or better than the following values, based on the availability of approach facilities:

Alternate Airport Approach Facility Configuration	Condition
Two usable precision approaches, each providing straight-in minima to separate suitable runways (in this respect RWY06 and RWY24 is one runway).	400-1 **or** 200-½ above the lowest usable minima and visibility, whichever is greater.
One usable precision approach.	600-2 (alternatives: 700-1½ or 800-1) **or** 300-1 above the lowest usable minima and visibility, whichever is greater.
NPA or APV only available.	800-2 (alternatives 900-1½ or 1,000-1) **or** 300-1 above the lowest usable minima and visibility, whichever is greater.

NOTE	Ceiling is given in feet and the visibility is given in miles.

5 A "different" runway is any runway with a different runway number.

6 If considering one approach will give a lower minimum, one approach may be used.

7 Add to at least CAT I minima.

8.1.4 Interpretation of Meteorological Information

Revision: 19 - 14 MAR 21

The information provided in the JEPPESEN ROUTE MANUAL, “METEOROLOGY” section highlights the different weather reports and their interpretation.

8.1.4.1 En-route Meteorological Data

Revision: 19 - 14 MAR 21

Meteorological charts are issued four times a day at fixed intervals 00:00, 06:00, 12:00 and 18:00 UTC and are normally available at least 9 hrs before such times.

Wind Charts

A vertical profile chart is available with the wind component along the route for different flight levels.

Upper Air Data Chart

A chart is provided with the route and wind data for the planned flight levels.

Significant Weather Charts

They usually cover between:

FL100 – FL450

Such charts may show, as appropriate to the flight, significant en-route weather phenomena such as:

- Thunderstorms;
- Tropical cyclones;
- Severe squalls;
- Moderate or severe turbulence;
- Moderate or severe icing;
- Type of clouds — particularly cumulonimbus type clouds;
- Tropopause height;
- Jetstreams;
- Information on the location and times of volcanic eruptions.

These charts shall be used to determine hazardous **WX** conditions en-route and to check route planning.

8.1.4.2 Airport Meteorological Data

Revision: 19 - 14 MAR 21

METARS and **TAFS** are produced by airport met. offices and shall be used by the flight crew to decide whether actual/forecast conditions allow for safe landing within the permitted airport operating minima. When using the TAF (only forecast visibility is available), when the charted values are:

- RVR/CMV — use the RVR/CMV chart value;
- RVR/CMV and Visibility — use the RVR chart value (unless the RVR is unserviceable);
- Visibility — use the Visibility chart value.

NOTE	This section is for use before the approach phase of flight, when only a forecast is available. For application of reported visibility for landing, refer to Chapter *8.1.5.8.1 Conversion of VIS from Meteorological Report to RVR/CMV*.

8.1.4.3 Non-Routine Aeronautical Information

Revision: 19 - 14 MAR 21

The following "non-routine" meteorological information are provided when applicable:

- As a SPECI, a special report amending a METAR;
- Amended TAF's;
- SIGMET (significant meteorological reports) when significant wx phenomena occur;
- Airport Warnings, such as microburst or windshear;
- SNOWTAMs.

NOTE	Full details of wx-reports and meteorological data presentation are available in the JEPPESEN ROUTE MANUAL, "METEOROLOGY" section.

8.1.4.4 Application of Airport Forecasts (TAF & TREND)

Revision: 23 - 29 AUG 24

NOTE This section is for use before the approach phase of flight, when only a forecast is available. For application of reported visibility for landing, refer to Chapter *8.1.5.8.1 Conversion of VIS from Meteorological Report to RVR/CMV*.

1. **APPLICATION OF INITIAL PART OF TAF**
   a. Applicable time period: From the start of the TAF validity period up to the time of applicability of the first subsequent 'FM... *
   or, if no 'FM' or 'BECMG' is given, up to the end of the validity period of the TAF;
   b. 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' ① if applicable acc. to the table below.

2. **Application of forecast following change indicators in TAF and TREND**

TAF or TREND For AERODROME PLANNED as	**FM** (alone) and **BECMG AT**:	**BECMG** (alone), **BECMG FM, BECMG TL,BECMG FM...ª TL,** in case of:		**TEMPO** (alone), **TEMPO FM, TEMPO TL, TEMPO FM ... TL, PROB30/40** (alone)			**PROB TEMPO**
	Deterioration and Improvement	**Deterioration**	**Improvement**	**Deterioration**		**Improvement**	**Deterioration and Improvement**
				Transient / Shower Conditions in connection with short-lived weather phenomena, e.g. thunderstorms, showers	**Persistent Conditions** in connection with e.g. haze, mist, fog, dust/sandstorm, continuous precipitation	In any case	
DESTINATION **TAKE-OFF ALTERNATE**② **DEST. ALTERNATE**② **3% ENROUTE ALTERNATE**②	Applicable from the **start** of the change	Applicable from the time of **start** of the change	Applicable from the time of **end** of the change	Not applicable **Mean wind and gusts** exceeding required limits may be disregarded	Applicable **Mean wind**: Should be within required limits① **Gusts**: May be disregarded	Should be disregarded	Deterioration may be disregarded; Improvement should be disregarded including mean wind and gusts
	Mean wind: Should be within required limits① **Gusts**: May be disregarded						
EDTO ENRT ALTN② at earliest/ latest ETA ± 1 hr	Applicable from the time of **start** of change:		Applicable from the time of **end** of change:	**Applicable**			
	Mean wind: Should be within required limits① **Gusts:** exceeding crosswind limits should be fully applied						

① 'Required limits': are those specified in the FCOM, FCTM-Limitations and QRH-Ops Info.
* The space following 'FM' should always include a time group, e.g. 'FM1030'.

② For USA and Canada alternate airports, when determining the suitability of a runway, wind including gusts shall be forecast to be within the crosswind limitations and all conditional forecast elements (Tempo, Prob) shall be taken into account.

8.1.5 Airport Operating Minima - Presentation and Application

(*) Revision: 23.1 - 15 MAR 25

APPROVED

Airport Operating Minima limits of usability of an airport for:

1. Take-off, expressed in terms of runway visual range and/or visibility;
2. Landing in precision approach and landing operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the category of the operation;
3. Landing in approach and landing operations with vertical guidance (APV), expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H); and
4. Landing in non-precision approach (NPA) and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions.

The limitations, requirements and procedures applicable to EL AL Operations, as published in this manual and in the following paragraphs, shall constitute the basic reference for every Operation. The Jeppesen produced instrument Approach Charts include the airport operating minima as published therein. Jeppesen assures that the applicable elements of ICAO DOC 8168 (PANS/OPS) and EU-OPS 1 Subpart E will be applied, and that state minimums are observed.

The landing minima published on the Jeppesen plates marked JAR-OPS, PANS-OPS, STANDARD/ STATE and TERPS are authorized by the CAAI for EL AL use.

In case the minima published in the OM Part A differ from those on a published instrument procedure or airport chart, the higher minima of the two shall apply.The minima as defined in the Terms and Definitions for each ILS Category and those given on the next pages represent the absolute lowest minima permissible under the given conditions. If the minima presented in the Jeppesen Airway Manual, any NOTAM (including OCA/H), or in charts of the OM Part C, are higher, then those higher minima will apply unless special approval is given by the competent authority for a particular airport. The OCH includes an allowance for altitude loss during initiation of the go-around and altimeter error. Minima is further increased for PICs with insufficient experience or for aircraft or ground equipment failure as depicted in this Chapter.

The authorized DA/H MDA is the highest of the following:

- The DA/H MDA prescribed by the approach procedure;
- The DA/H MDA prescribed for the PIC;
- The DA/H MDA for which the aircraft is equipped.

For all Non-Precision Approaches, excluding Circling Approaches, 50 ft shall be added to the minima prescribed and that new minima shall be the reference for continuing or aborting the approach instead of the published minima (DA or MDA).

NOTE	The 50 ft addition is not required at the planning stage.

NOTE	There is no need to add 50 ft to APV approaches such as RNP approaches to LNAV/VNAV minima and LDA with glide slope.

The methods and the legal principles for establishing the operating minima are explained in the Jeppesen Airway Manual sections:

- Introduction;

- Terminal; and
- Air Traffic Control.

Only the following approaches are approved (in no specific order of preference):

- ILS/GLS/LOC/LOC BC (including side-step landing);
- RNP Approaches - RNP, RNAV (GNSS), RNAV (GPS) to LNAV/VNAV or LNAV minima;
- GPS;
- VOR;
- NDB/Locator;
- Visual Approaches;
- Localizer Type Directional Aid (LDA).

NOTE	Approaches requiring special authorization (SA) are not approved.

NOTE	GLS approches are not authorized to a decision height (DH) lower than 200 ft.

NOTE	RNP approaches to LPV minima are **not** approved

8.1.5.1 Airport Operating Minima for IOE and Inexperienced Pilots

Revision: 19 - 14 MAR 21

NOTE	See definition of " ***Inexperienced Flight Crew***" for further details.

Pilots during Initial Course IOE:

All Weather Operations are prohibited.

Inexperienced First Officers following Initial Course:

Regular minima apply. All Weather Operations are allowed.

Inexperienced First Officers during/following a Conversion Course:

Regular minima apply. All Weather Operations are allowed, including during IOE.

Inexperienced Captains operating as PIC:

- For Destination Airports

  The MDA or DA/H shall be the higher of 100 ft above the airport operating minima or 300 ft DH and the visibility shall be the higher of 750 m above the airport operating minima or 1,500 m;

- For Alternate Airports

  The planning minima for the alternate airport but no less than 300 ft DH and 1,500 m visibility.

NOTE	Low visibility take-offs are not restricted.

8.1.5.2 Co-pilot Pilot Flying Limitations

Revision: 19 - 14 MAR 21

A Co-pilot during the IOE portion of the Initial Training and Checking Program, shall not be PF:

- For take-off if visibility is below 800 meters;
- For landing if the ceiling is below 300 feet.

A Co-pilot shall not be PF:

- For Circling Approaches;
- For all weather operations as per Chapter ***8.1.5.3 All-Weather Operations***.

8.1.5.3 All-Weather Operations

(*) Revision: 23.1 - 15 MAR 25

Low visibility take-offs (RVR below 400 meters/1,300 ft) and Category II or Category III operations shall not be conducted unless:

1. The aircraft is certificated for operations with decision heights below 200 ft, and equipped with the systems required for operations;

NOTE	Inoperative systems do not affect the status of the aircraft's certification or equipage. This means that systems may be inoperative as allowed by the MEL, unless they are listed amongst the minimum items required for CAT II/III operations in the QRH - Ops Info checklist.

2. DH is determined by means of a radio altimeter;
3. Specific approval/authorization for CAT II and III operations is granted in the Ops Spec;
4. The flight crew shall comprise a Captain and a First Officer, both trained and qualified for AWO, as indicated by CAT3 qualification in EFOS/FOX Expiry Date (also see Chapter ***8.1.5.1 Airport Operating Minima for IOE and Inexperienced Pilots***);

NOTE	A Captain/CHKR shall NOT perform CAT II/III operations from the RHS.

5. Take-off and landing is carried out by the PIC in the left hand seat;
6. LVP is in force where LVP is required to be announced. LVP is not required to be announced at USA airports (USA - for Minimums lower than CAT I the visibility must be below 2 miles or ceiling below 800 feet and no NOTAM or ATIS restrictions).

Procedures and instructions to be used for Low Visibility take-off and CAT II and III operations are prescribed in the OM Part B. The PIC shall satisfy himself that the status of the visual and non-visual facilities is sufficient prior to commencing a Low Visibility take-off or a Category II or III approach and that crew members are briefed on the local LVP's.

NOTE	Precision approaches which require the use of radio altimeters might be interfered by presence of 5G C-Band transmissions in the vicinity of the airport. Check applicable NOTAMs before commencing flight.

8.1.5.4 Minimum Airborne Equipment

Revision: 19 - 14 MAR 21

The PIC shall satisfy himself that the status of the aircraft and of the relevant airborne systems is appropriate for the specific operation to be conducted.

Minimum required equipment is defined as follows:

- For CAT I approaches, see Chapter ***8.1.5.8.5. CAT I Approaches***;
- For CAT II/III approaches, see the QRH – Ops Info.

The approach shall be aborted immediately if any of the minimum equipment required to be serviceable, fails during the approach and landing.

8.1.5.5 Applicability of Reported Weather Minima

Revision: 19 - 14 MAR 21

In conducting operations for Airport Operating Minima, the latest weather report control for take-offs and landings and for instrument approach procedures on all runways of an airport. However, if the latest meteorological report, including a verbal report from the control tower, contains a visibility value specified as VIS/RVR for a particular runway of an airport, that specified value controls for landings and take-offs and straight-in instrument approaches for that runway.

For instrument approach and landing operations, airport operating minima below 800 m visibility is not authorized unless RVR meteorological information is provided.

8.1.5.6 Aircraft Approach Category

Revision: 19 - 14 MAR 21

The airport operating minima are according to the company aircraft category as defined below:

– 777: .... CAT “C”
– 737-800[8], 737-900, 787-8, 787-9: .... CAT “D”

Minima According to Aircraft Approach Category - All Countries Excluding USA and Canada

Use the minima corresponding to the aircraft approach category. Use a maximum indicated airspeed according to the aircraft category not to exceed the speed that appears in the table below for that phase of flight.

If it is necessary to operate at a speed in excess of the upper limit of the speed range for an aircraft’s category, the minimums for the higher category shall be used. For example, an airplane which fits into Category C, but is circling to land at a speed of 185 knots, shall use the approach Category D minimums.

Aircraft Approach Category	V_{REF}	Maximum Speeds for Circling	Max Speeds For Missed Approach	
			Intermediate	Final
C	121-140	180	160	240
D	141-165	205	185	265

Minima According to Aircraft Approach Category - USA and Canada

Use the minima corresponding to the aircraft category.

If it is necessary to operate at a speed in excess of the upper limit of the speed range for an aircraft’s category, the minimums for the higher category shall be used. For example, an airplane which fits into Category C, but is circling to land at a speed of 185 knots, shall use the approach Category E minimums. As an additional example, a Category D airplane with a V_{REF} of 170 knots on a straight-in approach (overweight landing or due to a failure) shall use the approach Category E minimums.

Category C: 121 - 140 knots

8 **APPROVED** for Chambéry (LFLB) only:
– For enhanced short field performance aircraft (4X-EKH/J/L), the approach category is “C”.

Category D:	141 - 165 knots
Category E:	166 knots or more

8.1.5.7 Take-off – Application and Minima

(*) Revision: 23.1 - 15 MAR 25

Notwithstanding any clearance from ATC, no pilot may begin a take-off when according to the latest meteorological information, the weather conditions are less than those published as the Standard/State, JAA or Air Carrier minima on the Jeppesen plates. If the Standard/State, JAA or Air Carrier minima are not published, use available published minima. If take-off weather minima are not prescribed, the minimum visibility is 1,500 m. The minima shall never be less than the Take-off Minima in the following sections.

Conversion of reported visibility to RVR is not permitted for take-off.

NOTE	For Tel Aviv and other airports listing more than one set of Air Carrier minima, use the Air Carrier (JAA) minima.

All Countries Excluding USA and Canada

For the following table, the reported RVR/VIS value representative of the initial part of the take-off run may be replaced by pilot assessment.

Take-off Minima – All Countries excluding USA and Canada

Required Facilities	RVR/VIS
Nil (Day only)	RVR/VIS 500 m[9] [10]
Day: REDL or RCLM Night: (REDL or RCLL) + Runway End Lights	RVR/VIS 400 m[9] [10]
Low Visibility Take-off[11]	
Day: REDL + RCLM Night: (REDL or RCLL) + Runway End Lights	RVR 300[10]
REDL + RCLL	RVR 200[10]
HIRL (High Intensity Runway Edge Lights) + RCLL (Runway Centerline Lights) with spacing of 15 m or less	RVR 125[10]

REDL	Runway Edge Lights
RCLM	Runway Centerline Markings
RCLL	Runway Centerline Lights

NOTE	Some airports prescribe reduced minima for Approved Operators. EL AL is approved to operate according to the higher of either the "Approved Operator" minima on the airport chart, or the minima in the table above.

9 If RVR is not available, the visibility values in the table are limiting.

10 The required RVR values shall be available for the Accelerate Stop Distance, i.e Rollout RVR can be ignored if the last third of the runway is not used in case of a rejected take-off.

11 Low Visibility Procedures shall be in affect and announced via ATIS or ATC.

USA only

The Take-off minima shall never be less than the Take-off Minima in the following table.

If take-off weather minima are not prescribed, the minimum visibility is 1 statute mile for two engine aircraft.

Take-off Minima - USA

Minimum VIS/RVR Values	Required RVRs	Required Operative Runway Facilities
VIS 1/4 SM (400 m) or RVR 16 (1,600 ft / 500 m)	TDZ RVR is controlling. If unavailable, the MID RVR can serve as a substitute.	HIRL or Cl or RCLM When none of the above are available, VIS 1/4 SM may be used if other runway lighting or marks provide adequate visual reference for directional control throughout the take-off run.
TDZ & MID RVRs: 12 (1,200 ft / 350 m) Rollout RVR: 10 (1,000 ft / 300 m)	A minimum of two reporting RVRs. All available RVR reports are controlling. **NOTE** When 4 RVRs are available the fourth far end RVR is not controlling and is not to be used as one of the two required RVRs.	**Daylight hours:** HIRL or CL or visible RCLM **Night time hours:** HIRL or CL
TDZ, MID and Rollout RVRs: 10 (1,000 ft/300 m)	TDZ and MID (if installed) Controlling. Rollout Controlling.	HIRL or CL & visible RCLM
TDZ and MID and Rollout: 5 (500 ft/150 m)	TDZ, MID (if installed) and rollout Controlling.	HIRL and CL

Canada only

The Take-off minima shall never be less than the Take-off Minima in the following table.

Take-off Minima - Canda

Minimum VIS/RVR Values	Required RVRs	Required Operative Runway Facilities
VIS 1/4 SM or RVR 12 (1,200 ft)	Take-off is authorized whenever: 1. The lowest reported RVR for the runway is at or above the minimum, regardless of reported ground visibility; or 2. A reported ground visibility for the aerodrome is at or above the minimum, regardless of the reported RVR for the runway; or 3. In the absence of a reported RVR or reported ground visibility, PIC observed visibility is at or above minimum.	HIRL or Cl or RCLM that are plainly visible to the pilot throughout the take-off run.

Minimum VIS/RVR Values	Required RVRs	Required Operative Runway Facilities
RVR 6 (600 ft/175 m)	TDZ and MID are controlling, if the MID RVR is unserviceable, the Rollout RVR can serve as a substitute.	HIRL and CI and RCLM that are plainly visible to the pilot throughout the take-off run.

NOTE	Some airports in Canada prescribe reduced minima for Authorized Air Carriers. EL AL is approved to operate according to the higher (more restrictive) of either the "Authorized Air Carrier" minima on the airport chart, or the minima in the table above.

8.1.5.8 Landing - Application and Minima

8.1.5.8.1 Conversion of VIS from Meteorological Report to RVR/CMV

Revision: 19 - 14 MAR 21

Airport Operating Minima are generally expressed in RVR or in CMV. If only RVR/CMV appears on the chart and only meteorological visibility is reported, the required RVR/CMV can be derived by converting the reported visibility directly to RVR/CMV according to the following:

1. No conversion is allowed when a reported RVR is available;
2. If the charted RVR value is less than 800 m, the required visibility is 800 m;
3. If the charted RVR/CMV value is 800 or more, the required visibility is the required charted RVR/CMV value.

NOTE	If the RVR is reported at being above the maximum value assessed by the airport operator, e.g.: "RVR more than 1,500 m", it is not considered to be a reported RVR in this context, and the conversion may be used.

8.1.5.8.2 Initial Approach Altitude

Revision: 19 - 14 MAR 21

When making an initial approach to a radio navigation facility, no pilot may descend below the relevant altitude for the initial approach (as specified in the instrument approach procedure for that facility) until his arrival over that facility has been definitely established.

Radar may be used in conjunction with instrument approach procedures predicated on other types of radio navigational aids. Radar vectors may be authorized to provide course guidance through the segments of an approach to the final course or fix.

When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is received, shall, in addition to complying with the minimum flight altitudes in Chapter ***8.1.1.9 Minimum and Maximum Flight Altitudes***, maintain the last altitude assigned until the aircraft is established on a segment of a published route or instrument approach procedure unless a different altitude is assigned by ATC. After the aircraft is so established, published altitudes apply to descent within each succeeding route or approach segment unless a different altitude is assigned by ATC. Upon reaching the final approach course or fix, the pilot may complete the instrument approach to a landing in accordance with a procedure approved for the facility.

8.1.5.8.3 RVR for Landing

Revision: 19 - 14 MAR 21

All countries excluding USA and Canada

The touchdown zone RVR is always controlling. If reported, the mid point RVR is also controlling, and if the stop end RVR is reported and relevant it is also controlling. The minimum RVR value for the mid-point is 125 m. The minimum RVR value for the stop-end is 75 m.

NOTE	"Relevant" in this context, means that part of the runway used during the high speed phase of the landing down to a speed of approximately 60 kts.

USA and Canada only

The required RVRs, controlling and minimum values for the USA differ according to Categories of approaches – see details for each category.

8.1.5.8.4 Commencement and Continuation of an Approach — Approach Ban

Revision: 19 - 14 MAR 21

A pilot may commence an instrument approach regardless of the reported RVR/VIS. However, no pilot may continue an instrument approach below the Approach Ban Point unless the reported visibility (VIS) or the controlling RVR is equal or greater than the VIS/RVR minimums prescribed for that procedure.

<u>For all approaches except for CAT II/III approaches in Canada:</u>

If a pilot has passed the Approach Ban Point and receives a weather report indicating below-minimum conditions, the pilot may continue the approach to DA/DH or MDA.

<u>For CAT II/III approaches In Canada:</u>

A missed approach shall be performed if the RVR reported is less than the required value even after passing the FAF inbound (or where there is no FAF - the point where the final approach course is intercepted).

Upon reaching DA/DH or MDA, the pilot may continue the approach below DA/DH or MDA if the visual references and other requirements for the type of approach are met and maintained.

Approach ban point:

- All countries except USA and Canada – 1,000 ft above the aerodrome; or the final approach point in the case where the DA/H or MDA/H is more than 1,000 ft above the aerodrome;
- USA and Canada – the FAF inbound, or where there is no FAF, the point where the final approach course is intercepted.

NOTE	For different country regulations (excluding the USA and Canada which are described in this section), refer to FliteDeck Pro – Jeppesen Airway Manuals – ATC, State Rules and Procedures. Such regulations are applicable if they are more restrictive than the rules stated above.

8.1.5.8.5 Category I, APV and NPA Operations

8.1.5.8.5.1 General Operating Rules

Revision: 19 - 14 MAR 21

Operation below DA/H or MDA – no pilot may operate an aircraft, below the authorized MDA or continue an approach below the authorized DA/H unless:

1. The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and the descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;
2. The flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and
3. At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:
    a. The approach light system, except that the pilot may not descend below 100 ft above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable;
    b. The threshold, or the threshold markings or lights;
    c. The runway end identifier lights;
    d. The VASI or PAPI;
    e. The touchdown zone or touchdown zone markings, or the touchdown zone lights;
    f. The runway or runway markings, or the runway lights.

Missed approach procedures – immediately execute an appropriate missed approach procedure when either of the following conditions exist:

1. Whenever the requirements 1 through 3 above are not met at either of the following times:
    a. When the aircraft is being operated below MDA; or
    b. Upon arrival at the missed approach point, or to the DA/H and at any time after that until touchdown.
2. Whenever an identifiable part of the airport is not distinctly visible to the pilot during a circling maneuver at or above MDA, unless the inability to see an identifiable part of the airport results only from a normal bank of the aircraft during the circling approach.

8.1.5.8.5.2 CAT I Approaches

Revision: 19 - 14 MAR 21

Category I (CAT I) operation is a precision instrument approach and landing (ILS with guidance in both azimuth and elevation) with:

1. A decision height not lower than 200 ft; and
2. With either a visibility not less than 800 m or a runway visual range not less than 550 m.

CAT I Approaches – All countries excluding USA and Canada

For RVR values below 750 m to runways without TDZ lights and/or CL lights, a coupled or a flight-director-flown approach are required.

CAT I Approaches – USA only

CAT I Approaches – USA

Minimum VIS/RVR Values	Required RVRs	Required Operative Runway Facilities
VIS 1/2 SM (800 m) or RVR 18 (1,800 ft / 550 m)	TDZ RVR is controlling. If unavailable, the MID RVR can serve as a substitute.	For operations with visibility below 3/4 SM or RVR 40 (4,000 ft / 1,200 m), if TDZ Lights and/or RCL lights are not installed or not operational the FD or autopilot shall be used to the DA/H. In this case, should the autopilot or FD malfunction or be disengaged during the approach, execute a missed approach unless the approach can be continued with the use of an operational autopilot or FD or visual reference to the runway environment has been established.

CAT I Approaches – Canada Only

RVR values according to the approach chart – TDZ RVR is controlling.

8.1.5.8.5.3 Non-Precision Approaches (NPA)

Revision: 19 - 14 MAR 21

When practical, all non-precision approaches shall be flown using the Continuous Descent Final Approach Technique (CDFA). If the required visual reference is not achieved when reaching the minima or the MAP, whichever occurs first, a missed approach shall be executed. The lateral part of the missed approach procedure shall be flown via the MAP unless otherwise stated in the procedure.

USA Only

Visibility values below 1/2 SM are not authorized.

Required RVRs – as per the "CAT I Approaches – USA" table in Chapter *8.1.5.8.5. CAT I Approaches*.

8.1.5.8.5.4 RNP / RNAV (GNSS) / RNAV (GPS) Approaches

(*) Revision: 23.1 - 15 MAR 25

These approaches are approved down to LNAV/VNAV or LNAV minima. The lowest authorized RNP value is 0.3. EL AL policy is to use VNAV guidance for LNAV/VNAV minima.

NOTE	RNP approaches that require special authorization are not authorized. These are usually designated as RNAV (RNP) RWY XX or RNP RWY XX (AR).

EL AL policy is to use both FD and AP for RNP operations. Use of only the Flight Director or Autopilot without Flight Director is approved.

GPS position updating must be active before passing the IAF (one GPS source is sufficient). After passing the IAF, GPS UPDATE is not required. ANP shall remain within the approach requirements throughout the entire procedure.

For aircraft without NPS: before the approach, verify RNP is set to 0,3.

Execute a missed approach if the lateral or vertical required navigation performance cannot be maintained, unless the pilot has acquired and can maintain the visual references required to continue the approach.

USA Only

Visibility values below 1/2 SM are not authorized.

Required RVRs - as per the “CAT I Approaches - USA” table in Chapter *8.1.5.8.5. CAT I Approaches*.

8.1.5.8.5.5 Visual Approaches

General

Revision: 23 - 29 AUG 24

A Visual approach is an approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed with visual reference to the terrain.

Clearance for an IFR flight to execute a visual approach may be requested by a flight crew or initiated by the controller. In the latter case, the concurrence of the flight crew shall be required. When conducting a visual approach you are still an IFR flight, this means that normal IFR protection will be provided from other traffic, however sound airmanship requires that a good lookout is maintained at all times.

For successive visual approaches, separation shall be maintained by the controller until the pilot of a succeeding aircraft reports having the preceding aircraft in sight. The aircraft shall 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 will issue a caution of possible wake turbulence.

The PIC shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their requirements.

A suitable visual maneuver shall be flown to permit the aircraft to be established on final according to the stable approach criteria. During visual approaches when an instrument approach is available to the runway of intended landing, all available navaids should be tuned and monitored.

All Countries Excluding USA

A visual approach may be performed by:

- **Day**

  When the airport and surrounding terrain can be seen from a distance, or the airport becomes visible following an instrument approach procedure;

- **Night**

  When the airport becomes visible.

The runway environment shall be kept in sight while maneuvering visually.

USA Only

A visual approach is an approach conducted under instrument flight rules (IFR), which authorizes the pilot to proceed visually and clear of clouds to the airport. The pilot shall, at all times, have either the airport or the preceding aircraft in sight. This approach shall be authorized and under the control of the appropriate air traffic control (ATC) facility.

Circling Approach

Revision: 19 - 14 MAR 21

A Circling approach is an extension of an instrument approach procedure which provides for visual circling of the airport prior to landing. These approaches are usually used when the straight-in criteria are not met. This does not mean that a straight in landing is not allowed.

After initial visual contact, the basic assumption is that the runway environment should be kept in sight while at minimum descent altitude/height (MDA) for circling. The runway environment includes features such as the runway threshold or approach lighting aids or other markings identifiable with the runway.

Circling approaches are to be carried out by the PIC.

The EL AL Circling minima are:

- MDH: 1,000 ft;
- Visibility: 5 km.

Visual Traffic Pattern

Revision: 19 - 14 MAR 21

Performing a visual traffic pattern procedure is authorized only when meteorological conditions are at or above:

- Ceiling: 1,500 ft;
- Visibility: 3 statute miles/5 km.

The visual traffic pattern should be to the left unless otherwise published on the Jeppesen plate, and at an altitude of at least 1,500 ft above the elevation of the airport which shall be maintained until further descent is required for a safe landing. If performing the visual traffic pattern at a higher altitude, it may be necessary to start descent before turning base leg when the traffic pattern is space limited.

The procedure to be adopted at night is to maintain the MSA until within the defined area for the traffic pattern.

Visual Manoeuvring Using Prescribed Track

Revision: 19 - 14 MAR 21

In those locations where clearly defined visual features permit (and if it is operationally desirable), a State may prescribe a specific track for visual manoeuvring in addition to the circling area.

Since visual manoeuvring with a prescribed track is intended for use where specific terrain features warrant such a procedure, it is necessary for the flight crew to be familiar with the terrain and visual cues to be used in weather conditions above the airport operating minima prescribed for this procedure.

This procedure is based on the aircraft approach category. It is published on a special chart on which the visual features used to define the track, or other characteristic features near the track, are shown.

NOTE	In this procedure navigation is primarily by visual reference and any radio navigation information presented is advisory only.

The direction and the length of each segment are defined. If a speed restriction is prescribed, it is published on the chart. The final descent gradient/angle is indicated on the chart.

The protection area is based on a corridor with a constant width centred on the nominal track. The corridor follows the track, including a go-around for a second visual manoeuvring with prescribed track.

The OCA/H for visual manoeuvring on prescribed tracks provides the minimum obstacle clearance (MOC) over the highest obstacle within the prescribed track area.

Visual aids associated with the runway used for the prescribed track (i.e. sequenced flashing lights, PAPI, VASIS, etc.) are shown on the chart with their main characteristics (i.e. slope of the PAPI or VASIS). Lighting on obstacles is specified on the chart.

Side-step Maneuver

Revision: 19 - 14 MAR 21

ATC may authorize a standard instrument approach procedure which serves either one of parallel runways that are separated by 1,200 feet or less followed by a straight-in landing on the adjacent runway.

Aircraft that will execute a side-step maneuver will be cleared for a specified approach procedure and landing on the adjacent parallel runway. Example, “cleared ILS runway 7 left approach, side-step to runway 7 right”. Pilots are expected to commence the side-step maneuver as soon as possible after the runway or runway environment is in sight. Compliance with minimum altitudes associated with stepdown fixes is expected even after the side-step maneuver is initiated.

If side-step minima are published, they will be non-precision minima. If no side-step minima are published, EL AL circling minima apply.

8.1.5.8.6 Category II and III Operations

8.1.5.8.6.1 General Operating Rules

Revision: 19 - 14 MAR 21

1. Category II or III operation requires all of the following:
   a. The flight crew of the aircraft consists of a PIC and a Co-pilot who hold the appropriate authorizations and ratings;
   b. Each flight crew member has adequate knowledge of, and familiarity with the aircraft and the procedures to be used; and
   c. The requirements as defined in section *8.1.5.3 All-Weather Operations*.

2. No pilot operating an aircraft in a Category II or Category III approach may continue the approach below the authorized decision height unless the following conditions are met:
    a. The aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and where that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;
    b. At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:
        i. The approach light system, except that the pilot may not descend below 100 ft above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable;
        ii. The threshold or the threshold markings, or the threshold lights;
        iii. The touchdown zone or touchdown zone markings, or the touchdown zone lights.
3. Each pilot operating an aircraft shall immediately execute an appropriate missed approach whenever, prior to touchdown, the requirements of paragraph 2. of this section are not met;
4. Approach and landing is performed by the PIC from the left hand seat.

8.1.5.8.6.2 CAT II Approaches

Revision: 22 - 20 FEB 24

Category II (CAT II) operation is a precision instrument approach and landing with:

1. A decision height lower than 200 ft, but not lower than 100 ft; and
2. A runway visual range not less than 300 m.

CAT II Approaches – All Countries excluding USA and Canada

CAT II approaches and landing should be performed with the autopilot engaged (manual landing is allowed when a system malfunction predicates a manual landing).

NOTE	RVR of below 350 requires autoland.

CAT II Approaches – USA Only

B737 aircraft are not allowed to perform CAT II operations.

Limitations:

1. Crosswind component 15 knots or less;
2. Required operative runway facilities as follows:
    - Runway Lights – CL, TDZ HIRL;
    - Approach lights – ALSF I ALSF II (sequenced flashing lights are not required).
3. Required RVRs and autopilot use according to the table below.

A missed approach shall be initiated when any of the limitations are not met.

CAT II Approaches – USA

<table>
<tr><th>Minimum Charted VIS/RVR Values</th><th>TDZ RVR
Always required and controlling</th><th>Mid RVR</th><th>Rollout RVR</th><th>Autopilot</th></tr>
<tr><td>RVR 16 or greater</td><td>1,600 ft</td><td rowspan="3">600 ft[12]</td><td>300 ft[12]</td><td>Autopilot engaged until DH.
Autoland should be performed when possible.</td></tr>
<tr><td>RVR below 16 down to RVR 12</td><td>1,200 ft</td><td rowspan="2">300 ft[13]</td><td rowspan="2">Autopilot –Autoland</td></tr>
<tr><td>RVR below 12 down to RVR 10</td><td>1,000 ft[14]</td></tr>
</table>

CAT II Approaches – Canada Only

CAT II approaches and landing should be performed with the autopilot engaged (manual landing is allowed when a system malfunction predicates a manual landing).

Minimum RVR CAT II:

- TDZ only –1,200 ft;
- TDZ and MID – TDZ 1,200 ft, MID 600 ft;
- MID only – 1,200 ft.

8.1.5.8.6.3 CAT IIIA Approaches

Revision: 20.2 - 14 DEC 22

All Countries excluding USA and Canada

Category IIIA (CAT III/A) operation is a precision instrument approach and landing with:

1. A decision height lower than 100 ft but not lower than 50 ft; and
2. A runway visual range not less than 200 m.

CAT IIIA operation is automatic to touchdown using automatic landing.

CAT III Approaches - USA only

B737 aircraft are not allowed to perform CAT III operations.

Limitations:

1. Crosswind component 15 knots or less;
2. RVRs are required and controlling as follows:

[12] Not required, but controlling if available.

[13] Required and controlling. However, if the Rollout RVR sensor is not available, it may be replaced by:
– Mid RVR reporting RVR 600 ft or greater; or
– Far End RVR reporting RVR 300 ft or greater.

[14] CAT II operations to TDZ 1,000 ft RVR minimums require the use of the autoland system.

- TDZ RVR — 700 ft;
- MID RVR — 400 ft;
- Rollout RVR — 300 ft.

  However, if one of these RVR systems is temporarily inoperative, the approach may be initiated and continued using the two remaining RVR systems, provided that at least one of them is reporting at least RVR 700 ft;

3. Autopilot shall be engaged until touchdown;
4. Required operative runway facilities as follows:
   - Outer Marker. A Final Approach Fix, a precision or surveillance radar fix, an NDB, VOR, DME Fix, may be used in lieu of an Outer Marker;
   - Runway Lights – CL, TDZ HIRL required;
   - Approach lights – ALSF I ALSF II (sequenced flashing lights are not required).

A missed approach shall be initiated when any of the limitations are not met.

CAT III Approaches - Canada Only

CAT IIIA operation is automatic to touchdown using automatic landing.

TDZ, MID and Rollout RVRs are required and controlling all at or above RVR 700 ft.

8.1.5.8.7 Failed or Downgraded Ground Equipment

(*) Revision: 23.1 - 15 MAR 25

Pre-flight

The Lido application uses the detailed tables that appear in the OM Part C, General Jeppesen Airway Manual, EU-OPS 1 Aerodrome Operating Minimums (AOM) to determine the minimum RVR/CMV versus DH/MDH and available approach light systems.

In-flight - All countries excluding USA

Unless as detailed in the Failed or Downgraded Ground Equipment table below, no person may commence an approach unless each ground component required for that operation is serviceable. It is not expected that the PIC consults the table below after passing 1,000 ft above the airport. If failures of ground aids are announced at such a late stage, the approach could be continued at the PIC's discretion. If failures are announced before such a late stage in the approach, their effect on the approach should be considered as described in the table below, and the approach may have to be abandoned.

The following conditions should be applied to the tables below:

1. Multiple failures of runway lights other than indicated in the table are not acceptable;
2. Deficiencies of approach and runway lights are treated separately;
3. For CAT II and CAT III operations, a combination of deficiencies in runway lights and RVR assessment equipment are not permitted.

The effect on landing minima is shown in the table below:

Failed or Downgraded Equipment	Effect on Landing Minima	
	CAT I	APV / NPA
ILS/MLS standby transmitter	No effect	
Outer Marker	Not allowed except if replaced by height check at 1,000 ft	APV - not applicable NPA with FAF: no effect unless used as FAF If the FAF cannot be identified (e.g., no method available for timing of descent), non-precision operations cannot be conducted
Middle Marker	No effect	No effect unless used as MAPt
RVR Assessment System (excluding Canada)	TDZ RVR is mandatory when the visibility is less than 800 m	No effect
Approach Lights	Minima according to the approach chart	
Standby power for approach lights	No effect	
Edge lights, threshold lights and runway end lights	Day: no effect Night: not allowed	
CL lights	No effect if F/D, HUDLS or autoland; otherwise RVR 750 m	No effect
CL lights spacing increased to 30 m	No effect	
Touchdown zone lights	No effect if F/D, HUDLS or autoland; otherwise RVR 750 m	No effect
Taxiway light system	No effect	

Failed or Downgraded Equipment – Effect on Landing Minima – CAT II/III Operations

Failed or Downgraded Equipment	Effect on Landing Minima			
	CAT III no DH	CAT III DH<50 ft	CAT III DH≥50 ft	CAT II
Navaid stand-by transmitter	Not allowed	RVR 200 m	No effect	
Outer marker (ILS)	No effect if the required height versus glide path can be checked using other means, e.g. DME fix			
Middle marker (ILS)	No effect			
DME	No effect if replaced by RNAV (GNSS) information or the outer marker			
RVR assessment systems	At least one RVR value to be available on the aerodrome	On runways equipped with two or more RVR assessment units, one may be inoperative		
Approach lights	No effect	Not allowed for operations with DH >50 ft		Not allowed
Approach lights except the last 210 m	No effect			Not allowed
Approach lights except the last 420 m	No effect			
Standby power for approach lights	No effect			

Failed or Down-graded Equipment	Effect on Landing Minima			
	CAT III no DH	CAT III DH<50 ft	CAT III DH≥50 ft	CAT II
Standby power for runway lights with 1-second switchover time	No effect No effect	Not allowed	**Day:** RVR 550 m **Night:** RVR 550 m	**Day:** RVR 550 m **Night:** RVR 550 m
Edge lights	No effect	**Day:** no effect **Night:** RVR 550 m	**Day:** no effect **Night:** RVR 550 m	**Day:** no effect **Night:** not allowed
Threshold lights	No effect	No effect	**Day:** no effect **Night:** RVR 550 m	**Day:** no effect **Night:** not allowed
Runway end lights	No effect if centre line lights are serviceable			
Centre line lights	**Day:** RVR 200 m **Night:** not allowed	Not allowed	**Day:** RVR 300 m **Night:** RVR 400 m	**Day:** RVR 350 m **Night:** RVR 550 m (400 m with HUD or auto-land)
Centre line lights spacing increased to 30 m	RVR 150 m		No effect	
TDZ lights	No effect	**Day:** RVR 200 m **Night:** RVR 300 m	**Day:** RVR 300 m **Night:** RVR 550 m, 350 m with HUD or auto-land	
Taxiway light system	No effect			

8.1.6 Determination of Fuel Quantities

Revision: 23 - 29 AUG 24

The PIC may refuse to conduct a flight if, to his opinion, fuel amounts planned/ loaded are not sufficient to safely arrive to the destination.

8.1.6.1 Fuel Policy and Requirements

Revision: 20.2 - 14 DEC 22

Basic Requirements

A FOO shall not dispatch an aircraft, nor shall a person take-off unless the aircraft has a sufficient amount of usable fuel to complete the planned flight safely and to allow for deviations from the planned operation.

A flight shall not commence push back or taxi unless the usable fuel on board meets the requirements in Chapter *8.1.6.2 Standard Procedure* for taxi fuel, trip fuel, contingency fuel, alternate fuel, final reserve fuel and additional fuel if required.

NOTE	Contingency, additional critical, additional RCF and extra (PIC, FOO and Tankering) fuel may be used before take-off.

Fuel Policy

The objective of the EL AL fuel policy is to ensure that:

1. A sufficient quantity of fuel is carried for the intended flight with a safe margin and as required by the regulations;
2. The uneconomical carriage of fuel is minimized.

The Operational flight plan gives the correct amount of fuel required to complete the flight safely in the forecast weather conditions and in normal operating conditions. Flight planned fuel should be loaded unless the PIC can identify good operational reasons to adjust the amount stated in the OFP.

This policy is based on experience gained over the years, and takes into account that in cases of unforeseen circumstances encountered during the course of the flight, the flight crew will be required to perform a non-scheduled landing for the purpose of refueling. These are preferred to the frequent carriage of fuel in excess of the flight plan requirement. Regardless of the aforementioned, it is both the PIC's and the FOO's prerogative to decide on extra fuel where in their judgment it is required, based on current and forecast weather reports, NOTAMs and past experience.

In cases where Extra fuel is carried, all copies of the flight release and the OFP shall show the quantity added and the reason(s) for the addition.

EL AL's Fuel Conservation Team shall track and record the fuel usage for various aircraft and destinations. Based on this, provisions for extended taxi times, early descents, and holdings are added to the Flight Plan as required. When fuel approach allowances are provided, it will not be apparent on the LIDO flight plan; in these cases an entry is added to the company NOTAMs specifying the nature of the fuel allowance.

Operating Conditions

The useable fuel shall be based on the current fuel consumption figures of the specific aircraft derived from the company fuel consumption monitoring system, or if current aircraft-specific data are not available, data provided by the aircraft manufacturer; and on the expected mass of the aircraft, the NOTAMs, the latest weather reports or combination of reports and forecasts, the ATC routings, expected traffic delays, effect of Deferred Maintenance Items and/or MEL/CDL and any other conditions that might cause increased fuel consumption.

8.1.6.2 Standard Procedure

Revision: 20.2 - 14 DEC 22

The useable fuel to be on board at the earlier of push back or taxi, shall include all of the following (excluding Extra tankering and PIC/FOO discretionary fuel):

1. **Taxi Fuel** which shall not be less than the amount of fuel expected to be used prior to take-off including allowances, APU fuel consumption and fuel for local conditions at the departure airport;
2. **Trip Fuel and Trip Delays** which shall be the amount of fuel required to enable the aircraft to fly from take-off, or from the point of in-flight re-planning for RCF flights, until landing at the destination airport taking into account MEL/CDL items which have an effect on fuel consumption, expected delays (which includes contingency fuel for the Trip Delay portion of the Trip Fuel) and approach allowances in accordance with the Operating Conditions of Chapter *8.1.6.1 Fuel Policy and Requirements*;
3. **Contingency Fuel** which shall be the higher of a or b below:

a. An amount of fuel to fly for 5 minutes at holding speed at 1,500 ft above the destination airport in Standard Conditions;

b. The lowest of:

i. 3% of the planned trip fuel provided that an en-route alternate is available as follows: The 3% En-route Alternate (3% ERA) airport shall be located within a circle having a radius equal to 20% of the total flight plan distance, the centre of which lies on the planned route at a distance from the destination of 25% of the total flight plan distance, or at 20% of the total flight plan distance plus 50 NM, whichever is greater (all distances are to be calculated in still air conditions);

ii. 5% of the planned trip fuel, based on the consumption rate used to plan the trip fuel;

iii. 20 minutes flight time based on the consumption rate used to plan the trip fuel derived from the company fuel consumption monitoring system for the specific aircraft, taking into account the Operating Conditions of Chapter ***8.1.6.1 Fuel Policy and Requirements***.

4. **Alternate Fuel** to include fuel for:

a. A missed approach from the applicable MDA/DH at the destination airport to missed approach altitude; and

b. Climb from missed approach altitude to cruising level/altitude, taking into account the expected departure routing; and

c. Cruise from top of climb to top of descent, fly the expected routing to the destination alternate airport; and

d. Descent from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and

e. Executing an approach and landing at the destination alternate airport as filed in the OFP.

NOTE	Where two destination alternates are required then alternate fuel shall be sufficient to cover the case of the alternate requiring the greater amount of fuel.Where no destination alternate is required, the alternate fuel shall be sufficient for holding for 15 minutes at 1,500 ft above destination airport elevation in Standard Conditions.

5. **Final Reserve Fuel** which shall be:

Fuel to hold for 30 minutes at 1,500 ft above airport elevation in Standard Conditions calculated with the estimated landing mass on arrival at the destination alternate or the destination airport, when no destination alternate airport is required;

6. **Additional Critical Fuel** which permits:

Non-EDTO flights - The aircraft to descent as necessary and proceed to an alternate airport at Long Range Cruise Speed in the event of an engine failure or loss of pressurisation, 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

- Hold there for 15 minutes at 1,500 ft in Standard Conditions; and
- Make an approach and landing.

EDTO Flights - see Chapter ***8.5.8 EDTO Critical Fuel***.

NOTE	Additional fuel is only required if the minimum amount of fuel calculated in accordance with paragraphs 2 through 5 above is not sufficient for this event.

7. Additional RCF Fuel; Additional fuel to reach the destination 2 airport according to Chapter *8.1.6.3 Reduced Contingency Fuel (RCF) Procedure*, Section 2;
8. **Extra Fuel**; fuel which is at the discretion of the PIC or FOO, non usable fuel, any fuel required by the FCOM (such as fuel for APU for the EDTO segment for 737 aircraft), and ballast fuel.

NOTE	737 aircraft only - For pre-flight planning, the planned landing fuel, i.e. the fuel at the destination as it appears at the end of the OFP (alternate fuel + contingency fuel + final reserve fuel) should be no less than 2,000 kg. 787 aircraft only - For pre-flight planning, the planned landing fuel, i.e. the fuel at the destination as it appears at the end of the OFP (alternate fuel + contingency fuel + final reserve fuel) should be no less than 4,000 kg.

8.1.6.3 Reduced Contingency Fuel (RCF) Procedure

Revision: 22.1 - 1 JUN 24

Planning a flight using the Reduced Contingency Fuel Procedure requires pre-flight planning to a destination airport using an In-flight Re-planning Point along the route and an optional refuel destination airport (destination 2).

Using the RCF Procedure, the amount of usable fuel on board at the commencement of push back or taxi shall be the greater of 1. or 2. below:

1. The sum of:
    - Taxi fuel; and
    - Trip fuel to the destination airport (including Trip Delays), via the In-flight Re-planning Point; and
    - Contingency fuel from the In-Flight Re-planning Point; and
    - Destination alternate fuel, or fuel sufficient for holding for 15 minutes at 1,500 ft above the destination airport if the In-flight Re-planning Point is at a distance of less than six hours from the destination airport and the requirements of Chapter *8.1.3.1.4 Destination Alternate Airport(s)* for Destination Alternate Not Required are to be fulfilled; and
    - Final reserve fuel; and
    - Additional fuel; and
    - Extra fuel if required.
2. The sum of:
    - Taxi fuel; and
    - Trip fuel to the destination 2 airport (including Trip Delays) via the In-flight Re-planning Point; and
    - Contingency fuel from the departure airport to the destination 2 airport; and
    - Destination alternate fuel or fuel sufficient for holding for 15 minutes at 1,500 ft above destination airport if the requirements of Chapter *8.1.3.1.4 Destination Alternate Airport(s)*for Destination Alternate Not Required are fulfilled; and
    - Final reserve fuel; and
    - Additional fuel; and
    - Extra fuel, if required.

NOTE	If (2) is greater than (1) but still less than the fuel required by the Standard Procedure described in Chapter *8.1.6.2 Standard Procedure*, the difference between (2) and (1) will be added as Additional RCF Fuel.

NOTE	Flights are normally planned without using the RCF procedure. The RCF procedure shall only be used for operational or fuel saving reasons as below. **Operational RCF** If the flight cannot be performed with the regular fuel procedure at the required ZFW, the RCF procedure may be used. In this case, 5 minutes of fuel shall be added and a comment shall be added to the flight release including the maximum ZFW as defined by the PIC. **Fuel saving RCF** In order to use the RCF Procedure for fuel saving, the following conditions shall exist: 1. The fuel indication system is fully operational; 2. The destination airport (or city pair, as applicable) is approved by the Chief Pilot Division and appears in the Lido FOO and Flight Crew NOTAMs; 3. All weather and runway conditions required for dispatch with a destination alternate not required as defined in Chapter *8.1.3.1.4 Destination Alternate Airport(s)* (there is no 6 hour time limit); 4. Destination alternate not required is not approved for pre-flight planning.

In order to proceed to the destination airport, beyond the In-flight Replanning Point, the PIC and the FOO shall ensure that the usable fuel remaining at the In-flight Re-planning Point is at least the total of the fuel required according to Chapter *8.1.6.2 Standard Procedure* for Trip Fuel, Contingency Fuel, Destination Alternate Fuel, Final Reserve Fuel and if applicable Additional Fuel.

Unless notified otherwise by the PIC, the FOO may assume that the fuel at the In-flight Re-planning Point meets the requirements above and that the flight is continuing to the destination airport.

8.1.6.4 Isolated Airports

Revision: 19 - 14 MAR 21

Flights to Isolated Airports are not permitted.

8.1.6.5 Maintenance of Fuel and Oil Carriage and Consumption Records

Revision: 19 - 14 MAR 21

1. Fuel records (planned fuel, uploaded fuel and in-flight fuel tracking) will be retained with the flight paperwork and technical log sheets;
2. Oil carriage and consumption will be recorded in the technical log and retained with the technical log sheet.

8.1.7 Mass and Centre of Gravity

Revision: 19 - 14 MAR 21

The OM Part B (Loading and Weight and Balance Handbook) contains the Mass and Center of Gravity Definitions.

8.1.7.1 Methods, Procedures and Responsibilities for Preparation and Acceptance of Mass and Centre of Gravity Calculations

Revision: 23 - 29 AUG 24

Amadeus is a web based computerized system which includes reservations, check in and airplane load planning modules. The load planning is performed by a qualified load controller at one of two load control centers (Tel Aviv for outgoing flights and Prague for incoming flights). The centers backup each other and are capable of planning both directions. The load planning module receives passenger seating, baggage and cargo data.The load controller uses this data for:

1. Producing ZFW predictions from 24 hours before the flight;
2. Load planning and producing a Load Sheet Document.

Champ is a web based computerized system used for load planning for cargo airplanes. The system receives cargo data from cargo division systems. The load controller uses this data for load planning and producing a load sheet document. The load sheet document is in graphical text format. It shows main and lower deck loading layout and location of ZF, take-off and landing points on a weight-CG envelope.

The document may be manual or computerized and shall contain the following details concerning the loading of the aircraft at take-off time:

1. The weight of the aircraft, fuel and oil, cargo and baggage, passengers and crew members;
2. The maximum allowable weight for that flight that shall not exceed the least of the following weights:
   a. Maximum allowable take-off weight for the runway intended to be used (including corrections for altitude and gradient, and wind and temperature conditions existing[15] at the take-off time);
   b. Maximum take-off weight considering anticipated fuel and oil consumption that allows compliance with applicable en-route performance limitations;
   c. Maximum take-off weight considering anticipated fuel and oil consumption that allows compliance with the maximum authorized design landing weight limitations on arrival at the destination airport;
   d. Maximum take-off weight considering anticipated fuel and oil consumption that allows compliance with landing distance limitations on arrival at the destination and alternate airports.
3. The total weight computed under approved procedures;
4. Evidence that the aircraft is securely loaded according to an approved schedule that insures that the center of gravity is within approved limits of the Weight and Balance Handbook;
5. Names of passengers, which are typically part of the document appear in a separate list provided to the ISM.

The load sheet shall contain the name of person who prepared it. The load sheet is prepared electronically and sent by a load controller with his user name and password, which shall be considered as his signature. The loading supervisor shall confirm by signing the Loading Instructions Report (LIR) that the load and its distribution are as planned. The LIR is not expected to be presented to the flight crew.

15 For practical reasons, it is approved to use the forecast wind and temperature conditions.

A description of the Load Sheet appears in the EFOS/EFF library.

NOTE	If the flight crew or the FOO requires that any weight be limited for performance reasons, the actual limit shall be defined to the Load Sheet Document team (i.e. MTOW, MLW), not the derived ZFW limit. This will ensure that the Load Sheet Document will show the actual limitation for the flight.

NOTE	Cargo aircraft are provided with a graphical and, for reference only, a text format Champ form. The graphical form is the form to be accepted and countersigned by the PIC.

NOTE	Flight crew members are not authorized to prepare manual load sheets.

8.1.7.1.1 Process for Load Sheet Preparation and Acceptance

Revision: 23 - 29 AUG 24

Standard Procedure without EFF

1. Ramp clearance should be done no later than 10 minutes prior to the STD and shall reflect the actual load already at/on the aircraft;
2. The load sheet shall be sent by ACARS after the flight has been finalized. A copy shall be carried on the aircraft until it arrives at the destination. The load sheet shall be used to perform the take-off performance calculations. The PIC shall acknowledge via ACARS or any other available means the edition number of the load sheet received;
3. The aircraft shall not commence pushback or taxi until the Load Sheet has been received and acknowledged by the PIC.

NOTE	In case ACARS is not operational, the following differences apply: 1. Two paper copies of the final load sheet shall be provided to the PIC, and he shall sign both copies. One copy shall be kept on board until the aircraft arrives at its destination, and the other shall be retained by the station; 2. The aircraft doors shall not be closed until the load sheet has been received.

Standard Procedure with EFF

1. Ramp clearance should be done no later than 10 minutes prior to the STD and shall reflect the actual load already at/on the aircraft;
2. The load sheet shall be sent to the EFF application after the flight has been finalized. A copy shall be available in the application and will be sent to the station. The load sheet shall be used to perform the take-off performance calculations;
3. The aircraft shall not commence pushback or taxi until the Load Sheet has been received and acknowledged by the PIC digitally.

Load Sheet Revisions

1. If the station or CLC initiate preparation of a new load sheet, the station is responsible to inform the PIC as soon as possible. In this case an ACARS message stating that the load sheet is not valid shall be sent immediately by CLC and a new load sheet shall be sent as soon as possible;

2. CLC shall verify that they have received acknowledgment of the correct load sheet. If no acknowledgment is received, CLC shall instruct the station to contact the aircraft urgently by any means available;
3. If the PIC initiates a request for a new load sheet, he shall send the required changes and reason for the request to CLC. CLC shall prepare and send a new load sheet via ACARS;
4. Any new load sheet edition shall include a comment describing the nature of the change(s).

Last Minute Changes (LMC)

For changes that are done according to LMC procedures, the PIC makes manual corrections on the paper copy:

- The weight change - LMC total.

He either gives the Station representative the manual corrections on the paper copy, or sends a free text message by ACARS or other available means with the LMC details. This message may be sent after departing the gate. CLC registers the LMC details in the system and sends a dummy load sheet to the destination station. This dummy load sheet shall not be sent to the aircraft.

8.1.7.1.2 Process for Preparation and Acceptance using EFF

Revision: 19 - 14 MAR 21

When using an approved EFF application, the standard load sheet procedure is the same as in Chapter *8.1.7.1.1 Process for Load Sheet Preparation and Acceptance* above with the following differences:

1. The final load sheet shall be made available in the EFF application and does not need to be sent by ACARS;
2. The PIC's acknowledgment shall be done within the EFF application;
3. LMC annotations shall be made and sent within the EFF application.

8.1.7.2 Standard Weight Values

Revision: 19 - 14 MAR 21

The standard weight values as defined in the OM Part B (Loading and Weight and Balance Handbook) shall be used for EL AL operations.

8.1.7.3 Last Minute Changes Procedure

Revision: 22 - 20 FEB 24

Last minute changes to the Load Sheet are only permitted if the changes are within the limits stated below.

The technique for recording the changes appears in Chapter *8.1.7.1.1 Process for Load Sheet Preparation and Acceptance* above.

The load message sent to the destination shall contain the corrected figures of pax, crew, cargo, baggage or mail load.

Last minute upgrading of passengers after receiving the load sheet document involves repositioning of passengers in the cabin.

Such upgrades are not permitted if they may cause a delay in departure.

In this case the PIC shall first approve the new seating according to the last minute change limitations. The PIC shall enter the change in his copy of the load sheet document and shall notify the station of the change.

8.1.7.3.1 LMC Limits – All Aircraft, Except 737

Revision: 22 - 20 FEB 24

1. Carry-On Baggage Transferred to Hold

   There are no limitations on transferring carry-on baggage to the hold if the overhead bins are full.

2. Changes in Gross Weight or CG

   The LMC procedure may be used in the following cases:

   a. Gross Weight changes (increase or decrease) of up to 1,000 kg; or

   b. Up to 1,000 kg of payload removed or moved between positions, or up to 10 passengers or crew embark, disembark, or upgrade. Each passenger or crew must be taken into account as a 100 kg change when considering Gross Weight changes in item (a) above. For this purpose, upgraded passengers are considered as 100 kg;

   c. Up to 2 persons planned to sit on the flight deck (besides the minimum flight crew) may move to the designated crew rest seats.

EXAMPLE	If two passengers were upgraded, only 800 kgs remain for LMC. In all other cases a new load sheet is required.

8.1.7.3.2 LMC Limits – 737

Revision: 23 - 29 AUG 24

1. Carry-On Baggage Transferred to Hold

   - Up to 100 pieces of carry-on baggage may be transferred to the hold. Their weight is included in the ZFW and they do not need to be taken into consideration when making other LMC changes. In such a case:

     i. If 21 or more carry-on bags are being transferred – they should be distributed evenly between compartments 2 and 3. In case an even distribution of carry-on bags is not possible, a new loadsheet shall be produced.

     ii. If up to 20 carry-on bags are being transferred – there are no loading restrictions.

   - For more than 100 pieces of carry-on baggage, a new load sheet is required.

2. Changes in Gross Weight or CG

   The LMC procedure may be used in the following cases:

   - Gross Weight changes (increase or decrease) of up to 300 kg; or

   - Up to 300 kg of payload moved between bays, or up to three passengers/crew embark, disembark, or upgrade. Each passenger or crew must be taken into account as a 100 kg change when considering Gross Weight changes in item (a) above. For this purpose, upgraded passengers are considered as 100 kg;

- Up to 2 persons planned to sit on the flight deck (besides the minimum flight crew) may move to the designated crew rest seats.

EXAMPLE	If two passengers were upgraded, only 100 kg remain for LMC.

In all other cases a new load sheet is required.

8.1.7.3.3 LMC Limits – 737BCF Only (4X-EKZ)

Revision: 23 - 29 AUG 24

LMC is not allowed on the 737-800BCF.

Every change in weight or balance requires a new loadsheet.

8.1.7.4 Seating Policy

Revision: 19 - 14 MAR 21

The load sheet document is prepared assuming a particular passenger seating distribution. A seat allocation system is used in connection with the preparation of the load sheet document, therefore any possible errors in the CG position will be covered by the operational CG envelope - provided the passengers are seated as allocated.

Last minute upgrading of passengers after receiving the load sheet document is allowed. See Chapter ***8.1.7.3 Last Minute Changes Procedure*** for the procedure.

8.1.8 ATS Flight Plans

Revision: 19 - 14 MAR 21

A flight shall not be operated unless an ATS flight plan has been filed to the relevant ATS unit. The standards for submission of the flight plan and changes to the filed flight plan appear in the OM Part C - Jeppesen General ATC, Appendix 2. The individual state requirements are listed at the end of the “Air Traffic Control” section of the Jeppesen Manual.

If operational instructions, addressed by OCC to an aircraft in flight, contain a change to the filed air traffic flight plan, these changes shall, when practicable, be coordinated with the appropriate air traffic service unit before transmission to an aircraft.

If any change to the OFP or flight release as listed in the next section are done before flight activation by ATC, a new or amendment to the ATS Flight plan should be submitted.

8.1.9 Operational Flight Plan (OFP) and Flight Release

8.1.9.1 General

Revision: 23 - 29 AUG 24

An Operational Flight Plan and Flight Release shall be prepared for all flights.

The OFP and Flight Release will be prepared by the responsible dispatch office.

EL AL uses the Lufthansa Integrated Dispatch Operation (LIDO) system for preparing flights.

The system analyzes a variety of parameters, e.g. air traffic, airspaces, airports, and the weather, as well as aircraft performance data. For every flight a route is calculated and optimized.

The system provides the FOO with a host of optimization options regarding flight time, fuel consumption or costs of each flight. This leads to fuel savings and CO_2 emissions reduction.

Key features of the system include:

- Automatic calculation of the optimum trajectory for each flight;
- A Comprehensive aeronautical database as well as up-to-date weather data and NOTAM handling;
- Ops control and MEL interface;
- IFM – in-flight monitoring and alerting;
- Provision of briefing packages.

With EFF

The OFP and Flight Release shall be made available to the PIC via the approved EFF application, and they shall be signed electronically by the PIC and the FOO. Electronic records of the signed OFP and Flight Release shall be retained by OCC.

Without EFF

OFPs and Flight Releases shall always be printed in duplicate and signed by the PIC and by the FOO. When the FOO is not at the station from where the flight is dispatched, the printed name of the FOO may replace his signature.

At outstations, the Station Manager or handling agent shall be responsible to ensure that the Flight Release, together with the OFP and other relevant flight documentation is provided to the PIC at the earliest opportunity after his arrival.

The PIC shall always be handed two hard copies of the OFP and Flight Release. After both copies have been signed by the PIC, the second copy, shall be retained at OCC, or at the outstation (as applicable). The second copy may be a shortened version, omitting the portions after the signature lines.

Amendments to OFP and Flight Release

A new OFP shall be prepared in case any of the parameters below have changed:

- A delay of more than 3 hrs;
- Aircraft (tail number);
- Type of dispatch – (between RCF, Normal or EDTO);
- EDTO diversion time and/or EDTO en-route alternate airport(s);
- Significant change in the flight plan route;
- Change in TOW of more than:
  - 737: +2,000 kg or -4,000 kg;
  - 777/787: +3,000 kg or -6,000 kg.
- Change to High/Low airspeed dispatch;
- Change of Destination;
- In any other case if, in the opinion of the PIC or the FOO, a substantial change in the Flight Data has occurred.

A new Flight Release shall be prepared, or the Flight Release shall be amended, in all of the above cases and:

- For a change in the Destination or in the Take-off Alternate;
- If the flight has been changed to Destination Alternate Not Required as per Chapter ***8.1.3.1.4 Destination Alternate Airport(s)***.

The original flight documents must always be up to date and non-erasable. If paper copies have been updated or changed, the flight crew and the FOO shall endorse the appropriate correction in ink on the original documents. If using EFF, the electronic data shall be reissued and signed electronically.

NOTE	If the delivery of a new Flight Release and/or new OFP may cause a delay or the aircraft doors have been closed or the aircraft is in flight, the PIC may continue without a copy of the new Flight Release and/or OFP providing the relevant information has been received via ACARS, voice communication, e-mail, or any other means available.

NOTE	If any change to the OFP or Flight Release are done before flight activation by ATC, a new or amendment to the ATS Flight plan should be submitted time permitting.

Flight Release

1. The flight release may be in any form but shall contain at least the following information concerning each flight:
   a. Identification number of the aircraft;
   b. Trip number (flight number);
   c. Departure airport, intermediate stops, destination airports, and alternate airports (as applicable);
   d. A statement of the type of operation (always IFR);
   e. Minimum fuel supply;
   f. For each flight dispatched as an EDTO flight, the EDTO diversion time for which the flight is dispatched;
   g. Name of the PIC.
2. The flight release shall contain, or have attached to it, meteorological information for the destination airport, intermediate stops, and alternate airports (as applicable), that is the latest available at the time the flight release is signed first by the PIC or the FOO.

8.1.9.2 Common Features

Revision: 19 - 14 MAR 21

1. The **route selection** shall consider:
   - EL AL standard routes;
   - ATS-standard routes - if published;
   - Air traffic flow management regulations;
   - NOTAMs;
   - Meteorological conditions;

- Traffic rights;
- If relevant, minimum time track optimisation;
- Economical aspects.

2. Minimum en-route altitudes (for driftdown performance);
3. The **speed schedule**;
4. The **altitude/flight level selection** considering:
   - The minimum en-route altitude;
   - ATC-regulations;
   - Economical aspects;
   - Meteorological conditions (wind and temperature);
   - Performance aspects.
5. The **selection of alternate(s)** considering:
   - WX conditions;
   - Suitability of alternate(s);
   - Distance;
   - Economic aspects.

8.1.9.3 OFP-Format and Contents

Revision: 19 - 14 MAR 21

A sample of the paper OFP is presented on the following pages. Whether paper or electronic, the form shall contain at least the following:

1. Name of the Company;
2. Aircraft registration;
3. Aircraft type and variant;
4. Date of flight;
5. Flight identification;
6. Place of departure;
7. Place of arrival (planned and actual);*
8. Time of departure (planned and actual off-block time, actual take-off time);*
9. Time of arrival (actual landing and on-block time);*
10. Hours of flight (block time and flight time);*
11. Type of operation (EDTO, IFR, ferry flight, etc);
12. Route and route segments with checkpoints/waypoints, distances, time and tracks;
13. Assigned oceanic track and associated information, as applicable (may be attached to the OFP);
14. Planned cruising speed and flying times between checkpoints/waypoints. Estimated and actual times overhead (based on available wind data);

15. Planned altitudes and flight levels;
16. Fuel calculations (records of in flight fuel checks);
17. Fuel on board when starting engines;
18. Alternate(s) for take-off, en-route and destination as applicable including information required in 13., 14. and 15. above;
19. Initial ATS Flight Plan as approved by the relevant ATS unit, the ATS clearance and subsequent re-clearance/s if applicable;
20. In-flight replanning calculations;
21. Relevant meteorological information (may be attached to the OFP).

NOTE	Items marked by a * above are included in the ATL and in the Journey Log.

NOTE	To allow a flight planning calculation to be as accurate as possible, the take-off mass shall be calculated using the expected zero fuel mass.

NOTE	All weights in the flight plan are in Kilograms.

NOTE	Scheduled departure and arrival times reflect the times published in the reservations system.

LIDO Standard Flight Release - Sample

Revision: 19 - 14 MAR 21

```
                              FLIGHT RELEASE

1                                                    RELEASE TIME 05.30
2     ACFT REG  4XEKD             Block 1            DATE 30/12/14
3     ACFT TYPE 737-758.. CFM56-7B24                 CTOT:....     Block 2
                                                T/O
4                           ORG  DST   ALTN  ALTN  ALTN  TAKEOFF FUEL
5     IFR FLIGHT ELY347/30  LLBG-LSZH  ....  EDDS  ....     11132

                                                   ASC Block
5a    ADVISORY INFO
      ASC APRT           APPRCH              MINIMA    WX        W/C    XWC
           LSZH/ZRH/14   CAT3A                0/ 200   600/1000   0.8   5.0
           EDDS/STR/25   CAT1+DME             0/ 550   800/2500  -4.9   1.2
           LKPR/PRG/24   CAT1+DME             0/ 600  2000/9999  -3.0   2.5

6          ROUTE LLBG PURLA2E PURLA H1B SUVAS UL53 KAROL UL995 RDS UN128
                 PEREN UN133 EVIVI L863 OKANA UL863 RAVAK UY505 BEO
                 UN739 BABIT UT23 GRZ UM19 ERKIR UL608 KPT L856 NEGRA
                 LSZH
7     FLIGHT NBR ELY347        DATE 30/12/14         SCHEDULE        PLAN
                                                 LLBG STD 05.30   ETD 05.30
                                                                  TXO 00.20
8     SELCAL KQHS                                                 ETE 04.09
9     ROUTE TLVZRH300                                             ETA 09.59
                                                                  TXI 00.10
10    SPEED  CLB 280/M78                                     LSZH STA 10.05
11    SCHD   CRZ CI14                                             PTA 10.09
12    DSC M78/280                                  Block 3       DIFF  +0.04
      --------------------------------------------------------------------
13    NO TANKERING RECOMMENDED
      FUEL PRICE DIFFERENCE IS M  88 US$
      --------------------------------------------------------------------
      FUEL FROM LLBG TO LSZH
14                  FUEL   TIME  DIST NAM      PLANNED        STRUCTURAL
15    TRIP FUEL      8935  04.09 1625 1732    ETWT  58273    MTWT   79242
16    TRIP DELAYS   .....  .....              ETOW  58073    MTOW   79015
17    ALTN/EDDS      1014  00.26 0107 0125    ELDW  49138    MLDW   66360
18    CONT 3% ERA     268  LKPR               EZFW  46941    MZFW   62731
19    FINAL RESERVE   915  00.30              EPLD   6195
20    ADD CRITICAL  .....  .....
21    ADD RCF       .....  .....                              Block 4
22    EXTRA         .....  .....              ALTERNATE DATA  LSZH - EDDS
                                              EDDS N4841.4  E00913.3
23    TAKEOFF FUEL  11132                     FL 220  CRZ LRC  WIND M042
                                              LSZH.ZUE.T125.ROMIR.UN851.
24    TAXI            200  00.20              VEDOK.N851.TEDGO..EDDS
25    TOTAL FUEL    11332

26    EXTRA PIC/LMC .....  DUE - ..... ..... ..... .....
27    FINAL FUEL    .....
      --------------------------------------------------------------------
27a   ZFW CORR PS 1000 KG PS 131 KG / ZFW CORR MS 1000 KG MS 124 KG
      --------------------------------------------------------------------
28    MEL/CDL NOT CONSIDERED IN FLIGHT PLAN CALCULATION
      --------------------------------------------------------------------
29    TERRAIN CLEARANCE CHECK COMPLETED WITH NO LIMITATIONS
      ====================================================================
30    REMARKS - NIL

31    DISPATCHER YAMIT HAHN                   PIC BERGMAN,MARK
```

```
    DISPATCH 972 3 9716402

32  SIGNATURE .................          SIGNATURE .................

    -------------------------------------------------------------------
33  *I CONSIDER MY PHYSICAL CONDITION SATISFACTORY FOR THIS FLIGHT
    ...........................................................
    CAPTAIN 1 SIGNATURE / PRINTED NAME
    ...........................................................
    CAPTAIN 2 SIGNATURE / PRINTED NAME
    ...........................................................
    FIRST OFFICER 1 SIGNATURE / PRINTED NAME
    ...........................................................
    FIRST OFFICER 2 SIGNATURE / PRINTED NAME
```

Line	Content
1-3	Block 1: Aircraft Registration and Type Block 2: Release time = ETD, actual date of flight and CTOT info (if available)
4-5	Flight Rule (Always IFR), Flight Number, Actual Departure Date, Origin Airport, Destination Airport, Destination Alternate Airport, Takeoff Alternate (if needed) & Takeoff Fuel. When two destination alternates are required, the right ALTN shall be the alternate requiring the greater amount of fuel.
5a	ASC Block: (Airport Suitability Check data) Airports used in the OFP and the following data for each airport (Departure, Destination, Take off Alternate, 1st Destination Alternate, 2nd Destination Alternate, ERA Alternate Airport and EDTO Airports): - Airport ICAO and IATA code - Runway selected for planning - Approach which was considered for Minima calculation - MINIMA (ceiling and visibility) calculated based on EU-OPS or USA/CANADA (as applicable) - Forecast ceiling and visibility (at ETA +/- 1 hr) - Wind component (at ETA +/- 1 hr) – positive value indicates headwind; negative value indicates tailwind. - Cross wind component (at ETA +/- 1 hr) When the automatic Airport Suitability Check fails and the Airport is used in the OFP, the system will display "CHECK WEATHER" to notify that weather and NOTAM shall be checked manually.
6	Route description
7	Flight number and **scheduled** departure date. This is the flight number and date that should always be used when requesting a flight plan via ACARS. Normally, the flight number and/or date will only change in the event of a delay in excess of 24 hours.
8	Left side: Aircraft SELCAL
9	Left side: Route (company route – 100,200,300 etc. **or** Minimum Overflying Cost Track (MCT), Minimum Fuel Track (MFT), Minimum Time Track (MTT), Minimum Distance Track (MDT), DEFRTE (Route deferred manually by the dispatcher))
10-12	Left side: speed schedule for CLB, CRZ and DSC.
7-10	Block 3: Left side : : scheduled times. Right side: the planned times (per delays published and actual flying time) STD = Schedule Time of Departure TXO = Taxi Out ETE = Estimated Time of Elapse TXI = Taxi In STA = Schedule Time of Arrival ETD = Estimated Time of Departure ETA = Estimated Time of Arrival (touch down) SCHEDULE PLAN LLBG STD 05.30 ETD 05.30 TXO 00.20 ETE 04.09 ETA 09.59 TXI 00.10 LSZH STA 10.05 PTA 10.09 DIFF +0.04

	PTA = Parking Time Arrival. DIFF = Difference between STA and PTA
13	Tankering (FPD) information: - When the FPD is Negative, the display in the OFP will describe the Loss for each 1000 kgs additional fuel carried: `" NO TANKERING RECOMMENDED` `LOSS FOR EXTRA FUEL    82 US$/1000 KGS"` -When the FPD is "0" – no display in the OFP. - When the FPD is Positive and no Tankering Fuel is added, the display in the OFP will describe the Gain for each 1000 kgs additional fuel carried: `" GAIN FOR EXTRA FUEL    82 US$/1000 KGS"` - When the FPD is positive and addition Tankering Fuel is added, the info for the next Flight Leg will also be displayed: `"FUEL PRICE DIFFERENCE IS P 175 US$` `TANKERING SECTOR GAIN (P) 1012 US$ (-> 4029)` `BASED UPON MALW MINUS MARGINAL PERCENTAGE` `LY652 UKBB/KBP 18L - LLBG/TLV 08 ALTN LCLK/LCA 04` `ZFW: 57862 PLN TAKEOFF FUEL:10462"`
14	Fuel block header
15	Trip Fuel
16	TRIP DELAYS – contains fuel added due to expected delays at destination. Fuel amount contains expected delays and additional Contingency fuel due to the extra trip fuel.
17	Alternate name and required fuel. When two destination alternates are required, the alternate shall be the alternate requiring the greater amount of fuel
18	Contingency fuel with a label for type of contingency: "3% ERA", "5%", "MIN CONT", "MAX CONT")
19	Final reserve (30 min at 1,500 ft)
20	Additional fuel for critical fuel (60 min route or EDTO), when required.
21	Additional fuel, when required due to use of RCF Procedure
22	Extra Fuel added by the dispatcher due to Tankering, weather, MEL etc. The reason for the additional fuel shall be written in the Dispatcher's Remarks section of the Release.
23	Takeoff fuel
24	Taxi fuel
25	Total fuel
26	Last minute change or Extra Fuel added by PIC
27a	Trip fuel correction required due to ZFW change by 1 ton (higher or lower)
15-20	Block 4: Left side – planned weights. Right side – structure limit weights, alternate data (alternate name, coordinate, FL , CRZ speed, W/C and route)
28	MEL data if applicable
29	Terrain Clearance – all ELAL flight plans will be checked for terrain clearance as per Chapter 8.1.1.9. In case of Weight limitation due to high terrain, the MPTOW will be displayed here. See chapter 8.1.1
30	Dispatcher remarks
31	Dispatcher's and PIC's name
32	Dispatcher's and PIC's name signatures
33	FIT TO FLY declaration and signatures

LIDO Operational Flight Plan - Sample

Revision: 19 - 14 MAR 21

```
1    OFP 2/0/1                OPERATIONAL FLIGHT PLAN

2    FLIGHT NBR ELY347         DATE 30/12/14        ACFT REG 4XEKD
                                                    ACFT TYPE 737-758.. C
                                                    SELCAL KQHS     Block 1

3    ORIG T/Z    +02.00                            SCHEDULE         PLAN
     DEST T/Z    +01.00                        LLBG STD 05.30   ETD 05.30
                                                                TXO 00.20
4    FMS                                                        ETE 04.09
5    ROUTE   TLVZRH300                                          ETA 09.59
6    TTL DIST      1625                          Block 2        TXI 00.10
7    SPEED         ECON                        LSZH STA 10.05   PTA 10.09
8    AVGE FF       2153                                        DIFF +0.04
9    AVGE WC       M017
10   AVGE WIND 258/055
11   TOC TEMP     -47.5
12   PERF DEG      +0.9

13   SPEED  CLB 280/M78
14   SCHD   CRZ CI14
15          DSC M78/280
     --------------------------------------------------------------------
16   NO TANKERING RECOMMENDED
     FUEL PRICE DIFFERENCE IS M  88 US$
     --------------------------------------------------------------------
17   OVERFLYING FIRS:
     LLLL LCCC LGGG LTBB LGGG LBSR LYBA LHCC LJLA LOVV EDUU EDMM LSAS
     --------------------------------------------------------------------
     ====================================================================
18   FUEL FROM LLBG TO LSZH
19                  FUEL   TIME  DIST NAM        PLANNED       STRUCTURAL
20   TRIP FUEL      8935  04.09 1625 1732     ETWT  58273    MTWT   79242
21   TRIP DELAYS   .....  .....               ETOW  58073    MTOW   79015
22   ALTN/EDDS      1014  00.26 0107 0125     ELDW  49138    MLDW   66360
23   CONT 3% ERA     268  LKPR                EZFW  46941    MZFW   62731
24   FINAL RESERVE   915  00.30               EPLD   6195
25   ADD CRITICAL  .....  .....
26   ADD RCF       .....  .....
     EXTRA         .....  .....               ALTERNATE DATA  LSZH - EDDS
27                                            EDDS N4841.4  E00913.3
     TAKEOFF FUEL  11132                      FL 220  CRZ LRC  WIND M042
28                                            LSZH.ZUE.T125.ROMIR.UN851.
29   TAXI            200  00.20               VEDOK.N851.TEDGO..EDDS
     TOTAL FUEL    11332
30
     EXTRA PIC/LMC .....  DUE - ..... ..... ..... .....
     FINAL FUEL    .....
30A  --------------------------------------------------------------------
     TERRAIN CLEARANCE CHECK COMPLETED WITH NO LIMITATIONS
31   ____________________________________________________________________
     DISPATCHER YAMIT HAHN                    PIC BERGMAN,MARK
     DISPATCH 972 3 9716402

     SIGNATURE ..................             SIGNATURE ..................
     ____________________________________________________________________
```

```
32
      PLANNED RUNWAYS
      TLV/26 ZRH/14 STR/25
33
      ALTITUDE PROFILE
34    LLBG/360
      LLBG.PURLA2E.PURLA.H1B.SUVAS.UL53.KAROL.UL995.RDS.UN128.PEREN.
      UN133.EVIVI.L863.OKANA.UL863.RAVAK.UY505.BEO.UN739.BABIT.UT23.GRZ.
      UM19.ERKIR.UL608.KPT.L856.NEGRA.LSZH
35
      CLEARANCE: .....................................................
      ................................................................
      ................................................................
      ................................................................
      ================================================================
36    --------- --------- --------- --------- --------- --------- --------
37    TIME  AWY          MTK  DIST                         TAS G/S  MACH REFU
38    TTL   POSITION    MORA   TTL  LVL  TP  T    W/V                    PLN
      PTO   ETO  ATO                                                     ACT
39    --------- --------- --------- --------- --------- --------- --------
40    ....  LLBG/26                      56 P05 257/028                 ....
41    00.08 PURLA2E              34  CLB
42    00.08 PURLA        A28  0034       54 -29 256/088                 010.3
      ....  .... ....                                                   ....
      00.02 H1B                  14
      00.10 SUVAS        A13  0048       53 -48 254/130                 010.1
      ....  .... ....                                                   ....
43    00.06 UL53                 32                              280
      00.16 T O C             0080  360  52 -49 255/141              780 009.7
      ....  .... ....                                                   ....
      00.09 UL53         310     55                      453 340  776
      00.25 KAROL        A13  0135       49 -50 251/142                 009.4
      ....  .... ....                                                   ....
      00.18 UL995        310    110                      447 363  768
      00.43 KOSEG        A13  0245       36 -51 249/138                 008.7
      ....  .... ....                                                   ....
      00.11 UL995        309     63                      445 369  766
      00.54 AGAPI        A13  0308       37 -52 248/136                 008.4
      ....  .... ....                                                   ....
      00.01 UL995        309      9                      443 369  765
      00.55 AMONO        A10  0317       36 -53 247/131                 008.3
      ....  .... ....                                                   ....
      00.16 UL995        309     98                      441 373  764
      01.11 IRBAX        A10  0415       35 -54 246/128                 007.8
      ....  .... ....                                                   ....
      00.03 UL995        331     22                      439 373  763
      01.14 RDS          A37  0437       35 -55 246/128                 007.6
      ....  .... ....                                                   ....
      00.02 UN128        333     10                      432 412  750
      01.16 BANRO        A37  0447       35 -55 246/128                 007.6
      ....  .... ....                                                   ....
      00.02 UN128        333     14                      432 414
      01.18 YUNUS        A35  0461       35 -55 246/129                 007.5
      ....  .... ....                                                   ....
      00.04 UN128        332     30                      432 414
      01.22 MILAS        A39  0491       35 -56 246/129                 007.4
      ....  .... ....                                                   ....
      00.03 UN128        331     22                      430 410
      01.25 AKBUK        A54  0513       35 -56 246/129                 007.3
      ....  .... ....                                                   ....
      00.02 UN128        332      8                      430 410
      01.27 OKESA        A54  0521       35 -56 245/126                 007.2
      ....  .... ....                                                   ....
```

```
--------- --------- --------- --------- --------- --------- --------
TIME  AWY           MTK  DIST                         TAS G/S  MACH REFU
TTL   POSITION     MORA   TTL  LVL  TP  T     W/V                   PLN
PTO   ETO  ATO                                                      ACT
--------- --------- --------- --------- --------- --------- --------
00.06 UN128         315    45                         430 416  749
01.33 IMR           A54  0566        36 -55 243/120             007.0
....  .... ....                                                 ....
00.06 UN128         316    42                         435 391  756
01.39 RIKSO         A52  0608        35 -54 242/114             006.8
....  .... ....                                                 ....
00.06 UN128         315    35                         435 397  754
01.45 ERESO         A42  0643        32 -54 242/105             006.6
....  .... ....                                                 ....
00.07 UN128         301    50                         435 400
01.52 LMO           A37  0693        31 -53 240/090             006.4
....  .... ....                                                 ....
00.11 UN128         330    71                         437 393  757
02.03 PEREN         A56  0764        31 -52 238/074             006.0
....  .... ....                                                 ....
00.08 UN133         330    54                         432 433  745
02.11 EVIVI         A93  0818        30 -52 237/067             005.8
....  .... ....                                                 ....
00.08 L863          329    59                         432 433  744
02.19 EDIKA        A115  0877        28 -52 237/065             005.5
....  .... ....                                                 ....
00.03 L863          329    21                         432 433
02.22 BAVGA         A77  0898        27 -51 238/062             005.4
....  .... ....                                                 ....
00.02 L863          319    17                         432 433
02.24 OKANA         A77  0915        27 -51 243/051             005.3
....  .... ....                                                 ....
00.09 UL863         317    63                         433 422  748
02.33 RAVAK         A79  0978        27 -50 258/032             005.0
....  .... ....                                                 ....
00.13 UY505         315    87                         435 420  749
02.46 BEO           A45  1065        27 -50 289/019             004.6
....  .... ....                                                 ....
00.05 UN739         315    36                         435 418  748
02.51 NIVIS         A39  1101        27 -51 324/016             004.4
....  .... ....                                                 ....
00.03 UN739         315    22                         435 418
02.54 LULIK         A39  1123        26 -51 358/019             004.3
....  .... ....                                                 ....
00.04 UN739         290    32                         433 418  747
02.58 BABIT         A18  1155        26 -52 033/039             004.2
....  .... ....                                                 ....
00.16 UT23          289   114                         430 433  741
03.14 DIMLO         A33  1269        32 -53 038/059             003.7
....  .... ....                                                 ....
00.03 UT23          289    19                         426 437  737
03.17 NIDLO         A33  1288        33 -54 038/066             003.6
....  .... ....                                                 ....
00.03 UT23          282    24                         424 437  736
03.20 GRZ           A39  1312        33 -56 038/079             003.5
....  .... ....                                                 ....
00.12 UM19          281    89                         420 447  732
03.32 OBEDI        A116  1401        34 -58 037/091             003.1
....  .... ....                                                 ....
00.06 UM19          280    45                         418 445  730
03.38 ARTUS        A117  1446        34 -59 036/096             002.9
....  .... ....                                                 ....
00.01 UM19          279    11                         416 443  729
```

```
      03.39 ERKIR       A100  1457       34 -60 035/097             002.9
      --------- --------- --------- --------- --------- --------- --------
      TIME  AWY          MTK  DIST                      TAS G/S  MACH REFU
      TTL   POSITION    MORA   TTL  LVL  TP  T    W/V                  PLN
      PTO   ETO  ATO                                                   ACT
      --------- --------- --------- --------- --------- --------- --------
      ....  .... ....                                                 ....
      00.04 UL608        278    25                      414 443  728
      03.43 KOGOL       A110  1482       34 -61 034/097             002.8
      ....  .... ....                                                 ....
44    00.03 UL608               26                      414 443
      03.46 T O D             1508       35 M09 031/107             002.7
      ....  .... ....                                                 ....
      00.03 UL608               17  DSC                          780
      03.49 KPT          A95  1525              031/092          280 002.7
      ....  .... ....                                                 ....
      00.03 L856                27
      03.52 RAVED        A78  1552              029/079             002.6
      ....  .... ....                                                 ....
      00.01 L856                 5
      03.53 ETOXU        A43  1557              028/076             002.6
      ....  .... ....                                                 ....
      00.01 L856                 5
      03.54 NEGRA        A43  1562              007/028             002.6
      ....  .... ....                                                 ....
45    00.15 NEGRA1A             63
      04.09 LSZH/14      A49  1625                                  002.2

      --------- --------- --------- --------- --------- --------- --------
46
47          ALTN       DIST  LVL   WC TIME    FUEL VIA
48          EDDS/25     107  220 M042 00.26   1014 ZUE T125 ROMIR UN851
49                                                 VEDOK N851 TEDGO DCT
50     INFO/LFSB/15     118  060 P002 00.29   1049 ZUE Z601 TRA T718 RIGVI
51                                 P00.03      P36 DCT
52     INFO/LSGG/05     178  190 P045 00.32   1225 VEBIT T50 ROTOS UZ669
53                                 P00.06     P207 ULMES
54     INFO/LIMC/35L    174  150 P034 00.34   1250 ALBIX M858 SRN
                                   P00.08     P239
54a   --------- --------- --------- --------- --------- --------- --------
      ADVISORY INFO ASC
          APRT          APPRCH              MINIMA     WX         WC  XWC
          LFSB/BSL/15   CAT1DME              0/ 600  2500/8000   3.0   3.0
          EDDS/STR/25   CAT1+DME             0/ 550   800/2500  -4.9   1.2
          LSGG/GVA/05   LOC                440/1600  9999/9999  -6.7   1.9
          LIMC/MXP/35L  CAT1DME              0/ 550  9999/9999   5.0   5.0
      --------- --------- --------- --------- --------- --------- --------


55    --------- --------- --------- --------- --------- --------- --------
      CLEARANCES                                         RVSM ALT CHK



56    --------- --------- --------- --------- --------- --------- --------
      CLIMB             T.O.C             KAROL             KOSEG
      100 258/011 P01   N3225.6           N3252.0           N3408.6
      150 262/031 -08   E03326.0          E03229.0          E03054.4
      200 255/062 -17   400 254/130 -52   400 251/133 -52   400 249/139 -52
      310 254/130 -41   380 256/135 -51   380 253/137 -51   380 250/142 -52
      350 256/142 -47   340 256/140 -46   340 253/140 -47   340 249/130 -48

      AGAPI             AMONO             IRBAX             RDS
```

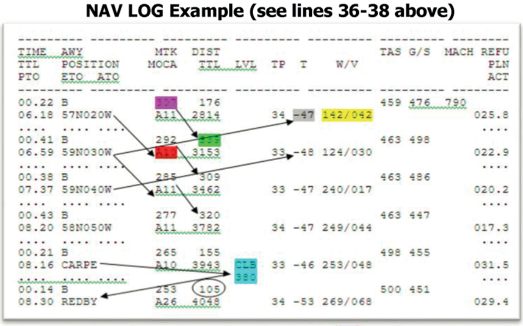
```
   N3452.2          N3458.3          N3605.2          N3620.4
   E03000.0         E02952.2         E02825.2         E02804.9
   400 247/140 -52  400 247/140 -53  400 246/137 -54  400 246/134 -54
   380 248/141 -53  380 248/140 -53  380 246/134 -54  380 246/132 -54
   340 249/124 -49  340 249/122 -50  340 247/118 -53  340 246/120 -53

   BANRO            YUNUS            MILAS            AKBUK
   N3629.7          N3642.6          N3710.1          N3730.0
   E02759.7         E02753.0         E02738.5         E02727.6
   400 246/132 -54  400 246/131 -54  400 246/127 -54  400 246/125 -55
   380 246/131 -54  380 247/130 -54  380 247/129 -55  380 247/128 -56
   340 246/121 -53  340 246/123 -53  340 244/127 -54  340 243/129 -54

   OKESA            IMR              RIKSO            ERESO
   N3737.8          N3819.0          N3850.0          N3917.5
   E02723.2         E02700.4         E02626.0         E02556.6
   400 246/123 -55  400 244/110 -55  400 243/098 -54  400 242/092 -53
   380 246/126 -56  380 244/116 -56  380 243/107 -55  380 242/101 -54
   340 243/129 -54  340 242/130 -53  340 241/130 -53  340 241/122 -53

   LMO              PEREN            EVIVI            EDIKA
   N3955.2          N4035.8          N4124.2          N4216.6
   E02514.2         E02358.1         E02327.3         E02252.7
   400 241/086 -53  400 242/077 -52  400 242/069 -52  400 244/064 -52
   380 240/092 -53  380 239/079 -52  380 239/070 -52  380 240/066 -52
   340 240/105 -53  340 237/084 -52  340 235/072 -52  340 235/066 -51

   BAVGA            OKANA            RAVAK            BEO
   N4235.6          N4250.8          N4341.2          N4448.4
   E02239.9         E02229.6         E02137.6         E02020.1
   400 244/061 -52  400 245/057 -52  400 249/040 -52  400 274/023 -52
   380 240/063 -52  380 242/059 -52  380 250/041 -51  380 276/022 -51
   340 235/063 -51  340 237/059 -51  340 247/043 -50  340 277/020 -50

   NIVIS            LULIK            BABIT            DIMLO
   N4515.2          N4531.6          N4555.9          N4641.0
   E01947.2         E01926.7         E01855.7         E01625.4
   400 300/019 -52  400 316/019 -53  400 336/022 -53  400 015/032 -54
   380 306/018 -51  380 326/018 -52  380 353/021 -52  380 032/041 -53
   340 318/015 -50  340 352/017 -50  340 020/028 -51  340 034/079 -53

   NIDLO            GRZ              OBEDI            ARTUS
   N4648.3          N4657.3          N4719.7          N4729.9
   E01559.7         E01527.0         E01319.8         E01216.2
   400 018/034 -54  400 020/037 -55  400 027/044 -56  400 031/053 -57
   380 033/045 -53  380 034/050 -54  380 036/062 -56  380 037/072 -57
   340 034/087 -54  340 034/096 -56  340 034/114 -59  340 033/114 -60

   ERKIR            KOGOL            T.O.D            DESCENT
   N4732.3          N4737.3          N4742.0          390 034/072 -58
   E01200.5         E01124.0         E01045.2         350 033/102 -62
   400 031/055 -57  400 031/060 -57  400 031/063 -58  310 031/103 -55
   380 036/074 -57  380 035/078 -58  380 034/080 -59  200 028/082 -31
   340 033/113 -60  340 032/111 -61  340 032/107 -61  100 358/034 -17
58 -----------------------------------------------------------------
   MEL/CDL NOT CONSIDERED IN FLIGHT PLAN CALCULATION
59 -----------------------------------------------------------------
   FF LLBGYDYX LLBGZPZX
          LLBGELYW
   (FPL-ELY347-IS
   -B738/M-SDE2E3FGHILORVWXY/SB1
   -LLBG0530
   -N0452F360 PURLA2E PURLA H1B SUVAS/N0452F360 UL53 KAROL UL995
    RDS/N0432F360 UN128 RIKSO/N0435F360 UN128 PEREN/N0431F360 UN133
```

```
 EVIVI L863 OKANA UL863 RAVAK UY505 BEO UN739 BABIT UT23 GRZ UM19
 ERKIR UL608 KPT L856 NEGRA
-LSZH0409 EDDS
-PBN/B1D1 DOF/141230 REG/4XEKD EET/LCCC0010 LGGG0054 LTBB0117
 LGGG0139 LBSR0211 LYBA0224 LHCC0259 LJLA0314 LOVV0317 EDUU0341
 EDMM0350 LSAS0356 SEL/KQHS OPR/ELY RVR/200 RMK/ACAS II EQUIPPED
 TCAS)
```

<table>
<tr><th>Line</th><th>Content</th></tr>
<tr><td>1</td><td>OFP number –
First character is the OFP calculation number. (Each OFP calculation gets a number 1, 2, 3, etc..)
Second character – when different than '0' indicates An Optional Refuel Destination OFP
Third character – indicates that the dispatcher has checked enroute coverage (60 min circles Adequate check and Suitability check for EDTO Alternate Airports), will always be 1 or will not be displayed at all</td></tr>
<tr><td>2</td><td>Flight number and date
Block 1: Aircraft Registration, Aircraft Type and SELCAL</td></tr>
<tr><td>3</td><td>Origin (Departure airport) and Destination time zone. Will display UTC variation.</td></tr>
<tr><td>4-12</td><td>FMC data:
Route = Route name (will be company route – 100,200,300 etc. or optimized route – Minimum Overflying Cost Track (MCT), Minimum Fuel Track (MFT), Minimum Time Track (MTT), Minimum Distance Track (MDT), DEFRTE (Route deferred manually by the dispatcher))
TTL DIST – total distance
SPEED – will display CRZ speed
AVGE FF – Average Fuel Flow
AVGE WC – Average Wind Component
AVGE WIND – Average Wind
TOC TEMO – Top Of Climb Temperature
PERF DEG – performance degradation, (fuel consumption deviation).
<pre>
FMS
ROUTE   TLVZRH300
TTL DIST   1624
SPEED   ECON
AVGE FF   2212
AVGE WC   M031
AVGE WIND 252/058
TOC TEMP   -50.5
PERF DEG   -1.2
</pre></td></tr>
<tr><td>3-7</td><td>Block 2: Schedule and planned times as in the flight release lines 7-12</td></tr>
<tr><td>13-15</td><td>Speed schedule for CLB, CRZ and DSC.</td></tr>
<tr><td>16</td><td>Tankering information (see explanations in the Flight Release format)</td></tr>
<tr><td>17</td><td>Overflying FIR's</td></tr>
<tr><td>18-30</td><td>Fuel data, weight information and alternate data in the same format as in the flight release lines 14-27 and Block 4.</td></tr>
<tr><td>30A</td><td>Terrain Clearance – all ELAL flight plans will be checked for terrain clearance for inoperative engines (see section 8.1.1 Inoperative Engines – Performance requirements).
In case of Weight limitation due to high terrain, the MPTOW will be displayed here.</td></tr>
<tr><td>31</td><td>Dispatcher remarks, Dispatcher's name, PIC's name and signatures.</td></tr>
<tr><td>32</td><td>Planned runways: Lido system predicts runway in use per AIP information, ELAL company Preferential Runways and forecast winds</td></tr>
<tr><td>33</td><td>Altitude Profile – displays planned Flight Levels</td></tr>
<tr><td>34</td><td>Route description</td></tr>
<tr><td>35</td><td>Blank space for crew to write down the ATC clearance</td></tr>
<tr><td>36-38</td><td>The header of the NAV LOG (see illustration on next page)
<pre>
--------- --------- --------- --------- --------- --------- --------
TIME AWY   MTK DIST   TAS G/S MACH REFU
TTL   POSITION   MORA   TTL LVL TP T   W/V   PLN
PTO   ETO ATO   ACT
--------- --------- --------- --------- --------- --------- --------
</pre>
<table>
<tr><th>Column</th><th>Content</th></tr>
<tr><td>1</td><td>Time – first line: time for segment since last waypoint, second line: the total accumulated time till waypoint, third line: blank space for crew to write the PTO (Planned Time Over).</td></tr>
<tr><td>2</td><td>First line: airway, Second line: Waypoint, third line: blank space for crew to write the ETO (Estimate Time Over) and ATO (Actual Time Over).</td></tr>
<tr><td>3</td><td>First line: MTK – Magnetic Track from the current waypoint to the next, second line: MORA –will be displayed with the letter 'A' to indicate Altitude. i.e. A34.
* The MORA is displayed at the end of a given segment, i.e. refer to the next waypoint to determine MORA between current waypoint and next.
* The MORA in the OFP displays the height of 1000 ft above terrain up to 5000 ft and 2000 ft above terrain higher than 5000 ft in the range of 10 NM from each side of the route.</td></tr>
<tr><td>4</td><td>First line: distance for segment since last waypoint, second line: total distance (accumulated distance).</td></tr>
</table></td></tr>
</table>

	5	Flight Levels: CLB, flight level change and DSC.
	6	Tropopause level
	7	Temperature upon reaching next waypoint
	8	Average wind velocity between current waypoint and next
	9	TAS – true air speed
	10	Ground Speed
	11	Mach number
	12	Remaining Fuel – first line: Planned remaining fuel, second line: blank place for crew to write the actual fuel remaining.
39	Departure airport with Planned Runway	
43	Top Of Climb	
44	Top Of Descent	
45	Destination Airport and Planned Runway	
46-54	Alternate information: (* please note that only the first Destination Alternate has to be AAM, all other Destination Alternated airports are for info only).	
	Line	**Explanation**
	46	Header of table. Contains: Alternate name, Distance, Flight Level, Time, Fuel and Route(=VIA)
	47-48	Data for first alternate (the alternate chosen by dispatcher and it's fuel is calculated in Block Fuel)
	49	Data for second alternate (marked as INFO Alternate)
	50	The difference in time and fuel between the INFO alternate and the First Alternate The fuel difference for alternate 2 is calculated as: (Trip fuel to alternate 2 + holding alternate 2) - (Trip fuel to alternate 1 + holding alternate 1)
	51	Data for third alternate (marked also as INFO Alternate)
	52	The difference in time and fuel between the INFO alternate and the **First** Alternate
	53	Data for forth alternate (marked also as INFO Alternate)
	54	The difference in time and fuel between the INFO alternate and the **First** Alternate
54a	Airport Suitability Check data: As in the Flight Release	
55	Blank space for crew to write down enroute clearances	
56	Wind data – for each waypoint along the route: the coordinates, upper winds (2 levels up) and lower wind (1 level lower).	
58	MEL data if applicable	
59	ATC	

NAV LOG Example (see lines 36-38 above)


```
--------- --------- --------- --------- --------- --------- --------
TIME  AWY            MTK  DIST                          TAS G/S  MACH REFU
TTL   POSITION      MOCA   TTL  LVL  TP  T     W/V                    PLN
PTO   ETO  ATO                                                        ACT
--------- --------- --------- --------- --------- --------- --------
00.22 B              307    176                         459 476  790
06.18 57N020W        A11   2814          34 -47  142/042               025.8
....  .... ....                                                        ....
00.41 B              292    339                         463 498
06.59 59N030W        A10   3153          33 -48  124/030               022.9
....  .... ....                                                        ....
00.38 B              285    309                         463 486
07.37 59N040W        A11   3462          33 -47  240/017               020.2
....  .... ....                                                        ....
00.43 B              277    320                         463 447
08.20 58N050W        A11   3782          34 -47  249/044               017.3
....  .... ....                                                        ....
00.21 B              265    155                         498 455
08.16 CARPE          A10   3943  CLB     33 -46  253/048               031.5
....  .... ....                  380                                   ....
00.14 B              253    105                         500 451
08.30 REDBY          A26   4048          34 -53  269/068               029.4
```

1. Magnetic track between 57N020W and 59N030W is 307 and the distance between them is 339 miles.
2. Average wind between 20W and 30W is 142/042.
3. The MORA between 20W and 30W is 1,000 feet (A10)
4. The temperature at 30W is -47.

LIDO EDTO and RCF Flight Release - Sample

Revision: 19 - 14 MAR 21

```
                               FLIGHT RELEASE
   ------------------------------------------------------------------------------
1                                                    RELEASE TIME 23.45
2   ACFT REG  4XECA                                  DATE 30/12/14
3   ACFT TYPE B777-258 ...RR TRENT89                 CTOT:....
                                                T/O
                      ORG  DST   ALTN  ALTN  ALTN  TAKEOFF FUEL
4   IFR FLIGHT ELY002/30  KJFK-LLBG  ....  OJAI  ....     68864
5                     KJFK-LCLK         LCPH  ....
6   EDTO RULE  180 MIN
7   EDTO ALTN  CYYT EGPK

8   ADVISORY INFO
    ASC APRT          APPRCH              MINIMA    WX        T/H WC  XWC
         LLBG/TLV/30  LDADME             390/1800  9999/9999           3.0
         OJAI/AMM/26L CAT1+VOR             0/ 550  9999/8000    0.9    4.9
         CYYT/YYT/29                     300/1165  9999/9999          12.9
         EGPK/PIK/12                     400/1350  9999/9999          12.0
         LCLK/LCA/22  LOC+VOR            304/1000  9999/9999 -11.4     8.1
         LCPH/PFO/11  VORDME             539/2100  9999/9999  -5.0     9.5


9        ROUTE KJFK DPK V46 CCC PARCH DOVEY W NERTU RATKA UN502 PHILI
               SOVOR SENLO SUTUB URELO GELTA HOC UQ217 RESIA UQ341
               LABIN PETAK UL607 KEA UL52 VAXOS UM978 LUBES LUBES1A
               LCLK
10  REDISP WPT TIRMO
11       ROUTE TIRMO UL52 MAGIS UN134 ERIMO N134 SOLIN LIMKO1 LLBG
12  FLIGHT NBR ELY002        DATE 30/12/14         SCHEDULE       PLAN
13                                             KJFK STD 23.45  ETD 23.45
14                                                  TXO 00.45
15  SELCAL JLBQ                                     ETE 09.45  ETE 09.37
16  ROUTE E/MCT/R                                   TXI 00.10  ETA 10.07
17                                             LLBG STA 10.25  PTA 10.17
18  SPEED  CLB 310/M84                                         DIFF  -0.08
19  SCHD   CRZ CI43/M82/CI43
           DSC M82/260
    --------------------------------------------------------------------
20  NO TANKERING RECOMMENDED
    FUEL PRICE DIFFERENCE IS M 208 US$
    --------------------------------------------------------------------
21  FUEL FROM KJFK TO LLBG
22                FUEL   TIME  DIST NAM      PLANNED       STRUCTURAL
23  TRIP FUEL     62733  09.37 5092 4434   ETWT 250994    MTWT  298010
24  TRIP DELAYS   .....  .....             ETOW 249419    MTOW  297556
25  ALTN/OJAI      2855  00.24 0115 0109   ELDW 186686    MLDW  213188
26  MIN CONT        488                    EZFW 180555    MZFW  199580
27  FINAL RESERVE  2788  00.30             EPLD  33712
28  ADD CRITICAL  .....  .....
29  ADD RCF       .....  .....        ++++++++++++++++++++++++++++++++++
    EXTRA         .....  .....        +MIN REPLANNING WPT FUEL REQUIRED+
30                                    +   TIRMO    - LLBG   10222     +
    TAKEOFF FUEL  68864               ++++++++++++++++++++++++++++++++++
31                                                              Block 1
32  TAXI           1575  00.45
    TOTAL FUEL    70439
33
34  EXTRA PIC/LMC .....  DUE - ..... ..... ..... .....
    FINAL FUEL    .....


35
36  FUEL FROM KJFK TO LCLK
```

```
37                      FUEL   TIME  DIST NAM      ALTERNATE DATA  LCLK - LCPH
38    KJFK - TIRMO  58643  08.38 4668 4063     LCPH N3443.1  E03229.1
39    TIRMO - LCLK   2301  00.41 0298 0253     FL 100   CRZ LRC  WIND M010
40    ALTN/LCPH      1885  00.18 0068 0071     LCLK..LCA.W195.DIPOS..LCPH
41    CONT 5%        3047
42    FINAL RESERVE  2855  00.30
43    EXTRA         .....  .....
      REQUIRED      68731
44
45    FUEL FROM TIRMO TO LLBG
46                  FUEL   TIME  DIST NAM      ALTERNATE DATA  LLBG - OJAI
47    TIRMO - LLBG   4091  00.59 0424 0381     OJAI N3143.4  E03559.6
48    ALTN/OJAI      2855  00.24 0115 0109     FL 110   CRZ LRC  WIND P015
49    MIN CONT        488                      LLBG..SALAM..RALNA.RALNA2A.
50    FINAL RESERVE  2788  00.30               OJAI
51    EXTRA         .....  .....                               Block 2
      REQUIRED      10222
52    --------------------------------------------------------------------
      ZFW CORR PS 1000 KG PS 308 KG / ZFW CORR MS 1000 KG MS 305 KG
53    --------------------------------------------------------------------
      ACFT MEL/CDL

      52-11-05-01 Main Entry Door Flight Lock Systems Passenger
      (PASSENGER ENTRY DOOR FLIGHT LOCK SYSTEMS)
54    --------------------------------------------------------------------
      TERRAIN CLEARANCE CHECK COMPLETED WITH NO LIMITATIONS
55    ====================================================================
      REMARKS -
56
      DISPATCHER YAMIT HAHN                    PIC ESHEL,SHAI
      DISPATCH 972 3 9716402

      SIGNATURE .................              SIGNATURE .................


      --------------------------------------------------------------------
```

Line	Content
6	EDTO Rule (i.e. 120 min, 180 min)
7	En-Route Alternate Airports
8	ASC data include the EDTO Airport
9	Route description – displays the route to the Optional Refuel Destination Airport
10	Decision Waypoint
11	Route description – displays the route from the Inflight Re-planning Point to the final Destination (The Commercial Destination)
28-30	Block 1: Fuel required at the Inflight Re-planning Point that will enable flight to continue to it's Final Destination
35-43	Fuel figures for the flight from Departure Airport to the Optional Re-Fuel Destination Airport
44-51	Fuel figures for the flight from the Inflight Re-planning Point to the Final Destination

LIDO EDTO and RCF Operational Flight Plan - Sample

Revision: 19 - 14 MAR 21

```
1    OFP 2/7/1              OPERATIONAL FLIGHT PLAN

2    FLIGHT NBR ELY002        DATE 30/12/14          ACFT REG 4XECA
                                                     ACFT TYPE B777-258 ..
                                                     SELCAL JLBQ

3    ORIG T/Z   -05.00                               SCHEDULE       PLAN
     DEST T/Z   +02.00                          KJFK STD 23.45  ETD 23.45
                                                     TXO 00.45
4    FMS                                             ETE 09.45  ETE 09.37
5    ROUTE     E/MCT/R                               TXI 00.10  ETA 10.07
6    TTL DIST      5092                         LLBG STA 10.25  PTA 10.17
7    SPEED         VRBL                                        DIFF -0.08
8    AVGE FF       6523
9    AVGE WC       P070
10   AVGE WIND 256/075
11   TOC TEMP     -29.2
12   PERF DEG      +2.1

13   SPEED  CLB 310/M84
14   SCHD   CRZ CI43/M82/CI43
15          DSC M82/260
     --------------------------------------------------------------------
16   NO TANKERING RECOMMENDED
     FUEL PRICE DIFFERENCE IS M 208 US$
     --------------------------------------------------------------------
17   OVERFLYING FIRS:
     KZNY KZBW KZBW KZNY KZNY CZQX EGGX EGTT LFFF LSAS LIMM LDZO LYBA
     LAAA LGGG LCCC LCCC LLLL
     --------------------------------------------------------------------
     ====================================================================
18   FUEL FROM KJFK TO LLBG
19                 FUEL   TIME  DIST NAM       PLANNED       STRUCTURAL
20   TRIP FUEL     62733  09.37 5092 4434    ETWT 250994    MTWT  298010
21   ALTN/OJAI      2855  00.24 0115 0109    ETOW 249419    MTOW  297556
22   MIN CONT        488                     ELDW 186686    MLDW  213188
23   FINAL RESERVE  2788  00.30              EZFW 180555    MZFW  199580
24   ADD CRITICAL  .....  .....              EPLD  33712
25   ADD RCF       .....  .....        ++++++++++++++++++++++++++++++++++
26   EXTRA         .....  .....        +MIN REPLANNING WPT FUEL REQUIRED+
27                                     +   TIRMO   - LLBG  10222        +
28   TAKEOFF FUEL  68864               ++++++++++++++++++++++++++++++++++

29   TAXI           1575  00.45
30   TOTAL FUEL    70439
31
32   EXTRA PIC/LMC .....  DUE - ..... ..... ..... .....
     FINAL FUEL    .....
33

34   FUEL FROM KJFK TO LCLK
35                 FUEL   TIME  DIST NAM     ALTERNATE DATA  LCLK - LCPH
36   KJFK - TIRMO  58643  08.38 4668 4063    LCPH N3443.1  E03229.1
37   TIRMO - LCLK   2301  00.41 0298 0253    FL 100  CRZ LRC  WIND M010
38   ALTN/LCPH      1885  00.18 0068 0071    LCLK..LCA.W195.DIPOS..LCPH
39   CONT 5%        3047
40   FINAL RESERVE  2855  00.30
41   EXTRA         .....  .....
     REQUIRED      68731
42
```

```
      FUEL FROM TIRMO TO LLBG
43                   FUEL   TIME  DIST NAM     ALTERNATE DATA  LLBG - OJAI
44    TIRMO - LLBG   4091  00.59 0424 0381     OJAI N3143.4  E03559.6
45    ALTN/OJAI      2855  00.24 0115 0109     FL 110  CRZ LRC  WIND P015
46    MIN CONT        488                      LLBG..SALAM..RALNA.RALNA2A.
47    FINAL RESERVE  2788  00.30               OJAI
48    EXTRA         .....  .....
49    REQUIRED      10222
      --------------------------------------------------------------------
50    TERRAIN CLEARANCE CHECK COMPLETED WITH NO LIMITATIONS
      ____________________________________________________________________
51    DISPATCHER YAMIT HAHN                    PIC ESHEL,SHAI
      DISPATCH 972 3 9716402

      SIGNATURE ..................             SIGNATURE ..................
      ____________________________________________________________________


52    PLANNED RUNWAYS
      JFK/31L TLV/30 AMM/26L LCA/22 PFO/29

53    ALTITUDE PROFILE
      KJFK/170/CCC/330/DOVEY/340/43N050W/350/47N030W/370/HOC/390/ASPIS/
      310/ERIMO/110
54    KJFK..DPK.V46.CCC..PARCH..DOVEY.W.NERTU..RATKA.UN502.PHILI..SOVOR..
      SENLO..SUTUB..URELO..GELTA..HOC.UQ217.RESIA.UQ341.LABIN..PETAK.
      UL607.KEA.UL52.MAGIS.UN134.ERIMO.N134.SOLIN.LIMKO1.LLBG

55    CLEARANCE: .........................................................
      ....................................................................
      ....................................................................
      ....................................................................
      ====================================================================
      --------- --------- --------- --------- --------- --------- --------
56    TIME  AWY         MTK  DIST                           TAS G/S  MACH REFU
57    TTL   POSITION    MORA   TTL  LVL  TP  T    W/V                  PLN
58    PTO   ETO  ATO                                                   ACT
      --------- --------- --------- --------- --------- --------- --------
59    ....  KJFK/31L                     31 M17 282/033               ....
60    00.07 DCT                 31  CLB
61    00.07 DPK          A17  0031       32 -28 267/059              066.6
62    ....  .... ....                                                ....
      00.01 V46                  9
      00.08 PAZTA        A19  0040       33 -29 269/063              066.3
      ....  .... ....                                                ....
      00.01 V46                  3                               310
63    00.09 T O C             0043  170  33 -30 270/064          840 066.2
      ....  .... ....                                                ....
      00.02 V46          085    12                       383 443  308
      00.11 CCC          A19  0055  CLB  34 -38 272/077          310 066.0
      ....  .... ....                250                             ....
      00.04 DCT          102    33                               310
      00.15 PARCH        A19  0088  CLB  37 -49 268/134          288 065.0
      ....  .... ....                330                             ....
      00.22 DCT          094   232                       472 610  810
      00.37 DOVEY        A17  0320  CLB  40 -50 261/147          820 061.7
      ....  .... ....                340                             ....
      00.31 W            096   319                       476 624  820
      01.08 42N060W      A10  0639       23 -53 254/161              058.0
      ....  .... ....                                                ....
      00.43 W            088   447                       474 632
      01.51 43N050W      A10  1086  CLB  30 -55 246/158              053.0
      --------- --------- --------- --------- --------- --------- --------
```

```
TIME  AWY          MTK  DIST                                 TAS G/S  MACH REFU
TTL   POSITION    MORA   TTL  LVL  TP  T    W/V                             PLN
PTO   ETO  ATO                                                              ACT
--------- --------- --------- --------- --------- --------- --------
....  .... ....                350                                         ....
00.42 W            085   448                                 472 628
02.33 45N040W      A10  1534        40 -56 244/142                         048.1
....  .... ....                                                            ....
00.43 W            082   434                                 470 610
03.16 47N030W      A10  1968  CLB   38 -62 264/138                         043.4
....  .... ....                370                                         ....
00.42 W            096   419                                 465 599
03.58 49N020W      A10  2387        39 -62 277/111                         038.8
....  .... ....                                                            ....
00.21 W            096   197                                 465 575
04.19 BEDRA        A10  2584        38 -61 279/089                         036.6
....  .... ....                                                            ....
00.04 W            086    40                                 465 552
04.23 NERTU        A10  2624        36 -61 273/066                         036.2
....  .... ....                                                            ....
00.27 DCT          096   237                                 467 531
04.50 RATKA        A10  2861        38 -63 278/048                         033.4
....  .... ....                                                            ....
00.04 UN502        097    38                                 467 513  825
04.54 PHILI        A10  2899        37 -63 287/041                         032.9
....  .... ....                                                            ....
00.18 DCT          098   155                                 467 505
05.12 SOVOR        A10  3054        38 -63 286/027                         031.0
....  .... ....                                                            ....
00.10 DCT          099    75                                 467 492
05.22 SENLO        A22  3129        39 -63 286/021                         030.1
....  .... ....                                                            ....
00.14 DCT          100   114                                 465 486
05.36 SUTUB        A29  3243        38 -65 282/011                         028.7
....  .... ....                                                            ....
00.10 DCT          100    83                                 465 476
05.46 URELO        A37  3326        39 -65 348/007                         027.6
....  .... ....                                                            ....
00.02 DCT          111    12                                 465 467
05.48 GELTA        A21  3338        39 -66 033/022                         027.5
....  .... ....                                                            ....
00.21 DCT          119   159                                 463 459
06.09 HOC          A51  3497  CLB   39 -68 036/050                    830  025.4
....  .... ....                390                                         ....
00.14 UQ217        122   114                                 465 457  830
06.23 RESIA       A153  3611        40 -62 052/066                         023.8
....  .... ....                                                            ....
00.21 UQ341        120   157                                 470 447
06.44 LABIN       A153  3768        35 -54 068/044                         021.7
....  .... ....                                                            ....
00.44 DCT          136   333                                 480 455
07.28 PETAK        A57  4101        29 -50 092/015                         017.2
....  .... ....                                                            ....
00.04 UL607        131    28                                 482 472  828
07.32 TRN          A77  4129        29 -49 141/008                         016.9
....  .... ....                                                            ....
00.10 UL607        135    79                                 482 476
07.42 PINDO       A101  4208        28 -49 213/018                         015.8
....  .... ....                                                            ....
00.05 UL607        135    42                                 484 478
07.47 PIKOS       A101  4250        28 -48 226/032                         015.3
....  .... ....                                                            ....
--------- --------- --------- --------- --------- --------- --------
```

```
     TIME AWY          MTK  DIST                       TAS G/S  MACH REFU
     TTL  POSITION    MORA   TTL  LVL  TP  T    W/V                   PLN
     PTO  ETO  ATO                                                    ACT
     --------- --------- --------- --------- --------- --------- --------
     00.18 UL607         136   141                       484 480
     08.05 XORKI         A77  4391       28 -48 226/045              013.5
     ....  .... ....                                                 ....
     00.03 UL607         126    22                       484 478  827
     08.08 ATV           A56  4413       28 -48 225/050              013.3
     ....  .... ....                                                 ....
     00.03 UL607         118    31                       484 484
     08.11 KEA           A44  4444       28 -48 223/061              012.9
     ....  .... ....                                                 ....
     00.06 UL52          119    47                       484 490  826
     08.17 RAPOS         A35  4491       27 -49 227/081              012.3
     ....  .... ....                                                 ....
     00.08 UL52          112    63                       482 496
     08.25 ASTIS         A43  4554       28 -49 229/100              011.5
     ....  .... ....                                                 ....
     00.03 UL52          113    28                       480 511  825
     08.28 NAXAS         A26  4582       29 -49 230/118              011.2
     ....  .... ....                                                 ....
     00.06 UL52          121    52                       480 513  824
     08.34 LINRO         A35  4634       37 -49 230/128              010.6
     ....  .... ....                                                 ....
     00.04 UL52          122    34                       482 498  825
     08.38 TIRMO         A35  4668       46 -50 232/133              010.2
     ....  .... ....                                                 ....
     00.08 UL52          122    65                       480 498  824
     08.46 VAXOS         A10  4733       52 -51 234/137              009.5
     ....  .... ....                                                 ....
     00.05 UL52          116    41                       478 502
     08.51 MAGIS         A13  4774       50 -51 237/139              009.0
     ....  .... ....                                                 ....
     00.06 UN134         116    52                       478 523  823
     08.57 KOSEG         A13  4826       52 -52 239/140              008.4
     ....  .... ....                                                 ....
     00.06 UN134         117    53                       476 527  822
     09.03 GIPAS         A13  4879       53 -53 241/141              007.8
     ....  .... ....                                                 ....
     00.03 UN134         117    24                       474 529
     09.06 ASPIS         A13  4903  DSC  51 -40 240/142          731 007.6
     ....  .... ....                310                              ....
     00.05 UN134         117    41                       435 482  731
     09.11 ERIMO         A13  4944  DSC  48 -03 237/082          536 007.3
     ....  .... ....                110                              ....
     00.10 N134          122    75                       344 352  292
     09.21 SOLIN         A13  5019       41 -01 235/035              007.0
     ....  .... ....                                                 ....
     00.03 LIMKO1               22                       344 354  291
64   09.24 T O D                5041       41 P05 240/017              006.6
     ....  .... ....                                                 ....
     00.13 LIMKO1               51  DSC
65   09.37 LLBG/30       A28  5092                               260 006.1
     --------- --------- --------- --------- --------- --------- --------

66         ALTN       DIST  LVL   WC TIME    FUEL VIA
67         OJAI/26L    115  110 P015 00.24   2855 DCT SALAM DCT RALNA
68                                                RALNA2A
69    INFO/LCLK/22     219  260 P015 00.39   4270 PURLA2F PURLA H1 GITLA
70                                  P00.15  P1468 UW13A VELOX B17 BOSIS
71                                                DCT
72    INFO/OJAQ/01     230  290 M022 00.42   4739 DCT SALAM DCT QTR R652
```

```
73                                P00.18  P1940 LOXUS LOXUS1H
74     INFO/LCPH/11    278  300 P007 00.47   5122 PURLA2F PURLA H1 GITLA
                                  P00.23  P2334 UW13A VELOX UB17 LCA
                                                W195 DIPOS DCT
      --------- --------- --------- --------- --------- --------- --------
75    ADVISORY INFO
      ASC APRT           APPRCH              MINIMA    WX        T/H WC  XWC
          OJAI/AMM/26L  CAT1+VOR              0/ 550  9999/8000   0.9   4.9
          LCLK/LCA/22   LOC+VOR             304/1000  9999/9999 -11.4   8.1
          LCPH/PFO/11   VORDME              539/2100  9999/9999  -5.0   9.5
          OJAQ/AQJ/01   RNAV GPS LNAV       558/1900  9999/7000  -9.6   5.3
      --------- --------- --------- --------- --------- --------- --------
76    FLIGHT PLAN FROM TIRMO TO LCLK
      --------------------------------------------------------------------
77    TIME  AWY          MTK  DIST                      TAS G/S  MACH REFU
78    TTL   POSITION    MORA   TTL  LVL  TP  T    W/V                  PLN
79    PTO   ETO  ATO                                                   ACT
      --------- --------- --------- --------- --------- --------- --------
80    08.38 TIRMO        A35  4668  390                           825 010.1
      ....  .... ....                                                  ...
      00.08 UL52         088    65       52 -49 232/068 480 498
      08.46 VAXOS        A10  4733                                    009.3
      ....  .... ....                                                  ...
      00.03 UM978        088    26       51 -50 233/070 478 575
      08.49 AMONO        A10  4759                                    009.1
      ....  .... ....                                                  ...
      00.01 UM978        086     7       50 -51 234/071 476 575
      08.50 TOSKA        A10  4766                                    009.0
      ....  .... ....                                                  ...
      00.04 UM978               46       49 -51 237/072 476 583
      08.54 T O D             4812                                    008.5
      ....  .... ....                                                  ...
      00.06 UM978        086    58  DSC  52 -47 233/070     576  820
      09.00 TOBAL        A27  4870                                260 008.4
      ....  .... ....                                                  ...
      00.04 UM978        088    31              229/036     455
      09.04 LUBES        A85  4901                                    008.4
      ....  .... ....                                                  ...
      00.15 LUBES1A             65              209/010     260
81    09.19 LCLK/22      A85  4966                                    007.8
      --------------------------------------------------------------------
82                                 EDTO SUMMARY
      --------------------------------------------------------------------

83             EDTO ENTRY  (CYYT)  N4419.8 W04357.0   TIME 02.17

84             EDTO EXIT   (EINN)  N4901.5 W01816.1   TIME 04.05

      --------------------------------------------------------------------

85                    DIST        TIME  W/C         ICE   CFR    FOB   COND
86    ETP1  CYYT/EGPK  867/1132   02.52 H037/T055    215  21686  44064 DX
87    03.10 N4645.8   W03129.9      LRC

88    ETP2  CYYT/EGPK  871/1127   02.46 H037/T055    884  22993  44008 DC
89    03.10 N4647.0   W03122.7      LRC

90    ETP3  CYYT/EGPK  800/1200   02.19 H074/T095    194  19644  44871 1X
91    03.03 N4627.9   W03313.9      LRC

      --------- --------- --------- --------- --------- --------- --------
92    ADDITIONAL EDTO FUEL WITH ICING COND:      0
93    NON-ICING CORRECTION:                      0
```

```
94    (IF NO ICING COND ANTICIPATED, N.I.C. MAY BE SUBTRACTED FROM PLNTOF)
      --------- --------- --------- --------- --------- --------- --------

95    E D T O (180 MIN)
96    EDTO ALTNS  (WX/NOTAM SUITABILITY PERIOD - GMT)
97    CYYT (02.54-07.31)
98    EGPK (04.51-07.31)
      --------- --------- --------- --------- --------- --------- --------
99    CLEARANCES                                         RVSM ALT CHK




      --------- --------- --------- --------- --------- --------- --------

100   CLIMB             T.O.C             CCC               PARCH
      100 280/045 -19   N4051.6           N4055.8           N4106.0
      150 268/059 -27   W07303.3          W07247.9          W07207.2
      200 271/074 -33   210 271/079 -34   210 272/077 -34   290 269/114 -45
      310 270/129 -48   190 271/070 -32   190 271/070 -32   270 270/102 -42
      350 273/136 -52   150 268/059 -27   150 268/059 -28   230 273/080 -37

      DOVEY             4260N             4350N             4540N
      N4107.0           N4200.0           N4300.0           N4500.0
      W06700.0          W06000.0          W05000.0          W04000.0
      370 268/131 -52   370 258/144 -54   370 251/149 -58   390 239/140 -62
      350 267/139 -51   350 258/151 -53   350 250/157 -55   370 244/147 -59
      310 265/148 -46   330 257/157 -51   330 248/160 -51   330 245/156 -51

      4730N             4920N             BEDRA             NERTU
      N4700.0           N4900.0           N4900.0           N4900.0
      W03000.0          W02000.0          W01500.0          W01400.0
      390 255/144 -65   410 265/087 -61   410 253/069 -62   410 250/070 -62
      370 252/147 -62   390 271/111 -62   390 275/076 -62   390 269/071 -61
      330 249/139 -52   350 274/131 -58   350 283/104 -59   350 284/097 -59

      RATKA             PHILI             SOVOR             SENLO
      N4930.0           N4928.5           N4914.4           N4905.0
      W00800.0          W00701.3          W00305.4          W00110.7
      410 280/042 -61   410 285/035 -62   410 299/030 -63   410 307/027 -63
      390 270/050 -64   390 279/047 -63   390 290/033 -64   390 293/025 -65
      350 279/053 -59   350 284/048 -59   350 286/031 -59   350 276/023 -60

      SUTUB             URELO             GELTA             HOC
      N4847.7           N4832.3           N4830.3           N4728.0
      E00139.8          E00343.9          E00401.3          E00739.9
      410 337/020 -64   410 340/017 -65   410 347/017 -65   410 035/032 -66
      390 303/021 -66   390 349/009 -67   390 003/009 -67   390 038/040 -69
      350 243/017 -61   350 322/006 -61   350 348/007 -61   350 034/037 -61

      RESIA             LABIN             PETAK             TRN
      N4628.7           N4459.2           N4146.5           N4125.0
      E01002.6          E01305.5          E01918.8          E01943.1
      450 046/038 -59   450 041/042 -56   450 068/006 -54   450 053/003 -54
      410 042/049 -65   410 052/046 -57   410 085/013 -52   410 097/010 -52
      370 044/059 -63   370 060/084 -59   370 094/020 -51   370 109/016 -50

      PINDO             PIKOS             XORKI             ATV
      N4028.9           N3957.7           N3810.2           N3753.3
      E02057.4          E02133.0          E02330.6          E02348.3
      450 228/013 -53   450 226/021 -52   450 229/049 -51   450 230/057 -51
      410 219/009 -51   410 234/019 -50   410 228/046 -48   410 226/052 -48
      370 176/014 -49   370 200/019 -49   370 222/041 -48   370 223/045 -48
```

	`` KEA RAPOS ASTIS NAXAS N3733.4 N3708.1 N3634.0 N3621.5 E02417.9 E02508.1 E02614.0 E02644.9 450 230/070 -51 450 228/085 -51 450 227/101 -53 450 228/104 -53 410 224/062 -49 410 224/076 -49 410 227/097 -51 410 229/106 -51 370 222/052 -48 370 225/069 -48 370 229/095 -48 370 229/108 -48 LINRO TIRMO VAXOS MAGIS N3557.9 N3538.0 N3459.6 N3435.0 E02742.0 E02816.0 E02920.1 E03000.0 450 230/107 -54 450 232/111 -55 450 236/115 -57 450 238/116 -58 410 232/119 -51 410 233/122 -51 410 236/124 -52 410 237/126 -54 370 228/128 -48 370 229/133 -48 370 231/141 -49 370 233/145 -49 KOSEG GIPAS ASPIS ERIMO N3408.6 N3341.6 N3328.9 N3307.5 E03054.4 E03148.7 E03213.7 E03255.3 450 241/115 -58 450 242/117 -58 450 243/118 -59 350 242/144 -47 410 240/127 -55 410 242/127 -56 410 242/128 -56 330 241/142 -43 370 236/145 -50 370 239/144 -50 370 240/144 -51 290 240/123 -37 SOLIN T.O.D DESCENT N3228.0 N3219.8 390 248/132 -55 E03410.0 E03423.0 350 248/134 -47 150 235/061 -10 150 235/061 -09 310 246/125 -39 130 233/050 -06 130 234/049 -06 200 241/079 -19 90 236/025 P02 90 236/025 P02 100 234/028 P00 -- ```
101	``` ACFT MEL/CDL 52-11-05-01 Main Entry Door Flight Lock Systems Passenger (PASSENGER ENTRY DOOR FLIGHT LOCK SYSTEMS) -- ```
102	``` FF KZNYZQZX LLBGELYW (FPL-ELY002-IS -B772/H-SDE2E3FGHIJ5LM1ORVWXYZ/SB1D1 -KJFK2345 -N0383F170 DCT DPK V46 CCC/N0472F330 DCT PARCH DCT DOVEY/M082F340 NATW 43N050W/M082F350 NATW 47N030W/M082F370 NATW NERTU DCT RATKA/N0466F370 UN502 PHILI DCT SOVOR DCT SENLO DCT SUTUB DCT URELO DCT GELTA DCT HOC/N0463F390 UQ217 RESIA UQ341 LABIN DCT PETAK UL607 KEA UL52 MAGIS UN134 ASPIS/N0434F310 UN134 ERIMO/N0343F110 N134 SOLIN LIMKO1 -LLBG0937 OJAI -PBN/B1D1O1 DAT/SV DOF/141230 REG/4XECA EET/KZBW0007 KZNY0031 42N060W0108 43N050W0150 CZQX0221 45N040W0233 EGGX0316 49N020W0358 BEDRA0418 NERTU0422 EGTT0450 LFFF0502 LSAS0607 LIMM0624 LDZO0644 LYBA0723 LAAA0728 LGGG0742 LCCC0851 LLLL0921 SEL/JLBQ OPR/ELY RALT/CYYT EGPK RIF/TIRMO UL52 VAXOS UM978 LUBES LUBES1A LCLK RVR/200 RMK/ACAS II EQUIPPED. TCAS) ```

<table>
<tr><th>Line</th><th>Content</th></tr>
<tr><td>18-49</td><td>Fuel data, weight information and alternate data in the same format as in the flight release lines 21-51</td></tr>
<tr><td>76-81</td><td>Flight NAV Log for the route from Inflight Re-planning Point to the Optional Refuel Destination Airport</td></tr>
<tr><td>82</td><td>Header for EDTO SUMMARY</td></tr>
<tr><td>83</td><td>EDTO Entry data (Last Alternate Airport which circle is used for calculating the Entry Point, coordinate, flying time from Departure Airport)</td></tr>
<tr><td>84</td><td>EDTO Exit data (First Alternate Airport which circle is used for calculating the Exit Point, coordinate, flying time from Departure Airport)</td></tr>
<tr><td>85-91</td><td>EDTO critical fuel data:
DIST TIME W/C ICE CFR FOB COND
ETP1 EINN/CYQX 992/976 02.57 T003/H003 1204 31314 48295 DX
06.42 N6102.8 W03522.9 LRC
<table>
<tr><th>Column</th><th>Content</th></tr>
<tr><td>1</td><td>First line: ETP number (i.e. ETP1, ETP2 etc.)
Second line: Time from Departure airport to ETP</td></tr>
<tr><td>2</td><td>First line: airport which are used for Critical fuel calculations
Second line: Latitude of ETP</td></tr>
<tr><td>3</td><td>First line: Distance from ETP to each EDTO Airport
Second line: Longitude of ETP</td></tr>
<tr><td>4</td><td>First line: Time from ETP to EDTO Airports
Second line: speed calculated for Critical scenarios</td></tr>
<tr><td>5</td><td>Wind component for each EDTO Airport</td></tr>
<tr><td>6</td><td>Icing additional fuel in Critical Fuel calculation</td></tr>
<tr><td>7</td><td>CFR = Critical Fuel Required (including Icing)</td></tr>
<tr><td>8</td><td>FOB – Fuel On Board anticipated at the ETP</td></tr>
<tr><td>9</td><td>EDTO condition / scenario:
DC – decompression
1X – one engine out
DX – decompression and one engine out</td></tr>
</table></td></tr>
<tr><td>92</td><td>When additional fuel is required to cover EDTO critical fuel, it will be displayed also in this line</td></tr>
<tr><td>93</td><td>In case additional fuel is required to cover EDTO critical fuel, the Icing part of the CFR will be displayed here and may be subtracted if no Icing is anticipated based on remark in line 94.</td></tr>
<tr><td>95</td><td>EDTO Rule (i.e. 120 min, 180 min)</td></tr>
<tr><td>96-98</td><td>The period of time that EDTO Airports are required to be Suitable</td></tr>
</table>

8.1.10 Aircraft Technical and Flight Logs

Revision: 19 - 14 MAR 21

The aircraft technical and flight logs consist of the following:

1. Flight Log and Aircraft Release (FLAR);
2. The Aircraft Technical Log (ATL) and Cabin Technical Log (CTL);
3. And an MEL/CDL/NEF Follow Up Sheet.

These documents comprise a system for release of the aircraft for flight and for recording defects and malfunctions discovered during the operation, and their repair or deferral. In addition, the system is used for recording operating information relevant to flight safety and contains maintenance data that the operating crew needs to know. It is important that the FLAR be completed accurately. Details entered in the FLAR shall be identical to the details entered in the Journey Log.

8.1.10.1 Flight Log and Aircraft Release

Revision: 19 - 14 MAR 21

This log contains details of all information considered necessary to ensure continued flight safety and airworthiness.

Such details are:

- The aircraft registration mark;
- The date and place of departure;
- The planned destination;
- The PIC's name, employee number, and signature testifying that the aircraft is accepted for flight;
- The on blocks and off blocks times;
- The take-off and landing times;
- Notes to crew or maintenance including checks required during the flight such as APU in-flight start, autoland and full thrust take-off;
- The quantity of fuel uplifted, oil added and the total quantity of fuel available at the beginning of each flight leg;
- A licensed and company approved maintenance personal signature (or flight crew signature when applicable as per Chapter *8.2.1 Aircraft Release by Flight Crew*) that certifies the aircraft is airworthy and ready for flight;
- An indication entered post flight by the flight crew, indicating whether the aircraft is serviceable and if not, reference to the ATL or CTL where the defect has been entered;
- Notes of performance of successful full take-off thrust, APU in-flight start or armed autoland. For this purpose, autoland is considered armed if the autoland status annunciator indicates that the system is engaged. For instructions on conducting APU in-flight start, refer to the EDTO Manual, Appendix E “APU In-Flight Start Program”.

8.1.10.2 Aircraft Technical Log (ATL) and Cabin Technical Log

Revision: 19 - 14 MAR 21

An aircraft Technical Log and a Cabin Technical Log are used to enter defects, suspected faults, missing equipment/documentation or work required. A separate form shall be used for each write-up. The defect/work required/FRM fault Code (if it exists) shall be entered and at least the precise wording shall be copied from the FRM. Other vital information may be added to assist troubleshooting. An indication will be made of the flight phase when the failure occurred and whether a Return To Ramp, Rejected take-off, in-flight return to departure airport or Diversion have occurred. The defect (including missing equipment/documentation) is either corrected, or deferred. A corrective action shall be detailed, signed off and stamped by a certified maintenance person with date, time, station name, maintenance organization, name, text stamp and ID stamp. If the defect is deferred, the deferred item shall be entered in the Follow Up Sheet as detailed in Chapter *8.1.10.3 Follow Up Sheet*. After a deferred item is rectified, the item will be signed up as closed both in the ATL and in the Follow Up Sheet.

An entry in the ATL shall be made also for the events detailed in the OM Part B - FCTM - “Events Requiring Maintenance Inspection”.

8.1.10.3 Follow Up Sheet

Revision: 19 - 14 MAR 21

The Follow Up Sheet is an integral part of the ATL and contains details of all deferred defects that affect or may affect the safe operation of the aircraft or deferred Non Essential Furnishing (NEF), and should therefore be known to the PIC. When a new ATL is started, the open items from the previous ATL shall be transferred to the new ATL follow up sheet as detailed at the bottom of the follow up sheet.

Each page of this section makes provision for recording the following:

- Title of the defect;
- The deferral code;
- A cross reference Log number for each deferred defect such that the original defect can be identified in the ATL or in the CTL;
- The original date of deferral of the defect;
- The closing date.

8.1.10.4 Flight Log Procedures

Revision: 22 - 20 FEB 24

The ATL, the CTL and the FLAR forms have 3 copies; the first copy stays at the departure or repair station, the second copy is for MCC at the home base and the remaining copy remains in the book.

After On Block time is entered, a new FLAR page should be filled, including all the details mentioned above, see Chapter ***8.1.10.1 Flight Log and Aircraft Release***.

All entries in the Flight Log and Aircraft Release, Aircraft Technical Log and Cabin Technical Log shall be:

1. Dated;
2. Made with a non-erasable ink pen in black or blue; and
3. In English capital letters and in readable and legible writing.

Errors entered in Log Books are corrected as follows:

1. Draw a line through the entry so that the original remains readable, together with a reason for the error correction;
2. Make a corrected entry as close as possible to the original entry;
3. Indicate the person doing the correction by signature and license number.

8.1.10.5 Malfunction Report to MCC

Revision: 19 - 14 MAR 21

Time and workload permitting, the flight crew should report all FLAR entries to MCC as soon as practicable, preferably by ACARS.

8.1.11 List of Documents, Forms and Additional Information to be Carried

Revision: 22 - 20 FEB 24

The following documentation or copies thereof shall be carried on board, and shall, upon request, be presented by the PIC of the aircraft, to an authority representative. Documents marked with an asterisk (*) are approved to be in digital format and are required to be available on the EFB of each active flight crew:

- Certificate of Registration[16];
- Certificate of Airworthiness (Must be displayed at the entrance to the passenger cabin or flight deck such that it may be read by passengers or flight crew)[16];
- Noise Certificate[16 17 18];
- Air Operator Certificate (AOC)[16 17];
- Aircraft Radio License[16];
- Third Party Liability Insurance Certificate(s)*;
- Air Passenger Accident Insurance Certificate*;
- Flight Crew Licenses with appropriate rating(s), see Chapter ***1.9.2 Personal Documents***;
- Operation Specifications*.

The following documentation shall be carried on board and kept easily accessible:

- Operations Manual (OM Part A)*;
- Flight Crew Operation Manuals (OM Part B) (see exception below for QRH)*;

  *One hard copy of Normal and Emergency Check Lists;
- Route information (OM Part C) including*:
  - Departure;
  - Destination;
  - En-route alternates;
  - Documentation for en-route diversions:
    a. Communication facilities;
    b. Navigation aids and airports;
    c. The escape routes in case of decompression in an area of high terrain (if applicable).
- Metric table*;
- Cabin Flight Safety Manual*;

NOTE	The Evacuation Checklists portion of the CFSM shall be carried in paper format in the cabin. The rest of the CFSM is approved to be in digital format and shall be available on the ISM's iPad as well as the Backup EFB.

- Chief Steward Operations Manual (may be in digital format);

16 In case of loss or theft, the operation is allowed to continue until the flight reaches the home base or a place where replacement can be provided.

17 A certified copy of these documents is sufficient.

18 Including an English translation of the Certificate, where one has been provided by the Authority responsible for issuing the noise certificate.

- QRM - Quick Reference Manual***** (Cabin Crew);
- ICAO Emergency Response Guide (Doc 9481)*;
- A specific version of the following documents (which may be electronic) shall be kept by the PIC during the flight and until reaching the final destination:
  - Flight Plan with the PIC signature and for dispatch from Tel Aviv, with the FOO signature, and with the actual time and fuel tracking information (Operational and ATS);
  - Load sheet document;
  - Flight Release.
- For each individual aircraft type:
  - Take-off and landing performance calculation application*;
  - Information on missed approach gradients - when required gradients are higher than 2,5%*;
  - Incident report form(s)*.
- Aircraft Technical Log and Cabin Technical Log;
- Flight Log and Release (FLAR);
- NOTAM/AIS/MET briefing documentation (may be in digital or paper format);
- On-board Service List[19];
- Special Loads Notification, Dangerous Goods Notification (NOTOC)[19];
- Dangerous Goods Transport Document[19];
- General Declaration[19] (may be in digital or paper format);
- Passenger Manifest(s), Cargo Manifest(s)[19];
- Air Mail Documents[19];
- Air Traffic Incident form (as specified by ICAO Doc. 4444, Appendix 4).

NOTE	For storage periods see Chapter ***2.1.6.6 Documents Storage Periods - Information Used for the Preparation and Execution of the Flight***.

NOTE	Maintenance personnel have access to copies of the MEL and all other documentation necessary for their duties. EFBs are not for use by maintenance personnel.

NOTE	The ISM shall grant cabin crew members unobstructed access to the OM Part A on his iPad upon request.

8.1.11.1 Loss or Theft of Documents

Revision: 19 - 14 MAR 21

In case of loss or theft of documents, refer to Chapter ***8.1.11 List of Documents, Forms and Additional Information to be Carried*** above.

For EFB failures/theft refer to Chapter ***2.1.6.2 EFB Class I***.

19 When required for the flight.

8.2 GROUND HANDLING INSTRUCTIONS

8.2.1 Aircraft Release by Flight Crew

Revision: 22 - 20 FEB 24

Flight crews are not authorized to perform maintenance or required maintenance checks. However, Flight crews are authorized to release an aircraft for departure, where no qualified maintenance personnel are available.

The flight crew may release the flight only if the following conditions are fulfilled:

1. All normal Preliminary Pre-flight Procedures and Exterior Inspection are completed, including verification that all access panels are closed;
2. There is no maintenance defect, excluding a defect identified as an MEL;
3. There are no airworthiness or maintenance checks planned before the next landing time.

NOTE	The flight crew will sign the FLAR in the regular places and, shall note “NA” in the area where maintenance usually sign.

NOTE	For EDTO flights, consult with MCC. MCM Chapter 3-15.3.6 (Line Maintenance at Unplanned Landing) applies.

8.2.1.1 Engine Run Up by Flight Crew

Revision: 19 - 14 MAR 21

Flight crew members are authorized to perform engine run-up at idle power only, under supervision of qualified maintenance personnel, who shall retain overall responsibility for the procedure.

The maintenance technician supervising the procedure does not need to be present on the flight deck so long as he maintains continuous communications with the flight deck.

For further details, see MCM Chapter 3-27.

8.2.2 Fueling

8.2.2.1 Procedures

Revision: 19 - 14 MAR 21

Initial Fuel Quantity

The initial fuel quantity shall be forwarded to maintenance no later than 120 minutes before the STD (based on the flight plan block fuel, not including extra or tankering fuel).

If the flight is limited by performance, the initial fuel quantity minus 3,000 kg shall be forwarded and the fuel truck shall remain connected.

Final Fuel Quantity

The PIC should determine the final fuel as soon as practicable based on the latest ZFW information available, subject to any consideration he finds relevant.

1. **Flights <u>not</u> limited by performance**

At the briefing, the PIC shall determine the final fuel quantity required for the flight and the final fuel figure shall immediately be forwarded to Maintenance by OCC (in TLV) and by station personnel (at outstations).

Fueling shall be completed and the fuel truck shall be released without having to wait for the flight crew. The flight crew shall make any necessary changes in the required fuel according to the final ZFW. If additional fuel is required, the flight crew shall inform the station and the ground crew and order additional fuel.

2. **Flights limited by performance**

   The fuel truck will be released only after the flight crew has determined the final fuel based on final ZFW and performance calculations, and after they have checked and confirmed to the fueler that the actual fuel on board is the required amount.

3. **Flights limited by curfew**

   On flights scheduled to depart within 90 minutes of an existing curfew, OCC (in TLV) or the station (at outstations) shall inform Maintenance of the final fuel, and ask to keep the fuel truck connected. The fuel truck will be released only after the flight crew has determined the final fuel based on final ZFW and performance calculations, and after they have checked and confirmed to the fueler that the actual fuel on board is the required amount.

NOTE	For all passenger aircraft, when at the time defined for passenger boarding, the Ramp Supervisor shall notify the Fueling Supervisor, who shall stop the fueling. Once the fueling has stopped, boarding may start. Fueling may be resumed only upon approval of the flight crew and shall be performed according to Chapter ***8.2.2.5 Fueling with Passengers on Board and during Embarkation/Disembarkation***.

8.2.2.2 Limitations

Revision: 19 - 14 MAR 21

See FCOM for aircraft system operating limitations while fueling or with a fuel spill.

Fueling, defueling or draining the aircraft fuel tanks is permitted only under the following conditions:

1. Without passengers on board unless the PIC has approved the fueling and the procedures defined for “Fueling with Passengers on Board” are followed;
2. Defueling with passengers on board is prohibited;
3. It is conducted by authorized and qualified personnel;
4. All other limitations such as firefighting equipment meet the local Airport Authorities requirements;
5. It is conducted with equipment which provides fuel filtering and allows for water checks;
6. No severe thunderstorm activity in the vicinity of the airport;
7. No indication of fire or brake overheat.

The Fueling Supervisor is responsible to ensure that the above conditions are fulfilled.

8.2.2.3 General Safety Rules

Revision: 19 - 14 MAR 21

The Fueling Supervisor shall inform the Flight Crew whenever it is planned to fuel the aircraft.

The Cabin Crew shall notify the Flight Crew immediately in case of fire or if any fuel vapors are detected in the cabin.

Within the Fueling Zone, all personnel shall avoid any activity involving the risk of fuel vapor ignition including the use of mobile telephones.

Sparks from exposed electrical wiring or friction from steel studs to footwear or from tools, should be avoided.

Cease fueling immediately and call the Fire Brigade when a fuel leak or fuel fumes are detected.

If a ground auxiliary power unit located within the Fueling Zone has an exhaust discharging into the zone, and it is stopped for any reason during a fueling operation it should not be restarted until the fueling, defueling or draining has been completed and there is no risk of igniting fuel vapors.

The aircraft is to be firmly restrained with chocks in position, both in front and behind and shall be properly grounded to the fueling ground equipment. Similarly, all Ground Equipment with an independent power supply shall be properly grounded.

8.2.2.4 Crew Checks

Revision: 20.2 - 14 DEC 22

The Co-pilot will confirm that the aircraft fuel gauges indicate that the tanks have been filled to the required levels.

The Captain will confirm that the details of the fuel uplift have been correctly entered in the FLAR.

8.2.2.5 Fueling with Passengers on Board and during Embarkation/ Disembarkation

Revision: 19 - 14 MAR 21

During normal operations it may be necessary for fueling to take place with passengers on board the aircraft. With the PIC's authority, passengers may embark, disembark or remain on board during refueling provided that the following precautions are observed:

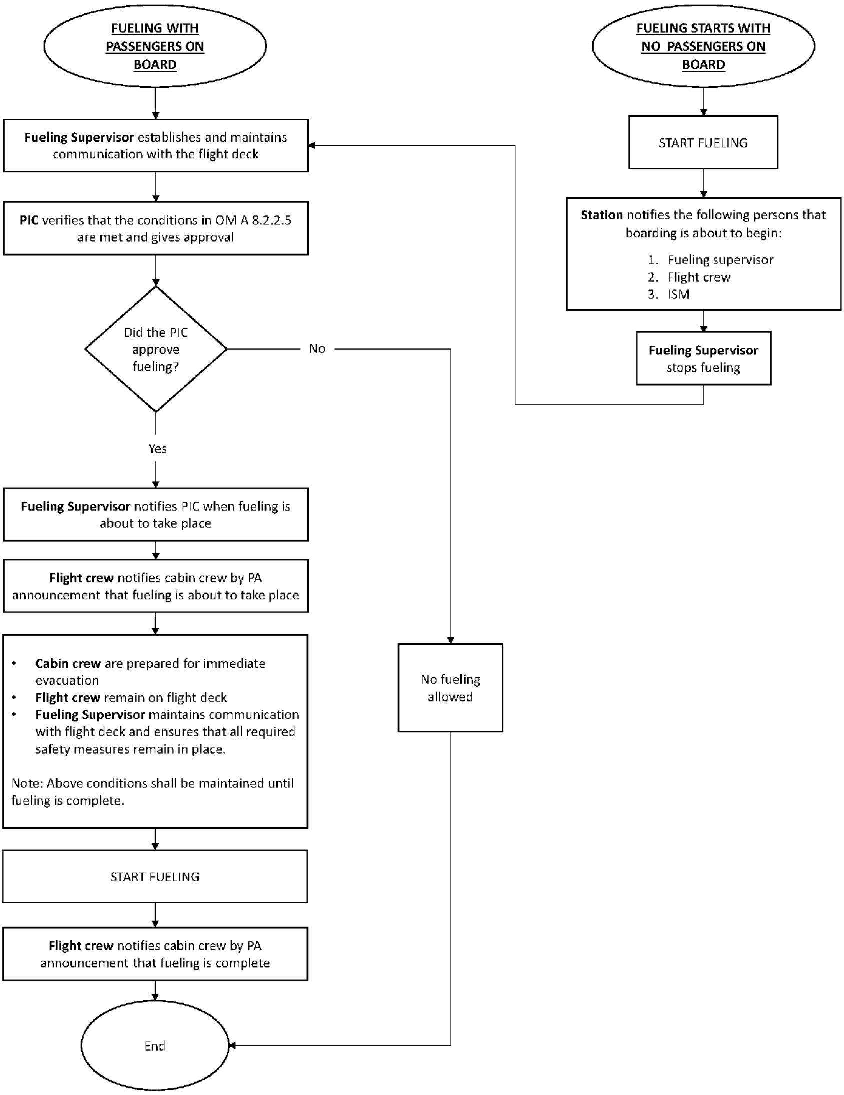
1. The Fueling Supervisor shall:
    a. Establish two-way continuous communication with the flight deck by the aircraft’s inter-communication system or other suitable means, and maintain the communication until fueling is complete;
    b. Notify the flight deck crew that refueling is about to take place; and
    c. Receive the PIC's approval before starting fueling.
2. The flight crew shall notify the cabin crew by PA announcement when refueling is about to take place and when it is completed;
3. The cabin crew shall notify the PIC immediately and when time permits also notify the ISM, if fueling operations must be discontinued for any reason;
4. A member of the flight crew shall remain on the flight deck;
5. The ISM shall designate at least one main exit door for use in the event of emergency evacuation, and routes to such exits shall be free from obstruction by objects which cannot be easily moved (i.e. catering carts). The designated door(s) shall be kept open with a qualified cabin crew member standing by, and with passenger loading bridges or stairs attached. If a

loading bridge is used, it shall be free from obstruction by objects which cannot be easily moved. If stairs are used, they shall be free from obstructions such as service vehicles or carts. Any cabin door not being utilized shall remain closed and normal door procedures (for aircraft on the ground) shall be observed;

6. Some airports require that the airport fire services are to be advised that refueling will be taking place with passengers on board; At Tel Aviv this is done by the Fueling Supervisor, and at Outbase stations it is done by the Station Manager or representative;
7. "Fasten Seat Belt" signs shall be off, "No Smoking" signs shall be on together with interior lighting to enable emergency exits to be identified;
8. The minimum required number of cabin crew shall be on board and be prepared for an immediate emergency evacuation. In such a case, standard Parked Aircraft Evacuation procedures in the CFSM shall be followed;
9. If the presence of fuel vapor is detected inside the aircraft, or any other hazard arises, refueling shall be stopped immediately;
10. Meals are not served;
11. The position of the fuel bowser/installation relative to the aircraft is to be such that it will not impede the rapid exit of passengers if an emergency evacuation becomes necessary;
12. Fueling with wide-cut fuel (e.g. Jet B or equivalent) is prohibited with passengers on board.

The flow chart below describes the process of fueling with passenger on board. Each function involved in the process shall follow the relevant procedures defined in this manual, the GOM, MCM, and/or GMM as applicable.

Bold type indicates person taking action



8.2.2.6 Supervision of Fueling by Flight Crew

Revision: 19 - 14 MAR 21

Flight crew members are not permitted to perform fueling operations. However, Aircraft Fueling may be supervised by a qualified flight crew member. He shall coordinate the entire fueling operation on the ground, assure that the aircraft has been fueled with the quantity as recorded on the “FUELLING RECORD” form, that the form has been filled out, signed and placed in the Station / Flight envelope. The flight crew member is responsible for the technical aspects of the aircraft fueling and shall verify that the safety requirements and limitations described in this Chapter are observed.

A flight crew member supervising the fueling operation, should be familiar with the location, handling and functioning of the fire extinguishers. The flight crew member shall make his presence known to the fueling agent prior to starting the fueling and shall remain in the vicinity of the aircraft whilst fueling is in progress. He shall verify the fuel type, fuel quantity and the results of the contamination and water check, before and after the fueling.

In the event of fuel spillage, the flight crew member shall ensure that the area of spilled fuel is cleaned before engines are started.

8.2.2.7 Fueling with an Engine Running (Hot Refueling)

Revision: 19 - 14 MAR 21

Fueling with an engine running is an irregular operation and shall be carried out only after the PIC evaluated all other possibilities and came to the conclusion that fueling with the engine running is the last / best resort. Before commencing the fueling, the PIC shall brief all personnel involved, including the Cabin Crew, Ground Personnel and the Fire Brigade. The aircraft should face with the nose into the wind to the extent that local conditions permit. No persons other than those involved in the fueling operation shall be on or in the vicinity of the aircraft except the flight crew and the minimum required Cabin Crew members.

Refueling with an engine running shall not be carried out:

- While passengers are in the aircraft, boarding or disembarking;
- When AVGAS, Jet B or JP-4 type fuel is used;
- Without the presence of Ground Personnel; and
- Without the presence of the Fire Brigade.

8.2.2.8 Fuel Contamination

Revision: 23 - 29 AUG 24

Flight and ground crews should be aware of possible fuel contamination, particularly at smaller airports, and fuel samples shall be taken to check for contaminants. The fuel drain procedures specified in the OM Part B shall be followed to check for water in the fuel tanks and/or lines.

8.2.3 Aircraft, Passengers and Cargo Handling Procedures Related to Safety

Revision: 19 - 14 MAR 21

All aspects of safety shall govern the handling and servicing of the aircraft on the ramp, the embarkation and disembarkation of passengers and the loading and unloading of baggage, cargo and mail.

8.2.3.1 Ground Operations with Passengers on Board

Revision: 19 - 14 MAR 21

Whenever passengers are on board an aircraft on the ground, the minimum number of cabin crew, see Chapter ***4.1.6 Minimum Cabin Crew***, has to be present in the cabin.

For ground operations with passengers on board, the following requirements shall be met:

- Electrical power is available on the aircraft;
- A means of initiating an evacuation is available or at least one flight crew member is on the flight deck; and
- Cabin crew members remain aware of the position of servicing and loading vehicles at and near the exits.

8.2.3.2 Embarkation/Disembarkation

Revision: 23 - 29 AUG 24

See CFSM, Chapter 2.3 עליית נוסעים ואחסון כבודה, and Chapter 2.11 לאחר נחיתה.

For embarkation/disembarkation when refueling is in progress, see Chapter ***8.2.2.5 Fueling with Passengers on Board and during Embarkation/Disembarkation***. Only in exceptional cases, and with the consent of the PIC, is embarkation/disembarkation permissible with one engine of the aircraft running. In such a case, passengers shall, under appropriate supervision by crew and ground staff, leave/enter the aircraft on the side opposite to the running engine.

8.2.3.2.1 Tipping Prevention (B737 Only)

Revision: 21 - 5 MAY 23

During normal operation an aft centre of gravity is planned since this reduces fuel consumption. When the centre of gravity exceeds approximately 43% MAC, the nose gear will be fully extended and tipping of the aircraft becomes imminent. The aircraft will start tipping after exceeding the tipping limit of 50,8% MAC. The exact moment of tipping is affected by aircraft attitude, ramp slope, snow loads, strut inflation, etc.

During normal disembarkation, there is no risk for tipping. However, a tipping situation can occur when passengers in the aft cabin are still on board and passengers in the front cabin are already disembarked. This also depends on the load (distribution) in the cargo compartments. Therefore:

1. Planning, loading and offloading procedures detailed in the GOM shall be strictly adhered to;
2. The cargo holds shall always be offloaded from aft to forward;
3. All crew members shall pay attention and must apply good judgment to avoid a situation where the passengers in the aft cabin are still on board and passengers in the front cabin have already disembarked;
4. If a tipping warning appears on the loadsheet, the PIC shall confirm that the aft cargo hold door has been opened before passengers begin to disembark;
5. After opening the passenger doors, offloading of the AFT cargo hold must continue without interruption;
6. In case of a disruption in opening or offloading of the AFT cargo hold, the risk of tipping increases. Therefore:

a. The Ramp Supervisor shall immediately alert the flight deck or cabin crew (whoever is more readily available) to stop disembarkation, if already started;

b. The cabin crew shall immediately stop disembarkation and ensure that the PIC and the ISM are aware of the situation;

c. The ISM, in coordination with the PIC, should allow or resume disembarkation after taking precautions to assure that passengers do not remain in the aft cabin while passengers in the front cabin have already disembarked.

8.2.3.3 Allocation of Seats for Adults, Children and Infants

Revision: 23 - 29 AUG 24

See CFSM, Chapter 2.3 עליית נוסעים ואחסון כבודה.

8.2.3.3.1 Non-Discriminatory Seating Policy

Revision: 19 - 14 MAR 21

In case a passenger refuses to take his/her assigned seat and requests to be reseated for reasons which may be discriminatory on the basis of gender, religion, race, etc.:

1. Crew Members shall not ask other passengers to change their assigned seats;
2. If there is another seat available in the same or lower cabin class, the passenger may be reseated there;
3. If there is **no** other seat available and the passenger refuses to take his/her assigned seat, the passenger shall be told to decide between the following:
    a. To take his/her assigned seat; or
    b. To disembark from the airplane.

8.2.3.4 Emergency Equipment for Extended Overwater Operations

Revision: 19 - 14 MAR 21

No person may operate an aircraft at a distance greater than 120 minutes flight time or 400 NM from land suitable for an emergency landing (the shorter of the two) without having on the aircraft the following equipment:

1. A life preserver equipped with an approved survivor locator light, for each occupant of the aircraft;
2. Enough life rafts (each equipped with an approved survivor locator light) of a rated capacity and buoyancy to accommodate the occupants of the aircraft. Unless excess rafts of enough capacity are provided, the buoyancy and seating capacity beyond the rated capacity of the rafts shall accommodate all occupants of the aircraft in the event of a loss of one raft of the largest rated capacity;
3. At least one pyrotechnic signaling device for each life raft;
4. An approved survival type emergency locator transmitter. Batteries used in this transmitter shall be replaced (or recharged, if the battery is rechargeable) when the transmitter has been in use for more than 1 cumulative hour, or when 50% of their useful life (or for rechargeable batteries, 50% of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery shall be

legibly marked on the outside of the transmitter. The battery useful life (or useful life of charge) requirements of this paragraph do not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

The required life rafts, life preservers, and survival type emergency locator transmitter shall be easily accessible in the event of a ditching without appreciable time for preparatory procedures. This equipment shall be installed in conspicuously marked, approved locations.

A survival kit, appropriately equipped for the route to be flown, shall be attached to each required life raft.

NOTE	Adult life preserver vests may be used for infants.

8.2.3.5 Sick Passengers and Persons with Reduced Mobility (PRMs)

Revision: 23 - 29 AUG 24

The acceptance for transportation of sick, disabled and handicapped passengers is restricted in the interest of their own safety and that of other passengers. A person with reduced mobility (PRM) is understood to mean a person whose mobility is reduced due to physical incapacity (sensory or locomotory), an intellectual deficiency, age, illness or any other cause of disability when using transport, and whose situation requires special attention and the adaptation, to his needs, of the service made available to all passengers. The company therefore, is entitled to insist upon the production of a written report on fitness for travel, issued by a medical doctor of EL AL.

No transportation, under any circumstances, will be provided to a person who:

- Has a contagious/infectious disease, e.g. open tuberculosis, infectious hepatitis; scarlet fever, diphtheria, chickenpox, etc.;
- Requires medical treatment by pneumatically or electrically operated apparatus which, for specific reasons, is not allowed to be operated on board.

The following definitions constitute commonly agreed indications for the degree of immobility and extent of the assistance required for the journey:

BLIND	Passenger who is blind.
DEAF	Passenger who is deaf.
DEAF/BLIND	Blind and deaf passenger, who can move about only with the help of an accompanying person.
DPNA	Disabled Passenger with intellectual or developmental disability where the disability is non-physical. DPNA passengers shall be accompanied in flight.
MAAS (meet and assist)	All other passengers in need of special help.
MEDA	Passenger whose mobility is impaired, due to clinical cases with medical pathology in progress, being authorized to travel by medical authorities. Such passenger usually has social coverage in relation to the illness or accident in question.
STCR	Passenger who can only be transported on a stretcher. Such passenger may or may not have social protection or specific insurance.
WCHC	Passenger who is completely immobile, who can move about only with the help of a wheelchair or any other means and who requires assistance at all times from arrival at the airport to seating in the aircraft or, if necessary, in a special seat fitted to his specific needs, the process being inverted at arrival.

WCHP	Passenger with a disability of the lower limbs who has sufficient personal autonomy to take care of himself, but who requires assistance to embark or disembark and who can move about in an aircraft cabin only with the help of an on-board wheelchair. **NOTE** This code is currently not in use by EL AL.
WCHR	Passenger who can walk up and down stairs and move about in an aircraft cabin, but who requires a wheelchair or other means for movements between the aircraft and the terminal, in the terminal and between arrival and departure points on the city side of the terminal.
WCHS	Passenger who cannot walk up or down stairs, but who can move about in an aircraft cabin and requires a wheelchair to move between the aircraft and the terminal, in the terminal and between arrival and departure points on the city side of the terminal.

Before accepting such passengers for transportation, the company shall have ascertained the availability, from departure to arrival, of staff trained and qualified to meet their needs and of the appropriate medical equipment. Normally, passengers on stretchers shall be accompanied either by a doctor/nurse or by a family member or other escort.

The number of handicapped passengers should not exceed the number of able bodied persons capable of assisting with an emergency evacuation. Passengers with disabilities as circumscribed under WCHP, WCHS and WCHC above, shall be allocated seats in between two pairs of emergency exits; in this way, when the aircraft is being evacuated, they can - without impeding others - be assisted to reach the end of the queue forming at the emergency exit(s) and to leave the aircraft. For the allocation of seats to other handicapped passengers, see Chapter ***8.2.3.3 Allocation of Seats for Adults, Children and Infants*** above. Sick and disabled passengers and PRMs should be boarded separately (normally prior to all other passengers) as well as disembarked separately (normally after all other passengers have left the cabin). The ISM shall be notified by the "On-board Service List" form, when handicapped passengers and PRMs are to be carried on board; he shall brief the PIC and his crew accordingly. Information on passengers requiring any assistance at transit or destination airports, shall be forwarded by to the ground staff or handling agent at the respective downline station(s).

Passengers requiring the use of supplementary oxygen shall be accepted and carried in accordance with Company Procedure 09-404 as well as the CFSM and CSOM.

For the carriage of gas cylinders, drugs, medicines, other medical material, wet cell or lithium battery powered wheel chairs, see Chapter ***8.2.3.8 Loading and Securing of Items in the Aircraft***, and Chapter ***9 Dangerous Goods and Weapons***. Use of medical (passenger supplied) oxygen shall be in accordance with the EL AL maintenance program.

8.2.3.5.1 Use of Safety and Emergency Items

Revision: 22 - 20 FEB 24

- The use of Personal Protective Equipment (PPE) should not impact the ability to carry out normal, abnormal and emergency safety procedures, such as the donning of oxygen masks, carrying out firefighting procedures etc. Cabin crew members shall remove their protective face masks in case of emergency, in order to facilitate the communication of instructions to passengers;
- In case of a medical emergency on board, resuscitation (chest compressions and/or mouth to-mouth), if needed, should be performed based on the existing protocols. The one-way valve of the mouth to mouth resuscitation mask will protect the crew member providing the respiratory

support from contamination. Nevertheless, proper hand hygiene should be performed immediately after the CPR is over by all crew members (and volunteers where applicable), before touching or getting in direct contact with other passengers or crew members;

- Hand sanitizers containing alcohol shall not be installed or carried adjacent to any source of heat, such as ovens, water heaters, Inflight Entertainment systems etc.

8.2.3.5.1.1 Portable Oxygen Concentrators

Revision: 19 - 14 MAR 21

Portable Oxygen Concentrators (POCs) may be used during flight on the condition that the POC is one of those listed in Appendix ***8.14 List of Approved Portable Oxygen Concentrators***.

During taxi, take-off, and landing, the POC shall either:

1. Be used by the passenger at a seat location and in such a way that it does not restrict any passenger's access to an exit or aisle; or
2. Be stowed under the seat in front of the user or in an overhead bin.

Whenever the PIC turns off the “Fasten Seat Belt”' sign, passengers operating their portable oxygen concentrator may continue to operate it while moving about the cabin.

8.2.3.5.2 Foldable Wheelchairs On Board

Revision: 19 - 14 MAR 21

On B787 aircraft only, there is a priority closet to stow at least one typical adult-sized folding, collapsible, or break-down manual passenger wheelchair. The following rules apply to this storage space:

- The dimensions of the wheelchair shall be 13 inches (33 cm) by 36 inches (91 cm) by 42 inches (107 cm) or less without having to remove the wheels or otherwise disassemble it;
- Such wheelchairs and assistive devices shall be stowed in this area on a “first come, first served” basis, determined by the order in which the passenger(s) requested the service at the departure gate;
- Wheelchairs and other assistance devices shall have priority for this closet over other items brought onto the aircraft by other passengers or crew, including crew luggage;
- It shall never be requested or suggested that a passenger not stow his or her wheelchair in the cabin for any non-safety related reason (e.g., that it is easier if the wheelchair is stowed in the cargo compartment);
- Any passenger stowing his or her wheelchair in the cabin shall be offered pre-boarding.

8.2.3.6 Transportation of Inadmissible Passengers, Deportees or Persons in Custody

Revision: 19 - 14 MAR 21

“Inadmissible Passengers” (INADs) are passengers who are refused admission to a country by authorities of such country, e.g., due to lack of a visa, expired passport, lack of funds or suspected intent to illegally take up employment. Unless explicitly ordered otherwise by the authority refusing entry, an INAD shall be carried outbound again on an EL AL flight to a country of his choice where there is no risk of his being refused entry again, but no further than his home country or country of permanent residence.

"Deportees" (DEPA - Accompanied, DEPU - Unaccompanied) are foreign persons who had legally been admitted to a country or who had entered a country illegally, and who at some later time are formally ordered by the authorities to be removed from that country. Apart from illegal entry, reasons for removal comprise expiry of residence permit, offenses or criminal acts committed in the deporting country, or extradition at the request of another country. The company and the PIC (who shall be notified by the "On-board Service List" form prior to departure of the intended carriage of inadmissible passengers, deportees or persons in custody and of the reason for carriage) have not only the right, but the duty to refuse transportation of such passengers if their carriage poses any risk to the safety of the aircraft or its occupants. Therefore, the Company and (via the Company) the PIC are entitled to be informed of the reason for the deportation and, if necessary, to insist on the passenger being escorted during the flight by a representative of the deporting country, with a ticket at the applicable fare being provided for such representative by the deporting authority.

In particular, inadmissible passengers or deportees who:

- Will physically resist carriage; or
- Have already been denied transportation by another company; or
- Might endanger the safety of the aircraft or of its load, of other passengers or of the crew; or
- Are deported after execution/suspension of a sentence for a crime of violence.

Those mentioned in the preceding paragraph shall be carried only under escort of a government official, or of a similarly trained guard provided by a commercial agency.

The relevant Authority will determine, if a deportee requires an escorting official or guard, and they will also determine how many escorting officials or guards are required to guarantee the safety of the flight. Only one person under custody defined as a high risk shall be allowed on the flight. For high risk persons, at least two escorting officials shall be required and they shall not escort another person under custody on the same flight. For persons under custody not defined as high risk, only one escort is required who may escort up to 2 persons under custody. Whenever it has been determined that the passenger requires an escort, such escorting person shall be present and on duty when the passenger is checked in; and shall remain so until the company relinquishes responsibility for the passenger after transportation.

The escort shall show that he has the required means to limit the movement of the person under custody when needed, and that a body search has been performed and that no item that could be used as a lethal weapon was found on him or in his possession.

Seat allocation for the deportee and the escort shall be the last row of the cabin (as far as possible) and shall not be located near a galley nor next to or opposite an exit; The escort shall be seated between the deportee and the aisle (no clear passage of the deportee to an aisle).

No metal food utensils shall be used to serve the person under custody (unless approved so by the escort).

The PIC or ISM upon notification by the "On-board Service List" or other means, shall, prior to departure, brief the entire crew accordingly.

Whenever feasible, such passengers shall be boarded prior to other passengers in order to provide utmost discretion; if, at this stage, a deportee physically resists boarding the aircraft he shall be refused embarkation and transportation.

Information on the carriage of such passengers and reason for such carriage shall be forwarded to the ground staff or handling agent at the respective downline station(s) who, in turn, shall confirm receipt of this information and shall inform the local authorities.

8.2.3.7 Permissible Size and Weight of Hand Baggage

(*) Revision: 23.1 - 15 MAR 25

For the secure stowage of hand baggage, see CFSM chapter 2.3 עליית נוסעים ואחסון כבודה. The size and mass limits for hand luggage is basically limited to 1 piece per person not exceeding 8 kg. The dimensions of each item shall fit into a receptacle which should serve as a gauge. The number of pieces vary by passenger class/frequent flyer status, and appear on the Company web site (www.elal.co.il). Baby strollers are not permitted to be stowed in the cabin, with the exception of strollers that meet the weight and size requirements for carry-on baggage when folded (i.e. YOYO strollers).

EL AL and its handling agent(s) shall brief passengers at check-in by means of placards/posters or verbally, upon the maximum size and weight of hand baggage.

When boarding is in progress ground staff shall visually scan the hand baggage held by passengers - in case check-in personnel were bypassed - and, where such baggage exceeds the allowance, politely deny the passenger access to the aircraft until such baggage has been given up to be stowed in a baggage/cargo hold or suitable place outside of the aircraft's cabin.

Once on board, the cabin crew members shall verify that the hand baggage held by passengers is stowed in accordance with CFSM chapter 2.3 עליית נוסעים ואחסון כבודה. When such stowage is not possible due to the baggage's size or lack of storage place, the baggage shall be stowed in a baggage/cargo hold or suitable place outside of the aircraft’s cabin.

Where, in exceptional cases, a passenger is prepared to pay for an extra seat in order to carry extremely valuable baggage (e.g., antique musical instruments, works of art etc.) acceptance is only permitted if the baggage weighs 45 kg or less or is approved by the EL AL Engineering Department. In any case, the safety and comfort of other passengers shall not be impaired, and the size of such baggage shall permit it to be secured in such a manner as to prevent movement forward, sideways or upwards under crash impact sufficient to induce the ultimate inertia forces in an emergency landing.

8.2.3.8 Loading and Securing of Items in the Aircraft

8.2.3.8.1 Loading

Revision: 19 - 14 MAR 21

All baggage, cargo and mail to be loaded should be positioned on the ramp in sufficient time in order to ensure an on-time departure and to reduce pressure upon Staff detrimental to safety. The load shall be protected against the elements and all sources of contamination. All loading equipment and material shall be handled carefully to avoid damage to the aircraft and the load.

Only the appropriate compartments shall be used for loading. Loading in toilets, crew compartments etc. is prohibited.

All aircraft specific limitations and instructions (e.g. for loading unit load devices - ULD’s) shall be observed (see OM Part B).

In compartments with pallet positions no load shall be stowed on the floor beside the pallets. Special handling instructions (e.g. “This Side Up”) shall be observed for sensitive shipments which shall be loaded carefully to prevent damage by other items. Heavy and solidly packed pieces shall be loaded at the bottom.

Cargo shall be excluded from carriage if:

- It is not properly packed;
- It may damage or contaminate the aircraft or other load;
- Special handling instructions/equipment cannot be observed/supplied.

NOTE	Any damage to the aircraft skin or structure, however slight, which occurs or is noticed during loading/unloading, shall be reported immediately.

NOTE	Each OM Part B (Loading and Weight and Balance Handbook) details special procedures to be followed during loading/unloading so as to prevent the aircraft tipping onto its tail.

8.2.3.8.2 Unloading

Revision: 19 - 14 MAR 21

For unloading the same safety-relevant principles are valid as for loading.

Personnel and equipment should be available at the parking position upon arrival of the aeroplane. Passenger baggage should normally be unloaded first. Cabin load, if any, shall be unloaded after all passengers have disembarked. Mail shall be unloaded before other cargo. After completion of unloading the cargo, compartments shall be carefully checked by a designated staff member for damages, spilled liquids and contamination.

8.2.3.8.3 Securing of Loads in the Cabin

Revision: 23 - 29 AUG 24

Usually Cargo is not carried in passenger compartments of EL AL aircraft. In the exceptional cases where cargo is carried in the passenger cabin it may only be carried if it is stowed and secured on an approved cargo bin or seat container certificated to withstand specific load factors, or as permitted by the All Cargo Operations provisions. The bin shall be attached to the seat tracks/floor structure and the seat container to the passenger seat. The maximum loading limits shall be observed.

Cabin loading shall be completed prior to boarding passengers, Emergency Exits shall not be obstructed.

Installations are not permitted in a position that obscures any passenger’s view of any required “seat belt” or “no smoking” or “exit” sign, nor in a location that restricts access to or use of any required emergency equipment or exit, or of the aisle. Nor shall the equipment delay exit or interfere with the cabin crew’s view.

For hand baggage and cargo carried in the passenger compartment refer to CFSM, Chapter 2.3 עליית נוסעים ואחסון כבודה.

8.2.3.8.4 Securing of Load in the Holds

Revision: 19 - 14 MAR 21

Securing procedures and limitations of loads in the holds is detailed in the OM Part B (Loading and Weight & Balance Handbook).

8.2.3.9 Special Loads

8.2.3.9.1 Items Exempted from Dangerous Goods Requirements

Revision: 19 - 14 MAR 21

The carriage of articles and substances which would be otherwise classed as dangerous goods are exempted from the provisions of Chapter *9 Dangerous Goods and Weapons* to the extent specified in the "ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air" (ICAO Doc 9284) provided that:

- They are required to be aboard the aircraft in accordance with the relevant regulations or for operating reasons;
- They are carried as catering or cabin service supplies;
- They are carried for use in flight as veterinary aid for an animal;
- They are carried for use in flight for medical aid for a patient, provided that:
  - Gas or oxygen cylinders have been provided by EL AL, or passenger's own equipment after having been authorized by EL AL Engineering. A notation shall be made on the Load Sheet, LBC, and OSL;
  - Portable Oxygen Concentrators (POCs) meet the requirements laid down in Chapter *8.2.3.5.1. Portable Oxygen Concentrators*; **APPROVED**
  - Drugs, medicines and other medical matter are under the control of trained personnel during the time when they are in use in the aircraft;
  - Equipment containing wet cell batteries is kept and, when necessary, secured in an upright position to prevent spillage of the electrolyte; and
  - Proper provision is made to stow and secure all the equipment during take-off and landing and at all other times when deemed necessary by the PIC in the interest of safety.

NOTE	(1) Articles and substances intended as replacements for those listed under the first bullet point above shall be transported on an aircraft as specified in the Technical Instructions. Except narcotic drugs, marijuana, and depressant or stimulant drugs or substances with a written authorized by the CAAI; (2) No person may operate a civil aircraft with knowledge that narcotic drugs, marijuana, and depressant or stimulant drugs or substances are carried in the aircraft unless carriage of such substances has been authorized in written form by the CAAI.

8.2.3.9.2 Battery Operated Wheelchairs (as Baggage)

Revision: 19 - 14 MAR 21

Before loading a wheelchair it shall be ascertained:

- That the battery is securely attached to the wheelchair;
- That the battery is disconnected;
- That the battery terminals are insulated in order to prevent short-circuits.

Wheelchairs which **cannot** be loaded, stowed, secured and unloaded in an **upright** position shall have the battery removed; the removed battery shall be carried in strong, rigid packaging:

- Packaging shall be leak tight and impervious to battery fluid;

- Batteries shall be protected against short circuits, secured upright in their packaging and surrounded by compatible material sufficient to absorb their total liquid contents;
- Packaging shall be marked “BATTERY, WET, WITH WHEELCHAIR” and be labelled “CORROSIVE”;
- Packaging shall be stowed/secured in accordance with the relevant provisions of Chapter ***8.2.3.7 Permissible Size and Weight of Hand Baggage*** and Chapter ***9.3 Provisions for Dangerous Goods Carried by Passengers or Crew***.

The PIC shall be informed, by comment on the load sheet, of the location of the battery on board. The Ground Handling Staff shall send a message to the destination or transfer station indicating the passenger’s name/seat number and the location of wheelchair/battery.

NOTE	Battery driven wheelchairs with dry cell batteries or non-spillable wet cell batteries are rare; they may be carried in accordance with Chapter ***9.3 Provisions for Dangerous Goods Carried by Passengers or Crew***, section “Mobility Aids: Battery powered Wheelchairs or other similar mobility devices with Non-spillable (sealed lead acid) Wet Batteries or with Batteries which Comply with Special Provision A123 or A199”.

8.2.3.9.3 Wet Cargo

Revision: 19 - 14 MAR 21

“Wet Cargo” designates shipments containing liquids or which, by their nature, may produce liquids and which are not subject to the dangerous goods regulations:

- Shipments of liquids in watertight containers;
- Shipments of wet materials not packed in such containers, e.g., fish packed in wet ice, fresh meat, casings (fresh animal guts), wet hides, skins;
- Goods which may produce liquids (for live animals refer to ***8.2.3.9.4 Live Animals***).

Watertight containers shall meet the specifications of the ICAO Technical Instructions. They shall be able to withstand the variations in atmospheric pressure and temperature encountered in the course of flight, without rupture or leakage. Other containers shall be of high quality waterproof material. Containers with cargo which may produce liquids shall be leakproof or contain sufficient absorbent material. Packing shall allow for the **maximum** angles of roll and bank the aeroplane may encounter during flight without leakage of the liquid contents.

Plastic tarpaulins shall be spread out on the aeroplane’s or ULD's floor and walls so as to catch spillages. Containers shall be secured in an upright position.

For wet cargo in containers which are not watertight or waterproof, secondary measures shall be taken to ensure that any spillage is contained, by:

- Placing the shipment in a container of sufficient volume to contain any spillage;
- Turning up the edges of the tarpaulin against the aeroplane’s/ULD's walls or against other cargo so as to create a second waterproof container around the shipment; and
- Ensuring that obviously inadequate packed or leaking packages have not been loaded to prevent compartments, aeroplane structure or its components and other load from damage and/or corrosion.

All load devices used for carriage of meat or similar organic material shall be cleaned and disinfected immediately after unloading.

Handling staff shall, by NOTOC, inform the Commander of such cargo before departure and, by appropriate message, the downline station(s).

8.2.3.9.4 Live Animals

(*) Revision: 23.1 - 15 MAR 25

General

Carriage of live animals in the cabin is limited by considerations of passenger safety and comfort and by the size of the cabin (separation of individual animals from each other). Carriage in cargo compartments may require pressurization, ventilation, heating, lighting. Particulars are, therefore, specified in each aircraft's OM Part B (Loading Weight and Balance Handbook). The following general guidelines have been developed:

Cabin

- **Only** dogs, cats, and birds are accepted for carriage in the cabin;
- With the exception of guide/service animals (including emotional support animals - on USA flights only) – up to 2 small live puppies or kittens may be carried in the cabin in the same bag/basket/kennel provided the total weight does not exceed 9 kg;
- Prior company approval shall have been obtained;
- Such approval will stipulate that the pet shall be carried in a suitable soft closed carry bag, a closed basket or a rigid kennel/cage with a maximum size and properties as defined in the Ground Operations Procedures. The pet shall stay in the container/bag for the duration of the flight. The container/bag shall be stowed under the seat in front of the passenger during take-off and landing;
- The passenger, under whose care the pet travels, shall be in possession of all documents required by the authorities at the destination;
- The PIC and handling staff shall ensure that no animal is carried in the cabin which might impede an emergency evacuation. For guide/service dogs (including emotional support dogs), the passenger shall have a muzzle and harness for the dog. Such dogs may be placed at the feet of a passenger with a disability at any bulkhead seat, or in any other seat as long as when the animal is seated/placed/curled up on the floor, no part of the animal extends into the main aisle(s) of the aircraft and the service/guide/support dog is not at an emergency exit row seat.

Cargo Compartments

The carriage of live animals in cargo compartments is covered in the OM Part B - Loading Weight & Balance Handbook.

Stowage and loading of animals shall follow the principles outlined in Chapter ***8.2.3.8 Loading and Securing of Items in the Aircraft*** and Chapter ***8.2.3.9 Special Loads*** and the following additional guidelines shall be taken into account:

- Containers shall be stowed in such a manner as to guarantee sufficient air circulation;
- Containers shall be accessible, without needing to be off-loaded when care of the animals is required at transit stations;
- In the event of excessive delays, take special care of the animal(s) - according to the shipper's instructions;

- Containers shall normally not be loaded directly in front of/below air ventilation outlets or internal lighting;
- Animals which are natural enemies shall not be loaded in close proximity to each other;
- Male and female animals should be stowed as far apart as possible;
- In general, live animals shall not be loaded in close proximity to any other load which might have a negative effect on their wellbeing or health.

The handling staff shall, by NOTOC, inform the PIC before departure of all live animals, their requirements and their location; the PIC will brief the Cabin Crew on all animals carried in the cabin.

The handling Staff will inform all down-line stations by appropriate messages.

8.2.3.9.5 Perishable Cargo

Revision: 23 - 29 AUG 24

Perishable goods are those whose condition or suitability may deteriorate if exposed to undue changes in temperature or humidity, or delay in carriage. They shall only be accepted for carriage when it is reasonably certain that they will reach the destination in good condition. Therefore, it is mandatory that the shipper provides instructions as to the maximum acceptable duration of transportation and any required special handling.

This will enable the company to make appropriate en-route arrangements. The temperature range and ventilation requirements of such cargo shall be matched by the capabilities of the cargo compartment provided. Perishable cargo shall be accessible, without needing to be off-loaded, whenever any handling is required at a transit or the destination station. Perishables refrigerated with wet ice or containing fluid or moisture which could leak out shall be treated as wet cargo, see Chapter ***8.2.3.9.3 Wet Cargo***. Perishables refrigerated with dry ice fall under the provisions of Chapter ***9 Dangerous Goods and Weapons***. Foodstuffs shall not be loaded together with poisons, infectious substances nor in close proximity of live animals and non-cremated human remains, see Chapter ***8.2.3.10 Classification of Load Compartments***.

8.2.3.9.6 Human Remains

Revision: 19 - 14 MAR 21

Non-cremated human remains shall be contained in a hermetically sealed inner coffin of lead or zinc inside a wooden coffin. Such human remains shall not be loaded in the same hold as animals or a hold that contains food for human or animal consumption or edible materials, see Chapter ***8.2.3.10 Classification of Load Compartments***. No loads will be loaded on top of the coffin.

The Human Remains shall be stated on the NOTOC.

The PIC, by NOTOC, and the down-line stations shall be informed.

8.2.3.9.7 Carriage of Mail, Valuables and Weapons

Revision: 19 - 14 MAR 21

The carriage of mail, valuables and unloaded weapons, per se, have no other relevance to the safety of the aircraft, its occupants and load than any other neutral cargo. Chapter ***8.2.3.8 Loading and Securing of Items in the Aircraft*** applies for properly securing these items.

However, the potential destructiveness of weapons requires their transportation to follow certain approvals and provisions which are outlined in Chapter ***9 Dangerous Goods and Weapons***.

In order to secure mail, valuables and weapons against damage, pilferage or theft, the Company will discuss and agree with the shipper and, where necessary, with the recipient, on the appropriate provisions for storing, loading, transport, unloading and storage of the items.

8.2.3.10 Classification of Load Compartments

Revision: 22.1 - 1 JUN 24

For the designation of aircraft holds, compartments, bays and cabin the following definitions shall be used:

Bay — A subdivision of a containerised/palletised compartment, i.e., ULD position.

Cabin — The compartment of an aeroplane where passenger seats are installed.

Cabin Section — Resulting from division of the cabin into zones for the purpose of balance.

Compartment — A space designated within a hold.

Deck — A structural floor level. For aeroplanes having one structural level only, this floor level shall be referred to as the main deck. For aeroplanes having more than one structural floor level the different levels shall be referred to as *lower deck*, *main deck* and *upper deck*, starting from bottom to top.

Hold — The space confined by ceiling, floor, walls and bulkhead, used for carrying load.

Left/Right — To be understood as left and right in the direction of flight.

Section — A subdivision of a non-containerized/palletized compartment, i.e., net section.

Class A — A Class A cargo or baggage compartment is one in which:

1. The presence of a fire would be easily discovered by a Crew member while at his station; and
2. Each part of the compartment is easily accessible in-flight.

Class B — A Class B cargo or baggage compartment is one in which:

1. There is sufficient access in-flight to enable a crew member to effectively reach any part of the compartment with the contents of a hand-held fire extinguisher;
2. When the access provisions are being used no hazardous quantity of smoke, flames or extinguishing agent will enter any compartment occupied by the crew or passengers; and
3. There is a separate approved smoke detector or fire detector system to give warning to the pilot station.

Class C

A Class C cargo or baggage compartment is one not meeting the requirements for either a Class A or B compartment but in which:

1. There is a separate approved smoke detector or fire detector system to give warning at the pilot station;
2. There is an approved built-in fire-extinguishing system controllable from the pilot stations;
3. There are means to exclude hazardous quantities of smoke, flames, or extinguishing agent, from any compartment occupied by the crew or passengers; and
4. There are means to control ventilation and draughts within the compartment so that the extinguishing agent used can control any fire that may start within the compartment.

Class D

A Class D cargo or baggage compartment is one in which:

1. A fire occurring in it will be completely confined without endangering the safety of the aeroplane or the occupants;
2. There are means to exclude hazardous quantities of smoke, flames or other noxious gases, from any compartment occupied by the crew or passengers;
3. Ventilation and draughts are controlled within each compartment so that any fire likely to occur in the compartment will not progress beyond safe limits;
4. Consideration is given to the effect of heat within the compartment on adjacent critical parts of the aeroplane;
5. The compartment volume does not exceed 1,000 cu.ft.
6. For compartments of 500 cu.ft or less, an airflow of 1,500 cu.ft per hour is acceptable.

Class E

A Class E cargo compartment is one on aeroplanes used only for the carriage of cargo and in which:

1. There is a separate approved smoke or fire detector system to give warning at the pilot station;
2. There are means to shut off the ventilating airflow to, or within, the compartment, and the controls for these means are accessible to the flight crew in the crew compartment;
3. There are means to exclude hazardous quantities of smoke, flames, or noxious gases, from the flight crew compartment; and
4. The required crew emergency exits are accessible under any cargo loading condition.

8.2.3.11 Dangerous Goods

Revision: 19 - 14 MAR 21

See Chapter ***9 Dangerous Goods and Weapons***.

8.2.3.12 Incompatibility Charts

Revision: 19 - 14 MAR 21

Incompatibility charts in Chapter ***9 Dangerous Goods and Weapons*** and the OM Part B provide guidance on load incompatibilities; some dangerous goods may either be incompatible with other loads or react dangerously with each other in case of damage; as already outlined above, certain types of special loads may also not be loaded close to each other. Aeroplane type specific load incompatibility charts (OM Part B) shall also specify permissible loading positions, or conversely, prohibited positions.

8.2.3.13 Positioning of Ground Equipment

Revision: 23 - 29 AUG 24

Only appropriately trained Company Staff or Handling Agents may operate mobile ground equipment.

The pattern to be followed, for a given type of aircraft, in positioning loading and servicing equipment is published in the respective OM Part B.

Ground equipment shall not approach the aircraft until all engines have been shut down and the aircraft’s parking brakes have been set or the chocks are in position.

NOTE	In case after landing the APU is not available for shutdown procedure, the flight crew shall notify OCC/ACC and verify confirmation from OCC/ACC.

NOTE	When, in exceptional cases, one engine shall be kept running (e.g., when no APU electrical power available) ground equipment shall only approach that side of the aircraft where all engines have been shut down. The PIC and the Ground Handling Staff shall, beforehand, have agreed on the course of action to be followed.

Steps/passenger jetways and catering trucks shall be positioned at the aircraft prior to opening the respective cabin doors, see Chapter ***8.2.3.14 Operation of Aircraft Doors*** below.

Sufficient distance between ground equipment and the aircraft shall be maintained in order to avoid damage caused by vertical movement of wings/fuselage during un-loading/loading/re-fueling/de-fueling. Utmost care shall be taken in shifting ground equipment in the aircraft's vicinity.

Fuel hoses, (see also Chapter ***8.2.2 Fueling***) and connections should never be run over by ground equipment. Loading and servicing equipment should not be positioned or maneuvered under the wings.

With the exception of fuel trucks, mobile equipment shall not be positioned within the venting areas during fueling/defueling.

Equipment when parked away from, or positioned at the aircraft shall have parking brakes set.

Equipment approaching, maneuvering at or leaving the aircraft shall not be driven faster than at walking speed.

Aircraft and pedestrians have the right-of-way. Equipment should never move across the path of taxiing aircraft or of embarking/disembarking passengers. Personnel shall not ride on elevating platforms of moving ground equipment.

8.2.3.14 Operation of Aircraft Doors

Revision: 21 - 5 MAY 23

Aircraft type specific normal, abnormal and emergency procedures, concerning the operation of the cabin and compartment doors, are specified in the respective OM Part B. The following general guidelines shall be observed for normal operations:

Cabin and compartment doors, upon arrival, shall not be opened until all engines have been shut down and the aircraft's parking brakes have been set or the chocks are in position.

All doors shall be closed and locked before start of engines.

NOTE	When, in exceptional cases, one engine must be kept running, doors may only be opened at the aircraft's side where all engines have been shut down. The PIC and the ground Staff shall, beforehand, have agreed on the course of action to be followed, see also Chapter *8.2.3.13 Positioning of Ground Equipment*.

All cabin passenger and service doors shall be opened and closed from inside by **members of the operating crew or at Ben Gurion Airport only - by other trained and qualified personnel**[20], and according to the following:

- The ISM shall ask for approval from the PIC for opening the first door and for closing the last door;
- The CCM shall receive approval from the ISM for opening and closing all doors;
- For all opening and closing of doors, 2 persons are required (operator and monitor);
- If a door needs to be opened after all doors are closed, the PIC shall notify ground crew which door is required to be opened and shall give the ISM approval to open a single door after confirming that the slide is not armed. Once doors are closed for departure they may only be re-opened by the ISM with the PIC's permission;
- Prior to opening a door (except as described below for narrow gateways) there shall be positive approval by the ground staff knocking on the door, and the Crew Member shall establish visual contact with the person knocking on the door;
- If a door is opened or closed by a person who is not a Crew Member, the operator shall notify the ISM which door(s) he is operating.

NOTE	If necessary, the door may be partially opened by a trained staff member for the purposes of emptying the trash receptacle. The door shall be kept open for the minimum time required to empty the trash receptacle, and shall be closed immediately thereafter. The safety restraint strap shall be used.

When there is a need to open such a door from outside, only a qualified maintenance technician may do so. Before opening the door, he shall look for indications that the door is disarmed, check that all indicators show that it is safe to open the door, and ascertain by knocking twice on the door, that nobody is standing in the danger area on the inside.

Any open door shall have either a jet bridge, stairs or a catering/service truck connected. The door shall be closed before any of the above are detached from the aircraft. Whenever the design of steps/passenger jetways (see also Chapter *8.2.3.13 Positioning of Ground Equipment*) or catering trucks used do not permit opening or closing the doors when the equipment is in position, the

[20] Training of ground staff consists of the portions of the OM Part D relevant to operation of aircraft doors as pertaining to Cabin Crew. Qualification is documented in the SAP system.

respective doors shall only be opened immediately prior to the positioning of the equipment and closed immediately after the equipment has been removed. The person opening the door shall use the safety restraint strap provided.

If a member of the staff or cabin crew finds a door open without a jet bridge/stairs/service truck connected, he shall stay at the door and notify the ISM. The ISM shall notify the PIC and request that a jet bridge/stairs/service truck be connected or CCM assigned to that door shall close the door himself using the safety restraint strap provided. The door shall not be closed without a restraint strap under any circumstances. The ISM shall file a safety report of the open door.

In cases a restraint strap is not available for the crew member, the ISM may open/close the door for embarkation/disembarkation purposes only.

Main deck cargo doors, cargo and lower compartment doors shall normally be operated by the handling staff.

No person shall operate any door without having received prior theoretical/practical training by properly qualified staff. For such training, the OM Part B(s), provide detailed descriptions of such doors and their operation.

NOTE	For the operation of aircraft doors in strong winds refer to the OM Part B which specifies maximum permissible wind speeds and other particulars to be observed. If difficulties occur when attempting to close doors in strong winds, the aircraft shall be moved in order to position the doors concerned on the downwind side.

8.2.3.15 Safety on the Ramp, including Fire Prevention, Blast and Suction Areas

Revision: 19 - 14 MAR 21

The provisions of Chapter ***8.2.2 Fueling***, Chapter ***8.2.3.2 Embarkation/Disembarkation***, Chapter ***8.2.3.12 Incompatibility Charts***, Chapter ***8.2.3.15 Safety on the Ramp, including Fire Prevention, Blast and Suction Areas***, Chapter ***8.2.3.16 Start-up, Ramp, Departure and Arrival Procedures*** and Chapter ***9 Dangerous Goods and Weapons*** have all been developed in order to secure the safety on the ramp of all aircraft, crews, passengers, Staff and load. The following additional provisions shall be observed:

- No unauthorized persons shall enter the ramp;
- Smoking and the use of open fire is strictly prohibited;
- Ramp surfaces shall be frequently checked to prevent accidents caused by slipping/skidding on oil, ice or snow; such checks shall, as far as possible, also serve to detect foreign objects on the ramp surfaces which shall be removed in order to prevent “foreign object damage” to the tires and other parts of the aircraft, and to preclude “foreign object ingestion” by an engine;
- Ramp personnel shall wear ear protection permanently;

NOTE	All personnel, while on the ramp shall wear a high visibility vest.

- The responsible Staff member in charge shall ensure that the security zones around the suction and blast areas of the individual aircraft are observed and that no personnel or equipment are within such zones when the signals for engine start-up are given;

- As outlined in Chapter ***8.2.2.1 Procedures***, during fueling/defueling no vehicles (except fuel trucks) shall be positioned within the venting areas. In addition, whenever fuels other than Jet A1 are being uplifted, no electrical appliances shall be connected or disconnected within the venting areas. Normally, the fuel vents are located at the wing tips and for aircraft with tail tanks at the tip of the right-hand part of the stabilizer. For details see OM Part B;
- Whenever fuel has been spilled, fueling/defueling shall be stopped immediately. It shall be removed or dried up immediately in the presence of the fire service;
- Certain systems of the aircraft shall not be operated on the ramp (e.g., weather radar, HF radio transmitter while fueling/defueling). Refer to respective OM Part B.

8.2.3.16 Start-up, Ramp, Departure and Arrival Procedures

Revision: 22 - 20 FEB 24

The marshaller's signals are depicted in the Chapter “Rules of the Air” of the OM Part C General Airway Manual, Air Traffic Control, ICAO Rules of the Air, Marshalling Signals.

When Bluetooth headphones are in use, Ground Crew shall confirm the correct aircraft's Registration and parking position with the cockpit on initial contact.

Signals for engine start-up shall only be given after the staff member in charge has ascertained that the security zones around the suction and blast areas have been cleared, see Chapter ***8.2.3.15 Safety on the Ramp, including Fire Prevention, Blast and Suction Areas*** and after he has given clearance for start-up.

Depending on the type of aircraft, the ground to cockpit communication shall normally be performed by means of a headset; if that is impossible, the hand signals of the OM Part C shall be used. After disconnection of the headset, hand signals only apply. For type-specific procedures and provisions see OM Part B.

Normally, engine start should be done during pushback unless local regulations direct otherwise, or due to operational reasons. However, for 777/787 aircraft, engine start shall not be done during pushback if the pushback vehicle is using a towbar.

After engine start, flight crew shall release the ground crew by hand signal, as dictated by the FCOM Before Taxi Procedure. After receiving taxi clearance, the flight crew shall turn on the taxi lights before commencing taxi.

The ground crew shall remain clear of the aircraft but in the vicinity until the taxi lights are turned on. In case assistance is required, the flight crew shall signal the ground crew to reconnect for communication by flashing the taxi lights.

The following phraseology shall be used (the bold text indicates who initiates the communication):

Cockpit	Ground
BEFORE ENGINE START	
“GROUND FROM COCKPIT”	“GO AHEAD”
“REMOVE EXTERNAL POWER”	“EXTERNAL POWER REMOVED”
“REQUEST TO PRESSURIZE HYDRAULIC SYSTEMS”	“CLEARED TO PRESSURIZE HYDRAULIC SYSTEMS”
PUSHBACK/TOWING	
“GROUND FROM COCKPIT”	“GO AHEAD”
“READY FOR PUSHBACK POSITION .....FACING ....”	“READY FOR PUSHBACK POSITION .....FACING ....” RELEASE PARKING BRAKE

Cockpit	Ground
"BRAKES RELEASED"	"PUSHING BACK"
When pushback is complete:	
	"SET PARKING BRAKES"
"PARKING BRAKES SET"[21]	
ENGINE START	
"GROUND FROM COCKPIT"	"GO AHEAD"
"READY TO START ENGINES ....THEN ...."	"ALL ENGINES CLEAR"
Before taxi:	
"PREPARE AIRCRAFT FOR TAXI, STANDING BY FOR HAND SIGNAL"	"PREPARING AIRCRAFT FOR TAXI, STAND BY FOR HAND SIGNAL FROM THE LEFT/RIGHT"
SHUTDOWN	
"GO AHEAD"	**"COCKPIT FROM GROUND"**
	"EXTERNAL POWER CONNECTED"
"BRAKES SET/RELEASED"	"CHOCKS IN PLACE"

The flight deck personnel shall carefully evaluate the situation around the aircraft, particularly the distances to other aircraft and objects, select an adequate taxi speed and handle throttles accordingly to minimize blast effects and noise, particularly on start of taxi-roll from standstill.

Taxiing should be treated as a safety-critical activity due to the risks related to the movement of the aircraft and the potential for a catastrophic event on the ground.

Taxiing is a high workload phase that requires the full attention of the entire flight crew. Sterile flight deck procedures shall be observed.

Taxi-in and Parking

The aircraft shall not be parked without either proper marshalling or directional guidance calibrated for the aircraft type. As specified in certain airport reference pages, self parking is permitted following the lead-in line and stopping according to the stop line located on the left hand side.

The flight crew shall ensure that the safety area (bordered normally by red lines on the ground) is clear of obstacles (see Chapter *8.3.20.2.10 Landing, After Landing and Parking*).

A signal man should be available to monitor the progress of the aircraft and observe the parking gate for obstructions. If the PIC does not wish to use the guidance lights, he should stop the aircraft and flash the landing lights; the marshaller will guide the aircraft using hand signals.

Upon stopping at the gate, ground personnel shall notify the flight crew by the interphone that "chocks are in place". Hand signals may be used if the interphone system is unavailable or unserviceable.

Parking brakes shall not be released until all engines have been shut down and until the cockpit personnel have ascertained that chocks have been inserted and that the aircraft is not moving.

21 This also implies that the brake pressure is checked, if applicable.

8.2.3.17 Authority to Taxi an Aircraft

Revision: 19 - 14 MAR 21

To taxi an aircraft on the movement area of an airport a person, other than a flight crew member, shall fulfil the following requirements:

1. Has been duly authorized by the operator or a designated agent and is competent to:
   a. Taxi the aircraft;
   b. Use the radio telephone; and
2. Has received instructions in respect of airport layout, routes, signs, marking, lights, air traffic control signals and instructions, phraseology and procedures, and is able to conform to the operational standards required for safe aircraft movement at the airport.

8.2.3.18 Servicing of Aircraft

Revision: 19 - 14 MAR 21

Chapter ***8.2.2 Fueling***, Chapter ***8.2.3.2 Embarkation/Disembarkation***, Chapter ***8.2.3.8 Loading and Securing of Items in the Aircraft***, Chapter ***8.2.3.9 Special Loads***, Chapter ***8.2.3.13 Positioning of Ground Equipment***, Chapter ***8.2.3.14 Operation of Aircraft Doors***, Chapter ***8.2.5 De-Icing and Anti-Icing on the Ground***, Chapter ***9 Dangerous Goods and Weapons***, and all form a part of an aircraft's servicing. They have been described in the Chapters specified above.

For handling and servicing the aircraft on the ramp in strong winds, refer to the OM Part B.

Potable Water

Potable water systems are susceptible to contamination by bacteria and other microorganisms. It is therefore essential that such water is free from chemical substances/microorganisms which might cause illness, and that it is chlorinated. The company ensures that suitable bacteriological examinations of water samples taken from water supply systems, servicing vehicles and aircraft water systems are carried out at regular intervals. Potable water servicers shall not be filled up from the same tap as toilet servicers.

Potable water servicers and toilet servicers shall not be parked in the same area. Personnel engaged in toilet servicing shall not perform water service.

Stations where the uplift of water is not permitted appear in the Crew Bulletin for that specific airport.

Removal and Disposal of Waste

According to Article 14(3) of the WHO's International Health Regulations, “every port and airport shall be provided with an effective system for the removal and safe disposal of excrement, refuse, waste water, condemned food, and other matters dangerous to health”. The Company's handling agent will provide warning when the removal of waste at a specific airport is not ensured. Such information shall be relayed, by Ground Operations, to the flight deck and cabin crews.

Oxygen

Special safety provisions shall be observed when oxygen bottles of the aircraft are being filled or exchanged (i.e., connection/disconnection to/from system):

- No passenger shall be on board;
- No ground power unit shall be connected or disconnected;
- Maintenance procedures specify which electrical systems shall be “off” or, alternatively, shall not be operating;
- No fueling/de-fueling is permitted;
- Filling/exchanging is not permitted during a thunderstorm.

Cleaning of Cabin

Cleaning should have been finished, and cleaning personnel should have left the aircraft before passenger embarkation.

If passengers stay on board during transit, cabin cleaning should be performed in such a way as not to disturb the passengers.

The flight deck may only be cleaned under supervision of an authorized employee of the company.

8.2.3.19 Multiple Occupancy of Aircraft Seats

Revision: 19 - 14 MAR 21

Multiple occupancy of crew seats, whether by Crew Members or by passengers, is strictly prohibited.

For multiple occupancy of a passenger’s seat, see Chapter ***8.2.3.3 Allocation of Seats for Adults, Children and Infants***.

8.2.3.20 Smoking Regulations

Revision: 21 - 5 MAY 23

Airport authorities prohibit smoking in designated areas of the terminal buildings as well as on the ramp.

Smoking on board or in the vicinity of the aircraft is strictly forbidden.

8.2.4 Procedures for the Refusal of Embarkation

Revision: 19 - 14 MAR 21

A passenger shall be refused carriage and/or be removed from the aircraft when, in the exercise of reasonable discretion, the handling staff or the PIC decides that:

- Such action is necessary in the interest of safety of the aircraft or its occupants; or
- Such action is necessary to prevent violation of laws, regulations or decrees of any country to be flown from, into or over; or
- The conduct, behavior or appearance of the passenger make him objectionable to other passengers (however, passengers shall not be denied boarding if the objectionable conduct, behavior or appearance is due to a disability);
- The age or mental or physical condition of the passenger is such as to require special assistance which cannot be provided;
- The passenger has committed a Level III Incident as defined in Chapter ***10.4 Disruptive/Unruly Passengers***.

Any person who appears to be under the influence of alcohol or drugs to the extent that the safety of the aircraft or its occupants is likely to be endangered shall be refused embarkation. Furthermore, a pilot shall not allow a person who is definitely under the influence of alcohol to fly unless in an emergency situation or when the person is under medical supervision.

NOTE	The above requirements imply, of course, that the cabin crew shall, in flight, be discreet in serving alcoholic beverages to passengers. No such beverages shall be served to passengers who appear to be on the verge of intoxication, or to inadmissible/deported passengers/person in custody or their escorts, or to a person carrying weapons or explosives as permitted by the Israel Air Law, or to passengers or other persons admitted to the flight deck. No person shall be allowed to drink any alcoholic beverage unless staff of the operator has served that beverage to him.

NOTE	This requirement does not apply to medical patients who - even though under the influence of drugs - are under proper care, i.e. the requirements of Chapter *8.2.3.5 Sick Passengers and Persons with Reduced Mobility (PRMs)* shall have been met and, where considered necessary by the person issuing the written report on fitness for travel, an escort has been provided.

Whenever it becomes necessary to remove a passenger from an aircraft, the flight crew shall inform the handling staff who, in turn, will initiate the appropriate action, if necessary calling upon the service of law enforcement officers.

8.2.5 De-Icing and Anti-Icing on the Ground

Revision: 19 - 14 MAR 21

APPROVED

8.2.5.1 General

Revision: 20.2 - 14 DEC 22

Most of the difficulties during Cold Weather Operations are encountered on the ground. Consequently, awareness and anticipation of specific situations are required by all personnel associated with the operation of aircraft.

Any deposit of frost, ice, snow or slush on the external surfaces of an aircraft may drastically affect its flying qualities because of reduced aerodynamic lift, increased drag, modified stability and control characteristics. Furthermore, freezing deposits may cause moving parts, such as elevators, ailerons, flap actuating mechanism etc., to jam and create a potentially hazardous condition.

Engine, APU system performance may deteriorate due to the presence of frozen contaminants to blades, intakes and components. Also, engine operation may be seriously affected by the ingestion of snow or ice, thereby causing engine stall or compressor damage. In addition, ice/frost may form on certain external surfaces (e.g. wing upper and lower surfaces, etc.) due to effects of cold fuel/ structures, even in ambient temperatures well above 0° C.

It is imperative, therefore, that any deposits adhering to a parked aircraft are completely removed **(de-icing)** and, if conditions exist for the formation of ice before take-off, the aircraft horizontal surfaces and controls are coated with an ice-preventing agent **(anti-icing)** which will retain its effectiveness for the period between application and take-off **(holdover time)**.

When freezing precipitation occurs or should there be a risk of freezing precipitation occurring that is likely to contaminate the surfaces at the time of take-off, aircraft surfaces shall be anti-iced. Anti-icing fluids (neat or diluted) shall not be applied at OAT below their LOUT. If both de-icing and anti-icing are required, the procedure may be performed in a one- or two-step process, depending upon weather conditions, available equipment, available fluids and the desired HOT.

One-step de-icing/anti-icing means that de-icing and anti-icing are carried out at the same time, using a mixture of deicing/anti-icing fluid and water. Two-step de-icing/anti-icing means that de-icing and anti-icing are carried out in two separate steps. The aircraft is first de-iced using heated water only or a heated mixture of de-icing/anti-icing fluid and water. After completion of the de-icing operation, a layer of a mixture of de-icing/anti-icing fluid and water, or of de-icing /anti-icing fluid only, is sprayed over the aircraft surfaces. The second step will be taken before the first step fluid freezes (typically within 3 minutes but severe conditions may shorten this) and, if necessary, area by area.

Specific procedures must be followed when ground de-/anti-icing is necessary. The various local rules concerning aircraft cold weather operations are very specific and shall be strictly adhered to.

A pilot shall only commence take-off if the aircraft is clear of any deposit that might adversely affect the performance or controllability of the aircraft, except as permitted in accordance with the Airplane Flight Manual.

A pilot shall not take-off in an aircraft that has:

- Frost, snow or ice on any propeller, windshield or power plant installation or on airspeed, altimeter, rate of climb or flight altitude instrument systems;
- Snow, slush or ice on the wings or stabilisers or control surfaces, in gaps between the air frame and control surfaces, or in gaps between control surfaces and control tabs or any frost on the upper surfaces of wings or stabilisers or control surfaces.

Under no circumstances shall an aircraft that has been anti-iced receive a further coating of anti-icing fluid directly on top of the contaminated film. If an additional treatment is required before flight, a complete de-icing/anti-icing shall be performed. Ensure that any residues from previous treatment are flushed off. Anti-icing only is not permitted in that case.

Under certain meteorological conditions, de-icing and/or anti-icing procedures may be ineffective in providing sufficient protection for continued operations. Examples of these conditions are freezing rain, ice pellets and hail snow exceeding certain intensities, high wind velocity, and fast-dropping OAT. No HOT guidelines exist for these conditions.

8.2.5.2 Definitions

(*) Revision: 23.1 - 15 MAR 25

Active Frost	Active frost is a condition when frost is forming. Active frost occurs when aeroplane surface temperature is: • At or below 0 °C (32 °F); and • At or below dew point.
Anti-icing	The process of protecting the aircraft to prevent contamination due to existing or expected weather, typically by applying anti-icing fluids on uncontaminated aircraft surfaces.

Anti-icing Codes

Upon completion of the anti-icing treatment, a qualified staff provides the anti-icing code to the flight crew as follows:

The fluid Type/the fluid name (except for Type I) / concentration (except for Type I) / local time at start of anti-icing/date (optional) / the statement 'post- de-icing / anti-icing check completed' (if check completed).

EXAMPLE	'TYPE II / MANUFACTURER, BRAND X / 75% / 1335 / 15FEB20 / POST- DE-ICING/ANTI-ICING CHECK COMPLETED'.

When a two-step de-icing/anti-icing operation has been carried out, the anti-icing code shall be determined by the second step fluid.

Anti-icing Fluid

Includes, but is not limited to, the following:

1. Typically, Type II, III or IV fluid (neat or diluted), normally applied unheated (*);
2. Type I fluid/water mixture heated to minimum 60 °C at the nozzle.

(*) When de-icing and anti-icing in a one-step process, Type II and Type IV fluids are typically applied diluted and heated.

Check

An examination of an aircraft item against the relevant standard by a trained and qualified person.

Clean Aircraft

The aircraft's wings, control surfaces and engines are free of ice, snow and frost.

Clear Ice

Clear ice appears as a smooth glaze and is formed by the freezing of large waterdrops, such as is found in cumuliform clouds or freezing rain. Accumulation of thistype of ice is rapid because large drops spread out and assume the shape of thesurface on which they freeze. Clear ice adheres very strongly to the surface of theaircraft and is quite difficult to remove. If water runs back to aileron or elevatorhinges before freezing, it may restrict control movement.

Cold Soaked Clear Ice

This is the formation of ice, in the area of the wing fuel tanks, caused by the cold soak effect. Clear ice is very difficult to be detected visually and may break loose during or after take-off, and poses a hazard particularly to aircraft with rear fuselage mounted engines.

Cold Soaked Fuel Frost

This is the formation of frost, in the area of the wing fuel tanks, caused by the cold soak effect.

Cold Soaked Surface Frost (CSSF)	Frost developed on cold soaked aircraft surfaces by sublimation of air humidity. This effect can take place at ambient temperatures above 0 °C. Cold soaked aircraft surfaces are more common on aircraft that have recently landed. External surfaces of fuel tanks (e.g. wing skins) are typical areas of CSSF formation (known in this case as cold soaked fuel frost (CSFF)), due to the thermal inertia of very cold fuel that remains on the tanks after landing.
Cold Soaked Wing Ice / Frost	Water, visible moisture, or humidity forming ice or frost on the wing surface, when the temperature of the aircraft wing surface is at or below 0 °C (32 °F).
Cold Soaking	Ice can form even when the outside air temperature (OAT) is well above 0 °C (32 °F). An aircraft equipped with wing fuel tanks may have fuel that is at a sufficiently low temperature such that it lowers the wing skin temperature to below the freezing point of water. If an aircraft has been at a high altitude, where cold temperature prevails, for a period of time, the aircrafts' major structural components such as the wing, tail, and fuselage will assume the lower temperature, which will often be below the freezing point. This phenomenon is known as cold soaking. While on the ground, the cold soaked aircraft will cause ice to form when liquid water, either as condensation from the atmosphere or as rain, comes in contact with cold soaked surfaces.
Cold-Soak Effect	The wings of an aeroplane are said to be “cold-soaked” when they contain very cold fuel as a result of having just landed after a flight at high altitude or from having been re-fuelled with very cold fuel. Whenever precipitation falls on a cold-soaked aeroplane when on the ground, clear icing may occur. Even in ambient temperatures between -2 °C and +15 °C, ice or frost can form in the presence of visible moisture or high humidity if the aeroplane structure remains at 0 °C or below. Clear ice is very difficult to be detected visually and may break loose during or after take-off. The following factors contribute to cold-soaking: • Temperature and quantity of fuel in fuel cells; • Type and location of fuel cells; • Length of time at high altitude flights; • Temperature of refuelled fuel; and • Time since refuelling.
Conditions Conducive to Aircraft Icing on the Ground	Freezing fog, freezing precipitation, frost, rain or high humidity (on cold soaked wings), hail, ice pellets, snow or mixed rain and snow, etc.

Contamination	All forms of frozen or semi-frozen deposits on an aircraft, such as frost, snow, slush or ice.
Contamination Check	A check of the aircraft for contamination to establish the need for de-icing.
De-icing	The process of eliminating frozen contamination from aircraft surfaces, typically by applying de-icing fluids.
De-icing Fluid	Such fluid includes, but is not limited to, the following: 1. Heated water; 2. Preferably, Type I fluid (neat or diluted (typically)); 3. Type II, III or IV fluid (neat or diluted). The de-icing fluid is normally applied heated to ensure maximum efficiency and its freezing point shall be at the outside air temperature (OAT) or below.
De-icing Service Provider	The company responsible for the aircraft de-icing/anti-icing operations on an airfield.
De-icing/Anti-icing	This is the combination of de-icing and anti-icing performed in either one or two steps.
Freezing Drizzle	Fairly uniform precipitation composed exclusively of fine drops (diameter less than 0,5 mm [0,02 in]) very close together which freezes upon impact with the ground or other exposed objects.
Freezing Fog	A suspension of numerous very small water droplets which freezes upon impact with ground or other exposed objects, generally reducing the horizontal visibility at the earth's surface to less than 1 km (5/8 mile). A high degree of awareness is required for all low visibility taxi operations.
Freezing Precipitation	Corresponds to freezing rain or freezing drizzle.
Frost/Hoar Frost	Frost is the tiny solid deposition of water vapor from saturated air which occurs when the temperature of a surface is below 0 °C (32 °F). Frost generally occurs with clear skies at temperatures below freezing the point.
Ground Ice Detection System (GIDS)	System used during aeroplane ground operations to inform the ground crew and/or the flight crew about the presence of frost, ice, snow or slush on the aeroplane surfaces.
Hail	Precipitation of small balls or pieces of ice with a diameter ranging from 5 to > 50 mm (0,2 to > 2,0 in) falling either separately or agglomerated.

Holdover Time (HOT)

The period of time during which an anti-icing fluid provides protection against frozen contamination to the treated aircraft surfaces. It depends among other variables, on the type and intensity of the precipitation, OAT, wind, the particular fluid (or fluid Type) and aircraft design and aircraft configuration during the treatment.

Ice Pellets

Precipitation of transparent (grains of ice), or translucent (small hail) pellets of ice, which are spherical or irregular and which have a diameter of 5 mm (0,2 in) or less. The pellets of ice usually bounce when hitting hard ground.

Icing Conditions

Icing conditions may exist if there is visible moisture in the air even at temperatures of up to 10 degrees celsius.

NOTE	The OM Part B may define “Icing Conditions” individually for the type of aeroplane.

Light Freezing Rain

Precipitation of liquid water particles which freezes upon impact with the ground or exposed objects, either in the form of drops of more than 0,5 mm (0,02 in) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles are up to 2,5 mm (0,10 in)/hour or 25 grams/dm^2 /hour with a maximum of 0,25 mm (0,01 in) in 6 minutes.

Liquid Water Equivalent (LWE) System

An automated weather measurement system that determines the LWE precipitation rate in conditions of frozen or freezing precipitation. The system provides flight crew with continuously updated information on the fluid protection capability under varying weather conditions.

Local Frost

The limited formation of frost in localized wing areas cooled by cold fuel or large masses of cold metal in the wing structure; this type of frost does not cover the entire wing.

Lowest Operational Use Temperature (LOUT)

The lowest temperature at which a fluid has been tested and certified as acceptable in accordance with the appropriate aerodynamic acceptance test whilst still maintaining a freezing point buffer of not less than:

1. 10 °C for a Type I fluid; or
2. 7 °C for Type II, III or IV fluids.

Moderate and Heavy Freezing Rain

Precipitation of liquid water particles which freezes upon impact with the ground or other exposed objects, either in the form of drops of more than 0,5 mm (0,02 in) or smaller drops which, in contrast to drizzle, are widely separated. Measured intensity of liquid water particles is more than 2,5 mm/hour (0,10 in/hour) or 25 g/dm^2/hour.

Post-treatment Check	'Post- de-icing check' or 'Post- de-icing/anti-icing check': an external check of the aircraft after de-icing and/or anti-icing treatment accomplished by qualified staff and from suitably elevated observation points (e.g. from the de-icing/anti-icing equipment itself or other elevated equipment) to ensure that the aircraft is free from frost, ice, snow, or slush.
Pre-Take-off Check	An assessment whether the applied holdover time is still appropriate and/or if untreated surfaces may have become contaminated. This assessment is normally performed from inside the flight deck.
Pre-Take-off Contamination Check	A check of the treated surfaces for contamination, performed when the HOT has been exceeded or if any doubt exists regarding the continued effectiveness of the applied anti-icing treatment.
Radiational Cooling	A process by which temperature decreases, due to an excess of emitted radiation over absorbed radiation. On a typical calm clear night aircraft surfaces emit longwave radiation, however, there is no solar radiation (shortwave) coming in at night and this longwave emission will represent a constant net energy loss. Under these conditions the aircraft surface temperatures may be up to 4 °C or more below that of the surrounding air.
Rain and Snow	Precipitation in the form of mixture of rain and snow.
Rain or High Humidity (On Cold Soaked Wing)	Water, visible moisture or humidity forming ice on the wing surface, when the temperature of the aeroplane's wing surface is at or below 0 °C (32 °F).
Residue/Gel	A build-up of dried out thickened fluids typically found in aerodynamically quiet areas of the aircraft.
Slush	Snow or ice that has been reduced to a soft watery mixture.
Snow	Precipitation of ice crystals, most of which are branched, star-shaped or mixed with unbranched crystals. At temperatures higher than -5 °C (23 °F), the crystals are generally agglomerated into snowflakes.
Snow Grains	Precipitation of very small white and opaque particles of ice that are fairly flat or elongated with a diameter of less than 1 mm (0,04 in). When snow grains hit hard ground, they do not bounce or shatter. **NOTE** For holdover time purposes treat snow grains as snow.
Snow Pellets	Precipitation of white, opaque particles of ice. The particles are round or sometimes conical; their diameter range from about 2-5 mm (0,08-0,2 in). Snow pellets are brittle, easily crushed, they do bounce and may break on hard ground. **NOTE** For holdover time purposes treat snow grains as snow.

Storage Tank	A vessel for holding fluid that can be fixed, or mobile; includes rolling tanks (ISO tanks), totes, trailers, or drums.
Tactile Check	A tactile check requires a person to touch specific aircraft surfaces. Tactile checks, under certain circumstances, may be the only way of confirming the critical surfaces of an aircraft are not contaminated. For some aircraft, tactile checks are mandatory as part of the de-icing/anti-icing check process to ensure the critical surfaces are free of frozen contaminants.

8.2.5.3 Types of Icing

Revision: 22.1 - 1 JUN 24

Frost	Ice-crystal deposits formed on cold, clear nights by sublimation on surfaces which have a temperature lower than the surrounding air. Such deposits on leading edges and upper surfaces, even when they are very thin (hoar frost) can seriously affect an aeroplane's performance. Frost 3 mm or less on the lower surface of a wing has no effect and may be discounted. The OM Part B specifies limits of frost deposits for take-off.
Dry Snow	Fine, powder like snow which does not stick and may be blown or brushed away.
Wet Snow	Has a much higher liquid content and tends to stick on airframe/engine components and may freeze.
Rime Ice	Small frozen water droplets, spherical opaque/milky granular appearance looking similar to frost in a freezer. Typically rime ice has low adhesion to the surface and its surrounding rime ice particles.
Clear Ice	A coating of ice, generally clear and smooth, but with some air pockets. It is formed on exposed objects at temperatures at, below or slightly above the freezing temperature by freezing of supercooled drizzle, droplets or raindrops. Since only little air is trapped the result is a clear or glazed appearance. **Crews must be aware of the difficulty of detecting clear ice and, in some situations, its presence may only be detected by touch.** It can also form on aeroplane surfaces below a layer of snow or slush. Significant deposits can form on upper wing surfaces in the vicinity of fuel tanks after refuelling with low temperature fuel or when sufficient supercooled fuel remains in tanks after a long flight at high altitude. This has occurred with ambient temperatures as high as 14 °C. Conversely, refuelling with relatively warm fuel can cause dry falling snow to melt with the danger of refreezing on the upper surface of the wing.

8.2.5.4 De-/Anti-icing Procedures

Revision: 19 - 14 MAR 21

During Cold Weather Operations, two procedures are available, which can be used in combination.

De-icing, where any deposit of frost, slush or ice is completely removed from the wing, stabilizer and control surfaces. This is usually regarded as a one-step procedure.

Anti-icing, usually regarded as step two, but is also possible as a stand alone treatment in case no prior contamination exists.

The de/anti-Icing process shall be continuous and as short as possible. Anti-icing shall therefore be carried out as near to the departure time as operationally possible in order to utilize maximum holdover time.

NOTE	De-icing/anti-icing fluids shall be heated according to the fluid manufacturer's guidelines.

8.2.5.5 Holdover Time

Revision: 19 - 14 MAR 21

Holdover time is obtained by anti-icing fluids remaining on the aircraft surfaces. With a one-step de-icing/ anti-icing process the holdover time begins at the start of the treatment and with a two-step de-icing/anti-icing process at the start of the second step (anti-icing) Holdover time will have effectively run out when frozen deposits start to form/accumulate on treated aircraft surfaces. Due to their properties, Type I fluids form a thin liquid wetting film, which provides limited holdover time, especially in conditions of freezing precipitation. With this type of fluid no additional holdover time would be provided by increasing the concentration of the fluid in the fluid/water mixture. Type II, III, and IV fluids contain a pseudo plastic thickening agent, which enables the fluid to form a thicker liquid wetting film on external aircraft surfaces. This film provides a longer holdover time especially in conditions of freezing precipitation. With this type of fluid, additional holdover time will be provided by increasing the concentration of the fluid/water mixture, with a maximum holdover time available typically from undiluted fluid.

Holdover time guidelines give an indication as to the time frame of protection that could reasonably be expected under conditions of precipitation. However, due to the many variables that can influence holdover time, these times shall not be considered as minima or maxima as the actual time of protection may be extended or reduced, depending upon the particular conditions existing at the time. Holdover time guidelines are established and published by the FAA. The responsibility for the application of this data remains with the user.

CAUTION	Heavy precipitation rates or high moisture content, high wind velocity, or jet blast may reduce holdover time below the lowest time stated in the range. Holdover time may also be reduced when aircraft skin temperature is lower than OAT. Therefore, the indicated times shall be used only in conjunction with a pre-take-off check.

CAUTION	Surface coatings are currently available that may be identified as ice phobic or hydrophobic, enhance the appearance of aircraft external surfaces and/or lead to fuel savings. Since these coatings may affect the fluid wetting capability and the resulting fluid thickness of de-icing/anti-icing fluids they have the potential to affect holdover time and aerodynamics.

8.2.5.6 Aircraft De-/Anti-Icing Fluids

Revision: 19 - 14 MAR 21

Aircraft manufacturers normally publish de-icing techniques in their aircraft Maintenance Manuals.

Other sources and guidance material associated with de-icing are:

- FAA National Policy N 8900.431;
- FAA Holdover Time Guidelines;
- Transport Canada, Guidelines for Aircraft Ground Icing Operations, TP 14052E;
- SAE International "Aircraft Ground De-Icing/Anti-Icing Processes";
- ICAO Doc 9640-AN/940 "Manual of Aircraft Ground De-Icing/Anti-Icing Operations".

Type I Fluids (Unthickened Type)

The freezing point of the type I fluid mixture used for either one-step de-icing/anti-icing or as a second step in the two-step operation shall be at least 10 °C (18 °F) below the outside air temperature. In no case shall this temperature be lower than the LOUT.

Due to its properties, Type I fluid forms a thin, liquid-wetting film on surfaces to which it is applied, which gives a reduced holdover time depending on the prevailing weather condition.

Type I fluids provide protection mainly against refreezing in conditions where precipitation is not expected. However, due to low viscosity, it provides only limited anti-icing protection during freezing precipitation. It is used predominantly for removing frozen deposits from aircraft surfaces, either as the first step in a two-step operation or where precipitation has stopped.

With this type of fluid, increasing the concentration of fluid in the fluid/water mix does not provide any extension in holdover time.

NOTE	After a Type I fluid reaches the holdover time limit it may change its condition from fluid to solid state (ice) in 30 seconds. This is known as a flash freeze.

As for effective anti-icing an even layer of thickness of fluid is required over the prescribed aircraft surfaces, Type I fluids provide only limited holdover effectiveness. Therefore, for longer anti-icing protection, undiluted, unheated Type II or Type IV fluids shall be used.

Some fluid manufacturers have developed new fluids based on alkali organic salt dilutions. Although these alkali organic salt-based fluids may fulfil current requirements, they might have two adverse effects on the flight operation and on the aircraft itself:

- Dilutions of alkali organic salts may cause the thickening agents within most aircraft anti-icing fluids to break down, reducing their viscosity and causing them to flow off the airframe more quickly. This would have an impact on the length of time that the anti-icing fluid would provide adequate anti-icing protection (hold-over time) in case the de-icing fluid is not properly washed off in a two-step process. This effect has been proven by research, being its quantitative impact dependent on the particular anti-icing fluid used and on the salt and its concentration in the de-icing fluid, but only low concentrations are required to decrease the anti-icing fluid thickening properties;
- Dilutions of alkali organic salts applied directly to the aircraft may cause galvanic corrosion on metallic parts as well as other undesired effects. This is a medium term effect that can result in the requirement for new inspections, maintenance actions and/or premature replacement of parts.

Preferably, avoid the use of Type I fluids that could negatively affect the hold-over time provided by the anti-icing fluid in a two-step de-icing operation.

During two-step de-icing operations, if the use of such Type I fluid cannot be avoided, consider mitigating measures to counteract the potential effect on holdover time reduction described above by performing a thorough pre-take-off contamination check.

Type II Fluids, Type III and Type IV Fluids (Thickened Type)

These fluids contain a thickener and generally have a lower glycol content in its concentrate form than Type I fluid thus providing longer holdover time. This effectively means that when applied to the surface of an aircraft the viscosity is high, thus allowing the fluid to remain on and protect against freezing precipitation for a period of time.

However, the increasing effect of the airflow over the wing during the take-off roll will effectively shear the fluid, reducing its viscosity and allowing it to readily flow off the critical surfaces.

Type II, III, and IV fluids used as de-icing/anti-icing agents may have a lower temperature application limit of -23 °C (-9 °F). The application limit may be lower, provided a 7 °C (13 °F) buffer is maintained between the freezing point of the neat fluid and the outside air temperature. In no case shall this temperature be lower than the LOUT.

NOTE	These fluids may not be used below -25 °C (-13 °F) in active frost conditions.

With this type of fluid the holdover time can be extended by increasing the concentration of fluid in the fluid/water mix up to the maximum holdover time available from undiluted fluid. These provide it with special viscosity properties, which are a function of the temperature and wind shear forces.

When the aircraft is at rest or travelling (taxiing) at low speeds, the fluid forms a uniform film over wing and tailplane. As soon as the speed exceeds 30 knots or more, the viscosity breaks down, causing the fluid to flow-off the aerodynamic surfaces. This leaves the aircraft clean. The rapid flow-off of these fluids is guaranteed even at temperatures of -25° C (-13° F), and thus under arctic conditions.

Type II Fluid

Type II fluids have a minimum freezing point of -32 °C in undiluted form and -10 °C when diluted with 50% water. A minimum of four hours protection against ice formation at -5 °C under condition of high humidity (surface temperature of -5 °C and air temperature of 0 °C) is specified. A 30 minutes protection period against freezing rain under conditions of surface and air temperatures of -5 °C is also specified.

Type II fluids provide protection against refreezing in conditions of precipitation.

Type III Fluid

Type III fluid is a thickened fluid intended especially for use on aircraft with low rotation speed.

Type IV Fluid

This fluid is similar in both composition and operation to Type II fluids. However, through the use of advanced thickening systems it is able to provide more holdover time than Type II fluids, when used in concentrated form. As with Type II fluids the holdover time can be extended by increasing the concentration of fluid in the fluid/water mix. Type IV fluids are usually coloured green.

CAUTION	Fluids:
	1. Fluids based on alcohol are prohibited because they can cause damage to windows, 2. The higher viscosity of Type II fluids and Type IV fluids have the advantage of a longer holdover time but may cause problems to aircraft types with a low lift-off speed due to the viscous property. The low lift-off speed might not be sufficient to allow the fluid to "run back" and disappear from the airfoil. As a consequence the centre of pressure will change, resulting in a delayed rotation and lift-off. It is therefore imperative to check the instructions in the OM Part B and in the crew bulletin for winter operation. 3. The application of type II, III, or IV fluid, especially when used in a one step process or in the first step of a two step process, may cause residues to collect in aerodynamically quiet areas, cavities and gaps. Dried residues may rehydrate and freeze following a period of high humidity and/or rain conditions. This may impede flight control systems. These residues may require removal. The use of hot water or heated mix of type I fluid/water for the first step of a two-step de-icing/anti-icing process will minimise the formation of residues.

8.2.5.7 Guidelines and Limits

Revision: 19 - 14 MAR 21

°C	Degrees Celsius
°F	Degrees Fahrenheit
OAT	Outside Air Temperature
FP	Freezing Point
LOUT	Lowest Operational Use Temperature

8.2.5.7.1 Guideline for the Application of SAE Type I Fluid

Revision: 21 - 5 MAY 23

Outside Air Temperature (OAT) [22]	One-Step Procedure	Two-step Procedure	
	De-icing/Anti-icing[23]	First Step: De-icing	Second Step: Anti-icing[24]
0 °C (32 °F) and above	Fluid/water mixture heated to at least 60 °C (140 °F) at the nozzle with a freezing point of at least 10 °C (18 °F) below OAT	Heated water or a heated fluid/ water mixture	Fluid/water mixture heated toat least 60 °C (140 °F) at the nozzle with a freezing point of at least 10 °C (18 °F) below OAT
below 0 °C (32 °F) to LOUT		Heated fluid/water mixture with a freezing point at OAT or below	

CAUTION	This table is applicable for the use of Type I holdover time guidelines in all conditions, including active frost. If holdover times are not required, a temperature of 60 °C (140 °F) at the nozzle is desirable.

CAUTION	If holdover times are required, the temperature of water or fluid/water mixtures shall be at least 60 °C (140 °F) at the nozzle. Upper temperature limit shall not exceed fluid and aircraft manufacturers' recommendations.

22 Fluids must not be used at temperatures below their lowest operational use temperature (LOUT).

23 When anti-icing using the one-step procedure, a minimum quantity of 1 litre/m2 (~2 gal./100 sq. ft.) of Type I fluid mixture heated to at least 60°C (140°F) is required after all frozen contamination is removed. This is achieved using a continuous process. This application is necessary to heat the surfaces, as heat contributes significantly to the Type I fluid holdover times.

24 To be applied before first-step fluid freezes, typically within 3 minutes. This time may be higher than 3 minutes in some conditions, but potentially lower in heavy precipitation, colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area (sectionally).

CAUTION	To use Type I holdover times guidelines in all conditions including active frost, an additional minimum of 1 litre/m^2 (~2gal./100 sq.ft.) of heated Type I fluid mixture must be applied to the surfaces after all frozen contamination is removed. This application is necessary to heat the surfaces, as heat contributes significantly to the Type I fluid holdover times. The required protection can be provided using a 1-step method by applying more fluid than is strictly needed to just remove all of the frozen contamination (the same additional amount stated above is required).

CAUTION	The lowest operational use temperature (LOUT) for a given Type I fluid is the higher (warmer) of: 1. The lowest temperature at which the fluid meets the aerodynamic acceptance test for a given aircraft type; or 2. The actual freezing point of the fluid plus its freezing point buffer of 10 °C (18 °F).

CAUTION	Wing skin temperatures may differ and in some cases may be lower than the OAT. A stronger mix (more glycol) may be needed under these conditions.

8.2.5.7.2 Guidelines for the Application of SAE Type II and IV Fluid

Revision: 22 - 20 FEB 24

Outside Air Temperature (OAT)[25]	Fluid Concentrations in % Volume		
	One-Step Procedure De-icing/Anti-icing	Two-step Procedure	
		First step: De-icing	Second step: Anti-icing[26]
0 °C (32 °F) and above	100/0 75/25 or 50/50 heated[27] Type II or IV fluid/water mixture	Heated water or a heated Type I, II or IV fluid/water mixture	100/0, 75/25 or 50/50 heated or unheated Type II or IV fluid/ water mixture
below 0 °C (32 °F) to -3 °C (27 °F)	100/0, 75/25 or 50/50 heated[27] Type II or IV fluid/water mixture	Heated Type I, II or IV fluid/water mixture with a freezing point at OAT or below	100/0, 75/25 or 50/50 heated or unheated Type II or IV fluid/ water mixture
below -3 °C (27 °F) to -14 °C (7 °F)	100/0 or 75/25 heated[27] Type II or IV fluid/water mixture	Heated Type I, II or IV fluid/water mixture with a freezing point at OAT or below	100/0 or 75/25 heated or unheated Type II or IV fluid/ water mixture
below -14 °C (7 °F) to LOUT	100/0 heated[27] Type II or IV fluid	Heated Type I, II or IV fluid/water mixture with a freezing point at OAT or below	100/0 heated or unheated Type II or IV fluid

CAUTION	For heated fluids, a fluid temperature not less than 60 °C (140 °F) at the nozzle is desirable.

CAUTION	Upper temperature limit shall not exceed fluid and aircraft manufacturers' recommendations.

CAUTION	Wing skin temperatures may be colder or warmer than the OAT. Causes can include: radiation cooling, cold-soaked wing, or hangar storage. Consult the appropriate guidance for the contaminant in question.

25 Fluids used for the anti-icing procedure must not be used at temperatures below their lowest operational use temperature (LOUT). First step fluids must not be used below their freezing points. Consideration should be given to the use of Type I fluid when Type II/IV fluid cannot be used due to LOUT limitations.

The LOUT for a given Type II / IV fluid is the higher (warmer) of:

- The lowest temperature at which the fluid meets the aerodynamic acceptance test for a given aircraft type; or

- The actual freezing point of the fluid plus its freezing point buffer of 7 °C (13 °F).

Although some LOUTs are lower than the temperatures stated in the HOT table, holdover times do not apply when anti-icing below the lowest temperature stated in the band.

26 To be applied before first step fluid freezes, typically within 3 minutes. Time may be longer than 3 minutes in some conditions, but potentially shorter in heavy precipitation, colder temperatures, or for critical surfaces constructed of composite materials. If necessary, the second step shall be applied area by area (sectionally).

27 Clean aircraft may be anti-iced with unheated fluid.

CAUTION	Whenever frost or ice occurs on the lower surface of the wing in the area of the fuel tank, indicating a cold soaked wing, the 50/50 dilutions of Type II or IV shall not be used for the anti-icing step because fluid freezing may occur.

CAUTION	An insufficient amount of anti-icing fluid may cause a substantial loss of holdover time. This is particularly true when using a Type I fluid mixture for the first step in a two-step procedure.

8.2.5.8 Tables for Holdover Times

(*) Revision: 23.1 - 15 MAR 25

HOT may be calculated in the EFF application.

Holdover time guidelines can also be obtained for individual fluid products and these “brand name” holdover times will be found to differ from the tables published here.

Holdover time determination systems (HOTDS) are available to determine holdover times based on liquid water equivalent (LWE) and OAT. These holdover times may differ from those published.

8.2.5.8.1 Active Frost Holdover Times for SAE Type I, Type II and Type IV Fluids

(*) Revision: 23.1 - 15 MAR 25

Outside Air Temperature [28, 29, 30]	Type I Aluminium	Type I Composite	Outside Air Temperature [29, 30]	Concentration Fluid/Water By % Volume	Type II	Type IV
-1 °C and above (30 °F and above)	0:45	0:35	-1 °C and above (30 °F and above)	100/0	8:00	12:00
				75/25	5:00	5:00
				50/50	2:00	3:00
below -1 to -3 °C (below 30 to 27 °F)			below -1 to -3 °C (below 30 to 27 °F)	100/0	8:00	12:00
				75/25	5:00	5:00
				50/50	1:30	3:00
below -3 to -10 °C (below 27 to 14 °F)			below -3 to -10 °C (below 27 to 14 °F)	100/0	8:00	10:00
				75/25	4:00	5:00
below -10 to -14 °C (below 14 to 7 °F)			below -10 to -14 °C (below 14 to 7 °F)	100/0	6:00	6:00
				75/25	1:00	1:00
below -14 to -21 °C (below 7 to -6 °F)			below -14 to -21 °C (below 7 to -6 °F)	100/0	3:00	6:00
below -21 to -25 °C (below -6 to -13 °F)			below -21 to -25 °C (below -6 to -13 °F)	100/0	2:00	4:00
below -25 °C to LOUT (below -13 °F to LOUT)			below -25 °C (below -13 °F)	100/0	No Holdover Time Guidelines Exist	

CAUTION The responsibility for the application of these data remains with the user.

CAUTION Fluids used during ground de/anti-icing do not provide in-flight icing protection.

CAUTION This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

28 Type I Fluid / Water Mixture must be selected so that the freezing point of the mixture is at least 10 °C (18 °F) below outside air temperature.

29 Ensure that the lowest operational use temperature (LOUT) is respected.

30 Changes in outside air temperature (OAT) over the course of longer frost events can be significant; the appropriate holdover time to use is the one provided for the coldest OAT that has occurred in the time between the de/anti-icing fluid application and take-off.

8.2.5.8.2 Holdover Times for SAE Type I Fluid on Critical Aircraft Surfaces Composed Predominantly of Aluminium

(*) Revision: 23.1 - 15 MAR 25

Outside Air Temperature [31] [32]	Freezing Fog, Freezing Mist [33] or Ice Crystals [34]	Snow mixed with Freezing Fog [35]	Very Light Snow, Snow Grains or Snow Pellets [36] [37] [38]	Light Snow, Snow Grains or Snow Pellets [36] [37] [38]	Moderate Snow, Snow Grains or Snow Pellets [36] [38]	Freezing Drizzle [39]	Light Freezing Rain	Rain on Cold Soaked Wing [40]	Other [41]
-3 °C and above (27 °F and above)	0:11 - 0:17	0:05 - 0:08	0:18 - 0:22	0:11 - 0:18	0:06 - 0:11	0:09 - 0:13	0:02 - 0:05	0:02 - 0:05	
below -3 to -6 °C (below 27 to 21 °F)	0:08 - 0:13	0:04 - 0:06	0:14 - 0:17	0:08 - 0:14	0:05 - 0:08	0:05 - 0:09	0:02 - 0:05		
below -6 to -10 °C (below 21 to 14 °F)	0:06 - 0:10	0:03 - 0:05	0:11 - 0:13	0:06 - 0:11	0:04 - 0:06	0:04 - 0:07	0:02 - 0:05		
below -10 °C (below 14 °F)	0:05 - 0:09	0:02 - 0:03	0:07 - 0:08	0:04 - 0:07	0:02 - 0:04	**CAUTION:** No holdover time guidelines exist			

CAUTION	The responsibility for the application of these data remains with the user.

CAUTION	The time of protection will be shortened in heavy weather conditions. Heavy precipitation rates or high moisture content, high wind velocity jet blast, or blowing snow may reduce holdover time below the lowest time stated in the range. Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.

CAUTION	Fluids used during ground de-/anti-icing do not provide in-flight icing protection.

CAUTION	This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

31 Type I fluid / water mixture must be selected so that the freezing point of the mixture is at least 10 °C (18 °F) below outside air temperature.

32 Ensure that the lowest operational use temperature (LOUT) is respected.

33 Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C (32 °F) and below.

34 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.

35 These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than “moderate”. No holdover times exist if the reported visibility correlates to a “heavy” precipitation intensity.

36 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required.

37 Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than “light”. No holdover times exist if the reported visibility correlates to a “moderate” or “heavy” precipitation intensity.

38 Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.

39 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.

40 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.

41 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

8.2.5.8.3 Holdover Times for SAE Type I Fluid on Critical Aircraft Surfaces Composed Predominantly of Composites

(*) Revision: 23.1 - 15 MAR 25

Outside Air Temperature [42,43]	Freezing Fog, Freezing Mist [44] or Ice Crystals [45]	Snow mixed with Freezing Fog [46]	Very Light Snow, Snow Grains or Snow Pellets [47,48,49]	Light Snow, Snow Grains or Snow Pellets [47,48,49]	Moderate Snow, Snow Grains or Snow Pellets [47,49]	Freezing Drizzle [50]	Light Freezing Rain	Rain on Cold Soaked Wing [51]	Other [52]
-3 °C and above (27 °F and above)	0:09 - 0:16	0:02 - 0:04	0:12 - 0:15	0:06 - 0:12	0:03 - 0:06	0:08 - 0:13	0:02 - 0:05	0:01 - 0:05	
below -3 to -6 °C (below 27 to 21 °F)	0:06 - 0:08	0:02 - 0:04	0:11 - 0:13	0:05 - 0:11	0:02 - 0:05	0:05 - 0:09	0:02 - 0:05		
below -6 to -10 °C (below 21 to 14 °F)	0:04 - 0:08	0:02 - 0:04	0:09 - 0:12	0:05 - 0:09	0:02 - 0:05	0:04 - 0:07	0:02 - 0:05		
below -10 °C (below 14 °F)	0:04 - 0:07	0:02 - 0:03	0:07 - 0:08	0:04 - 0:07	0:02 - 0:04	**CAUTION:** No holdover time guidelines exist			

CAUTION	The responsibility for the application of these data remains with the user.
CAUTION	The time of protection will be shortened in heavy weather conditions. Heavy precipitation rates or high moisture content, high wind velocity jet blast, or blowing snow may reduce holdover time below the lowest time stated in the range. Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.
CAUTION	Fluids used during ground de-/anti-icing do not provide in-flight icing protection.
CAUTION	This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

42 Type I fluid / water mixture must be selected so that the freezing point of the mixture is at least 10 °C (18 °F) below outside air temperature.

43 Ensure that the lowest operational use temperature (LOUT) is respected.

44 Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C (32 °F) and below.

45 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.

46 These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter ***8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility***) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.

47 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter ***8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility***) is required.

48 Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter ***8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility***) is required to confirm the precipitation intensity is no greater than "light". No holdover times exist if the reported visibility correlates to a "moderate" or "heavy" precipitation intensity.

49 Use snow holdover times in conditions of very light, light or moderate snow mixed with ice crystals.

50 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.

51 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.

52 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

8.2.5.8.4 Generic Holdover Times for SAE Type II Fluids

(*) Revision: 23.1 - 15 MAR 25

Outside Air Temperature [53]	Fluid Concentration Fluid/ Water By % Volume	Freezing Fog, Freezing Mist [54] or Ice Crystals [55]	Snow mixed with Freezing Fog [56]	Snow, Snow Grains or Snow Pellets [57] [58] [59]	Freezing Drizzle [60]	Light Freezing Rain	Rain on Cold Soaked Wing [61]	Other [62]
-3 °C and above (27 °F and above)	100/0	0:55 - 1:50	0:20 - 0:40	0:30 - 0:55	0:35 - 1:05	0:25 - 0:35	0:07 - 0:45	
	75/25	0:40 - 1:10	0:15 - 0:25	0:15 - 0:30	0:25 - 0:40	0:15 - 0:25	0:04 - 0:25	
	50/50	0:15 - 0:30	0:05 - 0:10	0:07 - 0:15	0:09 - 0:15	0:06 - 0:09		
below -3 to -8 °C (below 27 to 18 °F)	100/0	0:30 - 0:45	0:15 - 0:30	0:20 - 0:40	0:20 - 0:45	0:15 - 0:20		
	75/25	0:25 - 0:55	0:09 - 0:15	0:10 - 0:25	0:15 - 0:30	0:08 - 0:15		
below -8 to -14 °C (below 18 to 7°F)	100/0	0:30 - 0:45	0:10 - 0:25	0:15 - 0:30	0:20 - 0:45[63]	0:15 - 0:20[63]		
	75/25	0:25 - 0:55	0:07 - 0:15	0:09 - 0:20	0:15 - 0:30[63]	0:08 - 0:15[63]		
below -14 to -18 °C (below 7 to 0 °F)	100/0	0:15 - 0:20	0:01 - 0:05	0:02 - 0:07				
below -18 to -25 °C[64] (below 0 to -13 °F)	100/0	0:15 - 0:20	0:00 - 0:02	0:01 - 0:03				
below -25 °C to LOUT[64] (below -13 °F to LOUT)	100/0	0:15 - 0:20	0:00 - 0:00	0:00 - 0:01	**CAUTION:** No holdover time guidelines exist			

CAUTION The responsibility for the application of these data remains with the user.

CAUTION The time of protection will be shortened in heavy weather conditions. Heavy precipitation rates or high moisture content, high wind velocity jet blast, or blowing snow may reduce holdover time below the lowest time stated in the range. Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.

CAUTION Fluids used during ground de-/anti-icing do not provide in-flight icing protection.

---

53 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type II fluid cannot be used.

54 Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C (32 °F) and below.

55 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.

56 These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.

57 To determine snowfall intensity, the snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required.

58 Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than "light". No holdover times exist if the reported visibility correlates to a "moderate" or "heavy" precipitation intensity.

59 Use snow holdover times in conditions of very light, light or moderate snow mixed with ice crystals.

60 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.

61 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.

62 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

63 No holdover time guidelines exist for this condition below -10 °C (14 °F).

64 If the LOUT is unknown, no holdover time guidelines exist below -25 °C (13 °F).

CAUTION	This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

CAUTION	Whenever frost or ice occurs on the lower surface of the wing in the area of the fuel tank, indicating a cold-soaked wing, the 50/50 dilutions of Type II or IV shall not be used for the anti-icing step because fluid freezing may occur.

8.2.5.8.5 Generic Holdover Times for SAE Type IV Fluids

(*) Revision: 23.1 - 15 MAR 25

Outside Air Temperature [65]	Fluid Concentr. Fluid/ Water By % Volume	Freezing Fog, Freezing Mist [66] or Ice Crystals [67]	Snow mixed with Freezing Fog [68]	Very Light Snow, Snow Grains or Snow Pellets [69] [70] [71]	Light Snow, Snow Grains or Snow Pellets [69] [70] [71]	Moderate Snow, Snow Grains or Snow Pellets [69] [71]	Freezing Drizzle [72]	Light Freezing Rain	Rain on Cold Soaked Wing [73]	Other [74]
-3 °C and above (27 °F and above)	100/0	1:15 - 2:15	0:25 - 0:45	1:55 - 2:20	1:00 - 1:55	0:30 - 1:00	0:40 - 1:10	0:20 - 0:35	0:08 - 1:05	
	75/25	1:25 - 2:40	0:30 - 0:55	2:05 - 2:25	1:15 - 2:05	0:40 - 1:15	1:00 - 1:20	0:30 - 0:50	0:09 - 1:20	
	50/50	0:30 - 0:55	0:07 - 0:20	1:00 - 1:10	0:25 - 1:00	0:10 - 0:25	0:15 - 0:40	0:09 - 0:20		
below -3 to -8 °C (below 27 to 18 °F)	100/0	0:15 - 0:35	0:20 - 0:40	1:45 - 2:05	0:55 - 1:45	0:25 - 0:55	0:25 - 1:10	0:20 - 0:25		
	75/25	0:40 - 1:20	0:25 - 0:50	1:50 - 2:10	1:05 - 1:50	0:30 - 1:05	0:20 - 1:05	0:15 - 0:25		
below -8 to -14 °C (below 18 to 7 °F)	100/0	0:15 - 0:35	0:15 - 0:35	1:30 - 1:50	0:45 - 1:30	0:20 - 0:45	0:25 - 1:10[75]	0:20 - 0:25[75]		
	75/25	0:40 - 1:20	0:20 - 0:45	1:45 - 2:00	0:55 - 1:45	0:25 - 0:55	0:20 - 1:05[75]	0:15 - 0:25[75]		
below -14 to -18 °C (below 7 to 0 °F)	100/0	0:15 - 0:30	0:01 - 0:06	0:30 - 0:45	0:09 - 0:30	0:02 - 0:09				
below -18 to -25 °C[76] (below 0 to -13 °F)	100/0	0:15 - 0:30	0:00 - 0:02	0:10 - 0:20	0:03 - 0:10	0:01 - 0:03	**CAUTION:** No holdover time guidelines exist			
below -25 °C to LOUT[76] (below -13 °F to LOUT)	100/0	0:15 - 0:30	0:00 - 0:01	0:07 - 0:10	0:02 - 0:07	0:00 - 0:02				

CAUTION The responsibility for the application of these data remains with the user.

CAUTION The time of protection will be shortened in heavy weather conditions. Heavy precipitation rates or high moisture content, high wind velocity jet blast, or blowing snow may reduce holdover time below the lowest time stated in the range. Holdover time may be reduced when aircraft skin temperature is lower than outside air temperature.

65 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type II fluid cannot be used.

66 Freezing mist is best confirmed by observation. It is never reported by METAR however it can occur when mist is present at 0 °C (32 °F) and below.

67 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or mist.

68 These holdover times are for use in -SNFZFG and SNFZFG. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.

69 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required.

70 Use light freezing rain holdover times in conditions of very light or light snow mixed with light rain or drizzle. The Snowfall Intensities as a Function of Prevailing Visibility table (see Chapter *8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility*) is required to confirm the precipitation intensity is no greater than "light". No holdover times exist if the reported visibility correlates to a "moderate" or "heavy" precipitation intensity.

71 Use snow holdover times in conditions of very light, light or moderate snow mixed with ice crystals.

72 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.

73 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.

74 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail (Chapter *8.2.5.8.6 Allowance Times for SAE Type IV Fluids Ethylene Glycol (EG) Fluids* provides allowance times for Type IV EG fluids and Chapter *8.2.5.8.7 Allowance Times for SAE Type IV Fluids Propylene Glycol (PG) Fluids* provides allowance times for Type IV PG fluids in ice pellets and small hail. If the glycol type is unknown, the allowance times for SAE Type IV PG fluids should be used).

75 No holdover time guidelines exist for this condition below -10 °C (14 °F).

76 If the LOUT is unknown, no holdover time guidelines exist below -22,5 °C (-8,5 °F).

CAUTION	Fluids used during ground de-/anti-icing do not provide in-flight icing protection.

CAUTION	This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

CAUTION	Whenever frost or ice occurs on the lower surface of the wing in the area of the fuel tank, indicating a cold-soaked wing, the 50/50 dilutions of Type II or IV shall not be used for the anti-icing step because fluid freezing may occur.

8.2.5.8.6 Allowance Times for SAE Type IV Fluids Ethylene Glycol (EG) Fluids

(*) Revision: 23.1 - 15 MAR 25

NOTE	These allowance times are for use with undiluted (100/0) EG based fluids. If the glycol type is unknown, the allowance times for SAE Type IV PG fluids should be used. To use the allowance times in this table, ensure the fluid being used is validated for the use of allowance times.

NOTE	Take-off is allowed up to 90 minutes after start of fluid application if the precipitation stops at or before the allowance time expires and does not restart. Take-off is not permitted if the OAT decreases during the 90 minutes in conditions of light ice pellets mixed with either: light or moderate freezing drizzle, light or moderate drizzle, light freezing rain, light rain, light rain and light snow, or light freezing rain and light snow.

Precipitation Types or Combinations and Applicable METAR Codes [77]	Outside Air Temperature				
	Above 0 °C [78] (32 °F and above)	0 to -5 °C [78] (32 to 23 °F)	Below -5 to -10 °C [78] (Below 23 to 14 °F)	Below -10 to -16 °C [78] (Below 14 to 3 °F)	Below -16 to -22 °C [78] [79] (Below 3 to -8 °F)
Light Ice Pellets -PL, -GS	70 minutes	70 minutes	70 minutes	50 minutes	30 minutes
Light Ice Pellets Mixed with Light Snow -PLSN, -SNPL, -GSSN, -SNGS	50 minutes	50 minutes	30 minutes	25 minutes	
Light Ice Pellets Mixed with Light or Moderate Freezing Drizzle -PLFZDZ, -FZDZPL, FZDZPL, -GSFZDZ, -FZDZGS, FZDZGS		40 minutes	30 minutes		
Light Ice Pellets Mixed with Light or Moderate Drizzle -PLDZ, -DZPL, DZPL, -GSDZ, -DZGS, DZGS	40 minutes			**CAUTION:** No allowance times currently exist	
Light Ice Pellets Mixed with Light Freezing Rain -PLFZRA, -FZRAPL, -GSFZRA, -FZRAGS		40 minutes	30 minutes		
Light Ice Pellets Mixed with Light Rain -PLRA, -RAPL, -GSRA, -RAGS	40 minutes				
Light Ice Pellets Mixed with Light Rain and Light Snow -PLRASN, -PLSNRA, -RAPLSN, -RASNPL, -SNPLRA, -SNRAPL, -GSRASN, -GSSNRA, -RAGSSN, -RASNGS, -SNGSRA, -SNRAGS	20 minutes				
Light Ice Pellets Mixed with Light Freezing Rain and Light Snow -PLFZRASN, -PLSNFZRA, -FZRAPLSN, -FZRASNPL, -SNPLFZRA, -SNFZRAPL, -GSFZRASN, -GSSNFZRA, -FZRAGSSN, -FZRASNGS -SNGSFZRA, -SNFZRAGS		20 minutes			
Moderate Ice Pellets (or Small Hail) PL, GS	35 minutes	35 minutes	35 minutes	15 minutes	10 minutes

77 In the US, small hail is reported as GR with the remark "GR LESS THAN ¼". Outside of the US small hail is reported as GS. If the METAR does not report an intensity for small hail, use the "moderate ice pellets or small hail" allowance times. If the METAR reports an intensity with small hail, the ice pellet condition with the equivalent intensity can be used. This also applies in mixed conditions.

78 No allowance times exist for EG based fluids when used on aircraft with rotation speeds less than 100 knots.

79 Ensure that the lowest operational use temperature (LOUT) is respected.

Precipitation Types or Combinations and Applicable METAR Codes [77]	Outside Air Temperature				
	Above 0 °C [78] (32 °F and above)	0 to -5 °C [78] (32 to 23 °F)	Below -5 to -10 °C [78] (Below 23 to 14 °F)	Below -10 to -16 °C [78] (Below 14 to 3 °F)	Below -16 to -22 °C [78] [79] (Below 3 to -8 °F)
Moderate Ice Pellets (or Small Hail) Mixed with Moderate Snow PLSN, SNPL, GSSN, SNGS	25 minutes	15 minutes	10 minutes		
Moderate Ice Pellets (or Small Hail) Mixed with Moderate Freezing Drizzle PLFZDZ, GSFZDZ		20 minutes	10 minutes		
Moderate Ice Pellets (or Small Hail) Mixed with Moderate Drizzle PLDZ, GSDZ	20 minutes	CAUTION: No allowance times currently exist			
Moderate Ice Pellets (or Small Hail) Mixed with Moderate Rain PLRA, GSRA, RAPL, RAGS	15 minutes				

CAUTION The responsibility for the application of these data remains with the user.

CAUTION Fluids used during ground de-/anti-icing do not provide in-flight icing protection.

CAUTION This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

CAUTION Allowance time cannot be extended by an inspection of the aircraft critical surfaces.

8.2.5.8.7 Allowance Times for SAE Type IV Fluids Propylene Glycol (PG) Fluids

(*) Revision: 23.1 - 15 MAR 25

NOTE These allowance times are for use with undiluted (100/0) PG based fluids applied on aircraft with rotation speeds of 100 knots or greater. If the glycol type is unknown, the allowance times for SAE Type IV PG fluids should be used.

To use the allowance times in this table, ensure the fluid being used is validated for the use of allowance times.

NOTE Take-off is allowed up to 90 minutes after start of fluid application if the precipitation stops at or before the allowance time expires and does not restart. Take-off is not permitted if the OAT decreases during the 90 minutes in conditions of light ice pellets mixed with either: light or moderate freezing drizzle, light or moderate drizzle, light freezing rain, light rain, light rain and light snow, or light freezing rain and light snow.

Precipitation Types or Combinations and Applicable METAR Codes [80]	Outside Air Temperature				
	Above 0 °C [81] (32 °F and above)	0 to -5 °C [81] (23 °F and above)	Below -5 to -10 °C [81] (Below 23 to 14 °F)	Below -10 to -16 °C [82] (Below 14 to 3 °F)	Below -16 to -22 °C [82] [83] (Below 3 to -8 °F)
Light Ice Pellets -PL, -GS	50 minutes	50 minutes	30 minutes	30 minutes	20 minutes
Light Ice Pellets Mixed with Light Snow -PLSN, -SNPL, -GSSN, -SNGS	40 minutes	40 minutes	15 minutes	15 minutes	
Light Ice Pellets Mixed with Light or Moderate Freezing Drizzle -PLFZDZ, -FZDZPL, FZDZPL, -GSFZDZ, -FZDZGS, FZDZGS		25 minutes	10 minutes		
Light Ice Pellets Mixed with Light or Moderate Drizzle -PLDZ, -DZPL, DZPL, -GSDZ, -DZGS, DZGS	25 minutes				
Light Ice Pellets Mixed with Light Freezing Rain -PLFZRA, -FZRAPL, -GSFZRA, -FZRAGS		25 minutes	10 minutes		
Light Ice Pellets Mixed with Light Rain -PLRA, -RAPL, -GSRA, -RAGS	25 minutes				
Light Ice Pellets Mixed with Light Rain and Light Snow -PLRASN, -PLSNRA, -RAPLSN, -RASNPL, -SNPLRA, -SNRAPL, -GSRASN, -GSSNRA, -RAGSSN, -RASNGS, -SNGSRA, -SNRAGS	20 minutes		**CAUTION:** No allowance times currently exist		
Light Ice Pellets Mixed with Light Freezing Rain and Light Snow -PLFZRASN, -PLSNFZRA, -FZRAPLSN, -FZRASNPL, -SNPLFZRA, -SNFZRAPL, -GSFZRASN, -GSSNFZRA, -FZRAGSSN, -FZRASNGS, -SNGSFZRA, -SNFZRAGS		20 minutes			

80 In the US, small hail is reported as GR with the remark “GR LESS THAN ¼”. Outside of the US , small hail is reported as GS. If the METAR does not report an intensity for small hail, use the “moderate ice pellets or small hail” allowance times. If the METAR reports an intensity with small hail, the ice pellet condition with the equivalent intensity can be used. This also applies in mixed conditions.

81 No allowance times exist for PG based fluids when used on aircraft with rotation speeds less than 100 knots.

82 No allowance times exist for PG based fluids when used on aircraft with rotation speeds less than 115 knots.

83 Ensure that the lowest operational use temperature (LOUT) is respected.

<table>
<tr><th rowspan="2">Precipitation Types or Combinations and Applicable METAR Codes [80]</th><th colspan="5">Outside Air Temperature</th></tr>
<tr><th>Above 0 °C [81]
(32 °F and above)</th><th>0 to -5 °C [81]
(23 °F and above)</th><th>Below -5 to -10 °C [81]
(Below 23 to 14 °F)</th><th>Below -10 to -16 °C [82]
(Below 14 to 3 °F)</th><th>Below -16 to -22 °C [82] [83]
(Below 3 to -8 °F)</th></tr>
<tr><td>Moderate Ice Pellets (or Small Hail)
PL, GS</td><td>15 minutes</td><td>15 minutes</td><td>10 minutes</td><td>10 minutes</td><td rowspan="3"></td></tr>
<tr><td>Moderate Ice Pellets (or Small Hail) Mixed with Moderate Snow
PLSN, SNPL, GSSN, SNGS</td><td>15 minutes</td><td>5 minutes</td><td>5 minutes</td><td rowspan="2"></td></tr>
<tr><td>Moderate Ice Pellets (or Small Hail) Mixed with Moderate Freezing Drizzle
PLFZDZ, GSFZDZ</td><td></td><td>10 minutes</td><td>7 minutes</td></tr>
<tr><td>Moderate Ice Pellets (or Small Hail) Mixed with Moderate Drizzle
PLDZ, GSDZ</td><td>10 minutes</td><td rowspan="2" colspan="4">CAUTION: No allowance times currently exist</td></tr>
<tr><td>Moderate Ice Pellets (or Small Hail) Mixed with Moderate Rain
PLRA, GSRA, RAPL, RAGS</td><td>10 minutes</td></tr>
</table>

CAUTION The responsibility for the application of these data remains with the user.

CAUTION Fluids used during ground de-/anti-icing do not provide in-flight icing protection.

CAUTION This table is for departure planning only and shall be used in conjunction with pre-take-off check procedures.

CAUTION Allowance time cannot be extended by an inspection of the aircraft critical surfaces.

8.2.5.8.8 Snowfall Intensities as a Function of Prevailing Visibility

Revision: 22 - 20 FEB 24

Visibility		Day		Night	
Statute Miles	**Meters**	**-1°C and below 30 °F and below**	**Above -1°C Above 30 °F**	**-1°C and below 30 °F and below**	**Above -1°C Above 30 °F**
≤¼ (≤⅜)	**≤400** (≤600)	Heavy	Heavy	Heavy	Heavy
½ (>⅜ to ≤⅝)	**800** (>600 to ≤1,000)	Moderate	Heavy	Heavy	Heavy
¾ (>⅝ to ≤⅞)	**1.200** (>1,000 to ≤1,400)	Moderate	Moderate	Moderate	Heavy
1 (>⅞ to ≤1⅛)	**1.600** (>1,400 to ≤1,800)	Light	Light	Moderate	Moderate
1¼ (>1⅛ to ≤1⅜)	**2.000** (>1,800 to ≤2,200)	Light	Light	Moderate	Moderate
1½ (>1⅜ to ≤1⅝)	**2.400** (>2,200 to ≤2,600)	Light	Light	Moderate	Moderate
1¾ (>1⅝ to ≤1⅞)	**2.800** (>2,600 to ≤3,000)	Very Light	Light	Light	Light
2 (>1⅞ to ≤2¼)	**3.200** (>3,000 to ≤3,600)	Very Light	Very Light	Light	Light
2½ (>2¼ to ≤2¾)	**4.000** (>3,600 to ≤4,400)	Very Light	Very Light	Very Light	Very Light
3 (>2¾ to ≤3¼)	**4.800** (>4,400 to ≤5,200)	Very Light	Very Light	Very Light	Very Light
≥3½ (>3¼)	**≥5.600** (>5,200)	Very Light	Very Light	Very Light	Very Light

NOTE The METAR/SPECI reported visibility or flight crew observed visibility will be used with this visibility table to establish snowfall intensity for Type I, II, III and IV holdover time guidelines, during snow, snow grain, or snow pellet precipitation conditions. This visibility table will also be used when snow, snow grains or snow pellets are accompanied by blowing or drifting snow or when snow is mixed with ice crystals or freezing fog in the METAR/SPECI.

NOTE The use of Runway Visual Range (RVR) is not permitted for determining visibility used with the holdover tables.

NOTE Some METARs contain tower visibility as well as surface visibility. Whenever surface visibility is available from an official source, such as a METAR, in either the main body of the METAR or in the Remarks ("RMK") section, the preferred action is to use the surface visibility value.

NOTE	If the visibility is being reduced by snow along with form(s) of obscuration such as fog, haze, smoke etc., use of the table above may overestimate the actual snowfall intensity. However, use of the snowfall intensity being reported by the weather observer or automated surface observing system (ASOS), may underestimate the actual snowfall intensity as it does not directly correlate to the snowfall intensities used when determining holdover times. Use of the visibility table in all snow conditions with or without obscurations is recommended.

Example for how to read and use the table: *CYVO 160200Z 15011G17KT 1SM -SN DRSN OVC009 M06/M08 A2948*

In the above METAR the snowfall intensity is reported as light. However, based upon the "Snowfall Intensities as a Function of Prevailing Visibility" table, with a visibility of 1 statute mile, at night and a temperature of -6 °C (21.2 °F), the snowfall intensity is classified as moderate. The snowfall intensity of moderate - not the METAR reported intensity of light - will be used to determine which holdover time guideline value is appropriate for the fluid in use.

8.2.5.9 Taxi-through De-Icing

Revision: 19 - 14 MAR 21

De-icing with engines running may be performed in taxi-through facilities at particular airports. The OM Part B prescribes procedures and checklists for this procedure. VHF contact shall be maintained with the de-icing supervisor throughout the operation. The de-icing supervisor is responsible for confirming that the aircraft is completely free of ice or snow prior to releasing it.

8.2.5.10 Off-Gate De-Icing

Revision: 19 - 14 MAR 21

In general, prior to the application of de- icing/anti-icing fluids all doors and windows shall be closed and all service vehicles/personnel should be clear to prevent:

1. Galley floor areas being contaminated with slippery de-icing fluids;
2. Upholstery becoming soiled;
3. Vehicles/personnel becoming contaminated with fluid.

8.2.5.11 Communication

Revision: 19 - 14 MAR 21

NOTE	No flight crew communication is required and no holdover time applies if the aircraft is de-iced using Type I for overnight frost in the absence of further precipitation or active frost.

Communication Prior to Starting De-icing/Anti-icing Treatment

Before starting de-icing/anti-icing, the flight crew shall be requested to confirm the treatment required (i.e., surfaces and components to be de-iced, anti-icing requirements, plus any special de-icing procedures).

Before fluid treatment starts, the flight crew shall be requested to configure the aircraft for de-icing/anti-icing (surfaces, controls, and systems as per aircraft type requirements or recommended procedures). The de-icing crew shall wait for confirmation that this has been completed before commencing the treatment.

For treatments conducted without the flight crew present, suitably Qualified Staff shall be nominated by the aircraft operator to confirm the treatment required (when applicable) and to confirm the correct configuration of the aircraft.

Communication During De-Icing/Anti-Icing

During off-gate de-icing/anti-icing a two-way communication between flight crew and de-icing/ anti-icing operator/supervisor shall be established prior to the de-icing/anti-icing treatment. This shall be done either by intercom or by VHF radio. In case VHF is used, the register or “tail number” of the aircraft instead of flight number shall be used during all communications. During treatment all necessary information to the cockpit shall be given by this means: (Beginning of treatment, treatment of sections requiring deactivation of aircraft systems, anti-icing code, etc.). Contact with flight crew may be terminated after the anti-icing code and readiness for taxi-out has been announced.

When off-gate de-icing/anti-icing area is entered by taxiing, a sufficient taxi and stopping guidance shall be arranged, or marshaller assistance shall be given. In case radio contact shall be established before entering the de-icing/anti-icing area. Signs with clearly marked operational frequency shall be visible from the cockpit before entering this area.

The de-icing/anti-icing operator together with the airport authorities shall publish all necessary information about how to operate on the off-gate site by NOTAM or in the OM Part C.

This information has to include at least the location of, and standard taxi routing to the de-icing/ anti-icing area, means to coordinate the de-icing/anti-icing operation, means to communicate before and during the de-icing/anti-icing operation and information about taxi and stopping guidance.

Following standard communication terminology is recommended during off-gate de-icing/anti-icing procedures:

Standard Communication Terminology

During Off-Gate De-icing/Anti-icing Procedures:	
De-Icing:	"Set parking-brakes, confirm aircraft is ready for treatment, inform on any special re-quests."
After Aeroplane is Configured for Treatment:	
Cockpit:	"brakes are set, you may begin treatment and observe.....*(any special requests like: ice un-der wing/flaps, clear-ice on top of wing, snow on fuselage, ice on landing gear, anti-ice with type IV fluid, etc.)*".
De-Icing:	"The treatment will begin now ....*(special request given, like "ice under wing", etc.)*. I will call you back when ready".
Only after Equipment is Cleared from Aeroplane and all Checks are Made:	
De-Icing:	"De-icing/anti-icing completed, anti-icing code is:......*(plus any additional info needed)*. I am disconnecting, standby for clear signal at right/left and/or con- tact ground/tower for taxi clearance."
Cockpit:	"De-icing/anti-icing completed, anti-icing code is......".

Post De-Icing/Anti-icing Communication

An aircraft shall not be dispatched for departure after a de-icing/anti-icing operation until the flight crew has been notified of the type of de-icing/anti-icing operation performed (i.e., the Anti-icing Code). The Anti-icing Code shall be provided by Qualified Staff upon completion of the treatment, indicating that the checked surfaces are free of frost, snow, slush, or ice; that de-icing/ anti-icing is complete, that equipment is cleared from the area; and in addition, providing the necessary information for the flight crew to estimate the appropriate holdover time for the prevailing weather conditions when anti-icing fluid has been used. When a treatment is interrupted for a significant period of time (e.g., truck runs out of fluid) the flight crew shall be informed stating the reason, the action to be taken and the estimated time delay. When continuing the treatment, the previously treated surfaces must be fully de-iced and anti-iced again, when the holdover time of the treatment from before the interruption is not sufficient.

All Clear Signal

The flight crew shall receive a confirmation from the ground crew that all de-icing/anti-icing operations are complete and that all personnel and equipment have been removed from the area before reconfiguring or moving the aircraft.

8.2.5.12 Responsibility

Revision: 19 - 14 MAR 21

The PIC is responsible for effective de/anti-icing to conform with OM Part B and legal requirements.

He has the authority to request any de/anti-icing treatment that he deems necessary, and his request for such treatment and the fluid mixtures used will always take precedence over locally recommended procedures.

In case of continuing precipitation the PIC shall assess, whether or not the applied holdover time is still appropriate. After receiving the anti-icing code, he is responsible for ensuring that the relevant control surfaces remain free of frost, ice, slush and snow until take-off.

Under normal circumstances the ground handling agent is responsible for correct and comprehensive de-icing of the aeroplane and for the visual check upon completion, paying particular attention to the upper surfaces of wings and stabilizer. The visual check may be performed by the flight crew.

The following elements comprising the Anti-Icing Code shall be recorded and be communicated to the flight crew by referring to the final step of the fluid de-icing/anti-icing treatment procedure; it shall be provided in the sequence given below:

NOTE	This information shall not be communicated in circumstances where anti-icing holdover times do not apply, e.g., local frost prevention in cold-soaked wing areas, symmetrical local area de-icing, or de-icing of specific surfaces only (such as leading edges for removal of impact ice), etc. In these circumstances, upon completion of the treatment, the flight crew shall be provided with the de-icing fluid type applied (e.g., "Type I"); a statement that holdover time does not apply (e.g., "no holdover time applies"); and confirmation that the post-de-icing check has been completed (e.g., "post de-icing check completed").

1. Fluid type (i.e. Type I, II, III or IV);
2. The fluid name (manufacturer and brand/trade name) of the Type II, III, or IV anti-icing fluid, if applicable.

NOTE	Communication of this element is not required for Type I fluid.

3. The concentration of fluid (dilution) within the neat fluid/water mixture, expressed as a percentage by volume for Type II, III, or IV (i.e., 100% ("neat") = 100% fluid, 75% = 75% fluid and 25% water, 50% = 50% fluid and 50% water).

NOTE	Communication of this element is not required for Type I fluid.

4. Local time (hours:minutes), either:

   a. For a one-step de-icing/anti-icing: at the start of the final treatment; or
   b. For a two-step de-icing/anti-icing: at the start of the second step (anti-icing).

5. The date in the following format: day, month, year (DDMMMYY (e.g., 28JAN15 = January 28, 2015)).

NOTE	This element is required for record keeping and is optional for flight crew notification.

6. Statement “Post de-icing/anti-icing check completed”.

NOTE	For specific aircraft types, additional requirements exist, e.g., tactile checks for clear ice on wing surfaces. Additional confirmation for these checks may be required.

EXAMPLE	The last step of a de-icing/anti-icing procedure is the application of a mixture of 75% Type II fluid and 25% water, made by the Manufacturer as Brand X, commencing at 13:35 local time on 20 February 2016, is reported and recorded as follows: – "TYPE II / 75% / MANUFACTURER, BRAND X / 1335 / 20FEB16 / POST DEICING/ANTI-ICING CHECK COMPLETED".

NOTE	An alternative means of visual communication of the anti-icing code to the flight crew can be used (e.g., written on paper, EMBs, ACARS, EFBs, etc.).

Protection period is measured from the time of treatment start. After satisfactory de-/anti-icing it is for the PIC to decide whether the holdover time is adequate for taxiing and take-off.

NOTE	A degraded type II or type IV fluid shall be used with the holdover time guideline for type I fluids (see Chapter *8.2.5.8.1 Active Frost Holdover Times for SAE Type I, Type II and Type IV Fluids*).

8.2.5.13 Post De-Icing/Anti-Icing Check

Revision: 23 - 29 AUG 24

When de-icing has been completed a careful inspection must be carried out by a trained and qualified person and in accordance with the manufacturer's recommendation. This is to confirm that flying and control surfaces have been cleared and that hinge slots, static vents, intakes and drain holes are free of any obstruction. This check shall include wings, horizontal stabilizers (both lower and upper surfaces), vertical stabilizer, and fuselage, including pitot heads, static ports temperature and angle of attack sensors. This check shall also include any other parts of the aeroplane on which a de-icing/anti-icing treatment was performed according to the requirements identified during the contamination check.

Take-off shall not be attempted unless the PIC has verified that the wings, control surfaces and engines are free of snow, ice and frost (**Clean Aircraft**).

The post de-icing/anti-icing check shall be performed from points offering sufficient visibility of all treated surfaces (e.g., from a de-icing/anti-icing vehicle, ladder, or other suitable means of access). Any contamination found shall be removed by further de-icing/anti-icing treatment and the check shall be repeated.

Before take-off the Commander must ensure that he has received confirmation that this Post De-icing/Anti-icing Check has been accomplished.

NOTE	For specific aeroplane types, additional requirements exist e.g. special clear ice checks, such as tactile checks on wings. These special checks are not covered by the Post De-icing/Anti-icing Check. Aeroplane operators shall make arrangements that the ground personnel is trained and familiar with those specific requirements.

When the de-icing provider performs the de-icing/anti-icing treatment as well as the Post-de-icing/- anti-icing Check, it may either be performed as a separate check or incorporated into the de-icing operation as defined below.

If possible, control surfaces and linkages shall be moved through their full ranges.

The de-icing provider shall specify the actual method adopted in his winter procedures:

1. As the de-icing/anti-icing treatment progresses the De-icing sprayer will closely monitor the surface receiving treatment, in order to ensure that all forms of frost, ice, slush or snow (with the exception of cold-soaked fuel frost on the lower surface of wings and light frost on the fuselage, which may be allowed) are removed and that, on completion of the treatment, these surfaces are fully covered with an adequate layer of anti-icing fluid;
2. Once the treatment has been completed, the De-icing Operator will carry out a close visual check of the surface where treatment commenced, in order to ensure it has remained free of contamination (this check is not required for 'frost only' conditions).

   When conducting the post de-icing check as part of the “incorporated method”, suitable time shall be available to allow for the de-icing steam to disperse to ensure that the de-icing operator has good visibility to conduct the post de-icing check. Lighting shall also be effective and serviceable for night operations, and enclosed operator cabins shall have efficient washer and wiper systems. It is also important that the cabin is positioned to be able to view the entire surface being de-iced.
3. Where the request for de-icing/anti-icing did not specify the fuselage, a visual check of the fuselage shall be performed at this time, in order to confirm that it has remained free of contamination (with the possible exception of light frost which may be allowed;
4. Any evidence of contamination that is outside the defined limits shall be reported to the flight crew immediately and be removed by further de-icing/ anti-icing treatment. Then the post de-icing/anti-icing check shall be repeated.

It is the responsibility of the De-icing Operator to ensure that the surfaces mentioned above are free of frost, ice, slush and snow, prior to the start of the anti-icing treatment.

Ensure that on completion of the treatment these surfaces are fully covered with an adequate layer of anti-icing fluid.

NOTE	If any significant damage on the aeroplane is identified during the walk-around/contamination check and/or damage identified or caused during the de-/anti-icing process, it must immediately be reported to the flight crew for further investigation and decision for aircraft airworthiness.

Pre-Take-off Check

The flight crew shall continually monitor the weather conditions after the performed de-icing/anti-icing treatment. Prior to take-off a flight crew member shall assess whether the applied holdover time is still appropriate and/or if untreated surfaces may have become contaminated.

This Check is normally performed from inside the flight deck.

Pre-Take-off Contamination Check

A check of the critical surfaces for contamination.

This check shall be performed when the condition of the critical surfaces of the aircraft cannot be effectively assessed by a pre-take-off check or when the applied holdover time has been exceeded.

This check is normally performed from outside the aircraft, but it may be accomplished by the crew from within the aircraft and shall be done within 5 minutes before take-off.

The alternate means of compliance to a pre-take-off contamination check is to perform a complete de-icing/anti-icing re-treatment of the aircraft.

Flight Control Check

A functional flight control check using an external observer may be required after de-icing/anti-icing depending upon aeroplane type (see relevant manuals). This is particularly important in the case of an aeroplane that has been subjected to an extreme ice or snow covering.

8.2.5.14 Information to the PIC and Reporting

Revision: 20.2 - 14 DEC 22

Whenever de-icing has taken place, the ground crew shall notify the PIC of the de-icing fluid type and the concentration used. The PIC shall note in the technical log that de-icing was performed.

8.2.5.15 Ramp and Taxi Precautions

Revision: 19 - 14 MAR 21

Icy conditions on the ramp/gate area mean that the push-back vehicle may not be able to develop sufficient traction to push the aircraft with engines running. In this case, after completing checks down to engine start, have the aircraft pushed back, to a position from which it can taxi forward, before starting engines.

Be alert to the possibility of engine inlet ice build-up during taxi and ground holding operations. Ice can form in engine inlets at temperatures above 10° C with high humidity present during extensive ground holds with the engines at idle. If visible moisture is present with a temperature below that specified in the OM Part B, nacelle anti-ice systems shall be selected ON as specified in the OM Part B.

Ensure that probe and sensor heating systems are ON before taxiing.

Taxi with great care since rutted areas cause steering problems. Neither aircraft nor ground vehicles are capable of stopping quickly. When guide lamp installations are available, make use of them to align the aircraft in the gate area. Snow may cover the normal taxi markings. Be alert to the possibility of foreign object damage due to high snow in ramp areas or along narrow taxiways. Test braking and steering capabilities frequently. Maintain a greater distance than normal from other traffic to avoid jet-blast which could adversely affect anti-ice treatment and/or blow contaminants onto the aircraft.

Engine thrust may need to be higher than normal to overcome the drag caused by slush or snow. Changes should be made slowly and carefully to avoid blowing equipment and/or contaminants into other aircraft.

Flaps should be kept UP when taxiing through slush or standing water, with pre-take-off checks delayed until they are able to be lowered.

8.2.5.16 Take-off

Revision: 19 - 14 MAR 21

Take-off is prohibited if any of the following conditions exist:

1. Snow, ice or frost deposits are adhering to the wings, control surfaces or engines of the aeroplane;
2. Heavy fall of wet snow with ambient temperature around the freezing point.

Observe appropriate performance limitations for take-off. Acceleration will be adversely affected by slush or standing water on the runway, which cause significantly greater drag. Be alert for conditions which could affect stopping and directional control should it become necessary to abort.

Line-up carefully and ensure that the nose wheel is straight, as skidding of an offset nose wheel upsets directional control. Apply thrust slowly to prevent asymmetry which would also affect directional control.

During take-off roll maintain positive forward pressure on the nose wheel and use rudder for directional control as soon as it becomes effective.

8.2.5.16.1 Rejected/Aborted Take-off

Revision: 19 - 14 MAR 21

Directional control problems may be aggravated during a rejected take-off due to excessive anti-skid cycling and/or individual wheels skidding. Unless the FCTM states otherwise, the rudder shall be used as the primary steering aid and, to regain directional control, be prepared to release wheel brakes, cancel reverse thrust and reselect forward idle. Brakes should be reapplied when directional control is regained. Do not “pump” the wheel brakes when the anti-skid system is ON.

8.2.5.16.2 Rotation Technique

Revision: 19 - 14 MAR 21

During take-off in poor weather conditions or in a contaminated runway situation, the take-off roll and rotation shall be the same as for a normal take-off situation, holding light forward pressure and using rudder and aileron to maintain directional control. Target pitch attitude shall be attained using normal rotation rate of 2-3°/sec. This will ensure that any abnormal pitch-up tendency due to possible residual contamination over the airfoil is detected early and the wing angle of attack does not become higher than normal.

If pitch-up or lateral instability is experienced after lift-off, use elevator, rudder and aileron to maintain the desired attitude. Apply maximum available thrust and use smooth continuous control inputs to avoid overcontrolling.

Do not allow further increase in pitch attitude until full lateral control has been regained.

8.2.5.17 Removal of Local Area Contamination

Revision: 19 - 14 MAR 21

When no precipitation is falling or expected, and when there is no active frost a 'local area' de-icing may be carried out under the below mentioned or similar conditions.

In some cases a full or complete de-icing is not necessary. When the presence of frost and/or ice is limited to localised areas on the surfaces of the aircraft and no holdover time is applicable, only the contaminated areas will require treatment.

This type of contamination will generally be found on the wing and/or stabiliser leading edges or in patches on the wing and/or stabiliser upper surfaces.

The affected area(s) shall be sprayed with a heated fluid/water mixture suitable for a one step Procedure. Both sides of the wing and/or stabilizer upper surfaces shall receive the same amount and type of fluid at the same concentration; the same area in the same location on each wing/ stabilizer shall be sprayed including when conditions would not indicate the need for treatment of both wings/stabilizers.

It is the responsibility of the De-icing Service Provider to ensure that the treatment is performed symmetrically and that on completion all frozen deposits have been removed. After this check has confirmed that the areas are clean the following statement shall be given to the flight crew:

"Local area de-icing only. Holdover times do not apply."

8.2.5.18 Lower Wing Surface (under Side of Wing) De-icing Procedures

Revision: 19 - 14 MAR 21

Treatments must be symmetrical and may include flaps and lower surfaces. The affected areas shall be sprayed with a heated fluid/water mixture suitable for a one-step procedure as required, (see caution below), and then the same areas under the other wing shall be sprayed. Both wings must be treated identically (same areas, same amount and type of fluid, same mixture strength), even if the frozen contamination is only present under one wing. Holdover times do not apply to underwing treatments.

It is the responsibility of the De-icing Service Provider to ensure that the treatment is performed symmetrically and that on completion all frozen deposits (with the possible exception of frost, which may be allowed), have been removed. When it is confirmed that the treated areas are clean, the following statement shall be given to the flight crew: **"Underwing de-icing only, holdover times do not apply"**.

CAUTION	Underwing frost and ice are usually caused by very cold fuel in the wing tanks. Use a fluid/water mix with a higher concentration of glycol than is usually required by the OAT to prevent re-freezing.

8.2.5.19 Residues

Revision: 19 - 14 MAR 21

Dried fluid residues occur when surfaces have been treated but the aeroplane has not subsequently been flown and not been subject to precipitation. The fluid may then have dried on the surfaces.

Repetitive application of thickened de-icing/anti-icing fluids may lead to subsequent formation/ build up of a dried residue in aerodynamically quiet areas, such as cavities and gaps. This residue may re-hydrate if exposed to high humidity conditions, precipitation, washing, etc., and increase to many times its original size/volume. This residue will freeze if exposed to conditions at or below 0 °C. This may cause moving parts such as elevators, ailerons, and flap actuating mechanisms to stiffen or jam in-flight.

Re-hydrated residues may also form on exterior surfaces, which can reduce lift and increase drag and stall speed.

Re-hydrated residues may also collect inside control surface structures and cause clogging of drain holes or imbalance to flight controls.

Residues may also collect in hidden areas: around flight control hinges, pulleys, grommets, on cables and in gaps.

NOTE	Maintenance have procedures to check the aircraft for residues after the flight crew indicates in the ATL that de-icing has been performed.

8.2.5.20 Nose/Radome Area and Flight Deck Windows

Revision: 19 - 14 MAR 21

When thickened fluids are used, avoid spraying near flight deck windows, as fluid residues can cause a severe loss of visibility during flight.

Type I/water fluid mixture or manual methods of removal (such as squeegees or brushes) are recommended for the de-icing in that area.

Any thickened fluid remaining on nose areas where it could blow back onto the windscreens shall be removed prior to departure, using squeegees or equivalent.

If flight deck windows are contaminated with thickened fluids use water or an approved windshield cleaner (use of a low freezing point windscreen washing fluid is recommended when OAT is at or below 0 °C).

NOTE	Prior to cleaning of Flight Deck Windows ensure that the window heating system is switched off.

8.2.5.21 Training and Qualification

Revision: 19 - 14 MAR 21

De-icing/anti-icing procedures shall be carried out exclusively by personnel trained and qualified on this subject.

Companies providing de-icing/anti-icing services shall have been approved in accordance with the MCM part 3-20.

8.3 FLIGHT PROCEDURES

8.3.1 General

Revision: 19 - 14 MAR 21

Commercial flights are only allowed into controlled airports and airspaces.

Any person operating an aircraft shall take such action required by the interpretation of signals given as described in Appendix 1 to ICAO Annex 2 - Rules of the Air, (see Chapter ***12 Rules of the Air***), and in the Ops Info section of the QRH.

ATC instructions, NOTAMs and published procedures shall be followed accurately, using published navigation aids or their substitutes. Except in an emergency, no person may operate an aircraft contrary to an ATC instruction in an area in which air traffic control is exercised.

Vigilance shall be maintained by each flight crew member so as to see and avoid other aircraft.

Throughout the execution of an approach or departure, the relevant published procedure shall be displayed in front of each pilot. All equipment specified on the Jeppesen approach chart title is mandatory for execution of the approach with the exception of NDB for non-NDB approaches.

IFR/VFR Policy – All flights shall be operated in accordance with Instrument Flight Rules. A PIC shall not cancel an IFR flight plan, or proceed VFR at any stage of a flight.

8.3.2 Navigation

Revision: 19 - 14 MAR 21

An aircraft shall not be operated unless the navigation equipment required is approved and installed in accordance with the requirements in the ANR. Information about the required operational status of equipment is provided in the MEL.

Report to ATC as soon as practical, any malfunctions of navigational approach, or communication equipment occurring in flight including the degree to which the capability of the pilot to operate under IFR according to the applicable ATS instructions is impaired, and the nature and extent of assistance desired from ATC.

Unless otherwise authorized by ATC, no person may operate an aircraft within controlled airspace under IFR except on an ATS route, along the centreline of that airway (unless SLOP applies) or on any other route, along the direct course between the navigational aids or fixes defining that route.

A failure of a single unit required for operation may not result in the inability to operate safely on the route to be flown. Detailed information about the required operational status of equipment is provided in the MEL. In some cases, the minimum airborne requirement differs from the dispatch requirements and a substitute list is published (QRH - Ops Info).

Navigation and communication equipment is installed to enable or to assist flight crews to perform and/or to optimize flights with regard to safety, comfort and economy. Pilots are responsible for the correct use of the equipment in accordance with the limitations laid down in the OM Part B.

Continuous monitoring of the equipment and its performance is mandatory during any use of it. Special attention shall be paid to the engagement status of systems used in order to avoid late recognition of mode or configuration changes which could result in abnormal situations (e.g. unscheduled disengagement).

The most important principle governing the performance of all navigation tasks is redundancy, as navigational errors carry a significant risk potential. Whether navigating on manually-tuned navigation aids, on the navigation system or on radar vectors, cross-checks of the primary aids are essential.

8.3.2.1 NAT HLA

(*) Revision: 23.1 - 15 MAR 25

The information in this chapter is adapted from ICAO North Atlantic Operations and Airspace Manual NAT Doc 007.

8.3.2.1.1 NAT HLA Navigation

(*) Revision: 23.1 - 15 MAR 25

For operation in (NAT HLA) navigation airspace:

- Company aircraft are equipped with navigation equipment that complies with the minimum navigation performance specifications; and
- Flight crew are trained and authorized to perform such operations. Detailed procedures (including e.g. timekeeping) and information are provided in Chapter *8.3.2.1.12 Flight Operations and Navigation Procedures*. Refer also to QRH - Ops Info.

8.3.2.1.2 NAT HLA Airspace

Revision: 23 - 29 AUG 24

NAT HLA enables reduced lateral and longitudinal separation within the Oceanic Control Airspace OCA boundaries. The North Atlantic (NAT) Region comprises the following:

1. NAT HLA - The lateral dimensions of the NAT HLA include the following Oceanic Control Areas (OCAs): REYKJAVIK, SHANWICK (excluding SOTA & BOTA), GANDER, SANTA MARIA OCEANIC, BODO OCEANIC and NEW YORK OCEANIC EAST north of 27N;
2. RVSM - Reduced Vertical Separation to 1,000 ft/300 m from FL290 to FL410 incl.

8.3.2.1.3 Technical Requirements

(*) Revision: 23.1 - 15 MAR 25

Lateral Navigation

1. At least TWO fully serviceable Long Range Navigation Systems (LRNSs). A LRNS may be one of the following:
   - One Inertial Navigation System (INS);
   - One Global Navigation Satellite System (GNSS);

NOTE	Currently the only GNSS system fully operational and for which approval material is available, is GPS.

   - One navigation system using the inputs from one or more Inertial Reference System (IRS) or any other sensor system complying with the NAT HLA requirement.
2. Each LRNS must be capable of providing to the flight crew a continuous indication of the aircraft position relative to desired track;

3. It is also highly desirable that the navigation system employed for the provision of steering guidance is capable of being coupled to the autopilot.

Longitudinal Navigation

Time-based longitudinal separations between subsequent aircraft following the same track (intrail) and between aircraft on intersecting tracks in the NAT HLA airspace are assessed in terms of differences in ATAs/ETAs at common points. The time-based longitudinal separation minima currently used in the NAT HLA airspace are thus expressed in clock minutes. The maintenance of in-trail separations is aided by the application of the Mach Number Technique (MNT).

However, aircraft clock errors resulting in waypoint ATA errors in position reports can lead to an erosion of actual longitudinal separations between aircraft. It is thus vitally important that the time-keeping device intended to be used to indicate waypoint passing times is accurate and synchronised to an acceptable UTC time signal before commencing flight in the NAT HLA. In many modern aircraft, the Master Clock can only be reset while the aircraft is on the ground. Thus the pre-flight procedures for any NAT HLA operation must include a UTC time check and resynchronisation of the aircraft Master Clock (typically the FMS).

Operations without an assigned fixed speed (OWAFS) were implemented in July 2019. This implementation allows ATC to issue the clearance RESUME NORMAL SPEED after oceanic entry that allows the flight crew to select a cost index (ECON) speed instead of a fixed Mach number with the condition that ATC must be advised if the speed changes by plus or minus Mach .02 or more from the last assigned Mach number.

Operations in the NAT outside VHF coverage require the carriage of two long range communication systems, one of which must be HF. SATVOICE and/or CPDLC (appropriate to route of flight) may satisfy the requirement of the second-long range communication system. Due to coverage limitations, an Inmarsat CPDLC or SATVOICE system does not qualify as a long range communication system when operating north of 80°N. Aircraft that are equipped with both Inmarsat (J5) and Iridium (J7) data link capability should use Iridium when north of 80°N.

8.3.2.1.3.1 Data Link Requirements

(*) Revision: 23.1 - 15 MAR 25

The NAT Data Link Mandate (DLM) requires aircraft to be equipped with, and operating, CPDLC and ADS-C in the NAT region. Currently, the mandate incorporates FL 290 to FL 410 inclusive.

The DLM is not applicable to aircraft operating in:

a. Airspace north of 80° North;
b. New York Oceanic East flight information region (FIR);
c. Airspace where an ATS surveillance service is provided by means of radar, multilateration and/or ADS-B, coupled with VHF voice communications as depicted in State Aeronautical Information Publications (AIP), provided the aircraft is suitably equipped (transponder / ADS-B extended squitter transmitter).

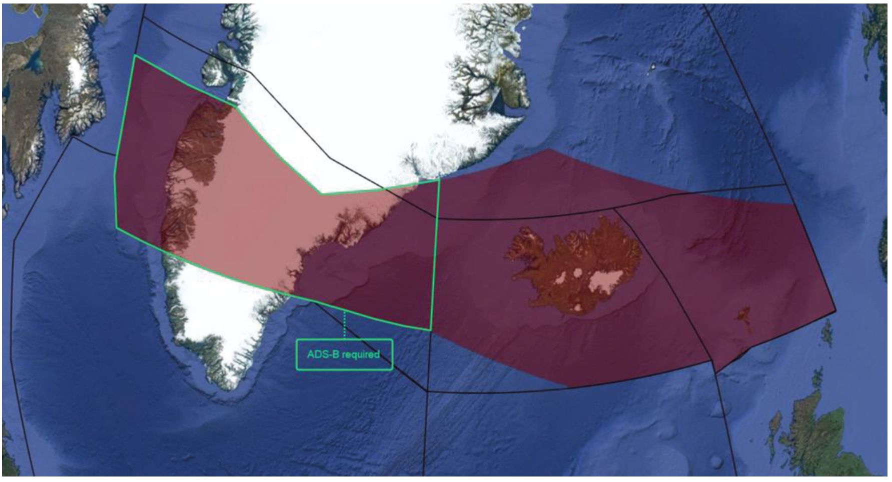
Certain categories of flights may be allowed to plan and operate through the mandated airspace with non-equipped aircraft, namely non-equipped flights that file STS/FFR, HOSP, HUM, MEDEVAC SAR, or STATE in Item 18 of the flight plan. (Depending on the tactical situation at the time of flight, however, such flights may not receive an ATC clearance which fully corresponds to the requested flight profile).

Any aircraft not equipped with FANS 1/A (or equivalent) systems may request to climb or descend through the NAT DLM airspace. Other requests for operation of non-DLM equipped aircraft in the NAT DLM airspace will be considered on a tactical basis, as outlined below.

1. Altitude reservation (ALTRV) requests and requests for "special operations" (e.g., for scientific research or weather observations) will be considered on a case-by-case basis, irrespective of the equipage status of the participating aircraft;
2. If a flight experiences an equipment failure AFTER DEPARTURE which renders the aircraft unable to operate FANS 1/A (or equivalent) CPDLC and/or ADS-C systems, requests to operate in the NAT DLM airspace will be considered on a tactical basis. Such flights must notify ATC of their status PRIOR TO ENTERING the airspace;
3. If a FANS 1/A data link equipment failure occurs while the flight is OPERATING WITHIN NAT DLM AIRSPACE, ATC must be immediately advised. Such flights may be re-cleared so as to avoid the airspace, but consideration will be given to allowing the flight to remain in the airspace, based on tactical considerations;
4. If a flight experiences an equipment failure PRIOR to departure which renders the aircraft non-DLM compliant, the flight should re-submit a flight plan so as to remain clear of the NAT regional DLM airspace.

Airspace excluded from the DLM is as follows:

a) Iceland – Greenland corridor



ADS-B is required west of 30W.

For planning purposes, this area is bounded by the following:

Northern Boundary:

65N000W - 67N010W - 69N020W - 68N030W - 67N040W - 69N050W - 69N060W - BOPUT.

Southern Boundary:

GUNPA (61N000W) - 61N007W - 6040N010W - RATSU (61N010W) - 61N020W - 63N030W - 6330N040W - 6330N050W - EMBOK.

NOTE	This area, which is within direct controller pilot VHF voice coverage, offers a solution for suitably equipped aircraft (transponder with ADS-B extended squitter transmitter) that are equipped with a single or no Long Range Communication System, to cross the North Atlantic at or above FL290.

b) Azores corridor

Traffic flying to/from Azores Islands is allowed to operate in the NAT HLA, when the oceanic portion of the planned route is contained inside the Santa Maria FIR ATS Surveillance airspace and VHF coverage, typically via MANOX, NAVIX or IRKID direct 350000N 0200000W or 360000N 0200000W direct Azores Islands, for aircraft equipped with SSR Mode S/ADS-B transponders.

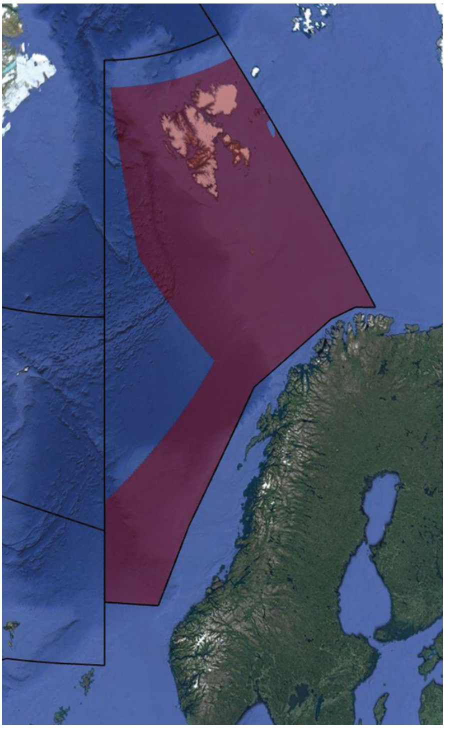
For the current North Atlantic Operations and Airspace Manual (NAT Doc 007) refer to the ICAO NAT Documents folder.

c) Bodo corridor

Aircraft need to be equipped with transponder with ADS-B extended squitter transmitter.

For flight planning purposes, the following coordinates can be used to define the ATS surveillance airspace within Bodo OCA:

6645N 00000E - 7110N 01140E - 7500N 00430E - 8100N 00130E - 8100N 03000E - 7100N 03000E - 7120N 02800E - 7120N 02500E - 7000N 01500E - 6545N 00700E - 6303N 00403E - 6315N 00000E - (6645N 00000E).



NOTE	Details in State Aeronautical Information Publications (AIP).

8.3.2.1.4 Flight Planning in NAT HLA Airspace

Revision: 23 - 29 AUG 24

Routings

Operators are allowed to flight plan on the OTS, across the OTS or to join or leave the OTS.

While ATC will make every effort to clear random traffic affecting the OTS at published flight levels, operators should be aware that re-routes or significant changes in flight level may occur during most of the OTS traffic periods.

Outside of the OTS periods, operators flying against the pending OTS may flight plan any random routing, except:

a. Eastbound flights that cross 30°W less than one hour prior to the pending Westbound OTS (i.e. after 1029 UTC); or

b. Westbound flights that cross 30°W less than one hour prior to the pending Eastbound OTS (i.e. after 2359 UTC),

should plan to remain clear of the pending OTS structure.

Flight crews of all NAT flights at or above FL 290, even those that will transit the NAT either above the NAT HLA, or laterally clear of the OTS, must carry a copy of the NAT track message, including any amendments. In the case of amendments, Note One of the NAT track message will generally contain a brief explanation of the amendment and, if warranted, a revised TMI with an alpha suffix.

NOTE	A revised TMI with an alpha suffix will be issued for changes to: any track coordinate(s), including “named” waypoints; published track levels; or “named” waypoints within European routes west. A TMI revision will not be issued for changes to other items such as NARs.

Flight Levels

Flight planning in the NAT between FL 290 and FL 410 inclusive is restricted by the Data Link Mandate. Chapter *8.3.2.1.3 Technical Requirements* indicates equipment required within this flight level band.

Flights which are planned to remain entirely clear of the OTS or which join or leave an OTS track (i.e. follow an OTS track for only part of its published length), are all referred to as Random Flights. Flight crews intending to fly on a random route or outside the OTS time periods may plan any flight level(s) in accordance with the NAT FLAS.

NOTE	This FLAS is published in the UK and Canadian AIPs and described in NAT Doc 007, Attachment 5 "North Atlantic Flight Level Allocation Scheme".

NOTE	Arrangements for routes T9 and T290 are published in the UK AIP at ENR 3.3 and 3.5.

Flights which are planned to follow an OTS track for its entire length (during the OTS periods) may plan any of the levels published for that track, keeping in mind PBCS and DLM requirements.

NOTE	PBCS tracks will be identified in Note 3 of the OTS message. Operators planning to operate in the altitude band FL 350 - FL 390 on the PBCS OTS are subject to equipage and authorization requirements as outlined in NAT OPS Bulletin, “Implementation of Performance Based Separation Minima”.

Operators may include climbs in the flight plan, although each change of level during flight must be requested from ATC by the flight crew. Approval of such requests will be entirely dependent upon potential traffic conflicts. ATC may not always be able to accommodate requested flight level changes and prudent preflight fuel planning should take this into consideration.

If a flight is expected to be level critical, operators should contact the initial OAC prior to filing of the flight plan to determine the likely availability of specific flight levels.

Speed

The planned Mach number must be included in the ICAO flight plan for aircraft capable of maintaining an assigned Mach.

ATC uses speed information, along with position information to calculate estimated times along the cleared route. These times are used as the basis for longitudinal separation and for coordination with adjacent units.

Flight Plans

Correct completion and addressing of the ICAO flight plan is extremely important as errors can lead to delays in data processing and the subsequent issuing of clearances to the flights concerned. Detailed explanations of how to correctly complete a flight plan with respect to the NAT portion of a flight are contained in NAT Doc 007, Chapter 14 "Guidance of Dispatchers".

Operators are reminded that they must indicate their aircraft and flight crew capabilities (e.g. RNP, RNAV, RCP 240 and RSP 180 authorization, RVSM, FANS 1/A data link, ADS-B and NAT HLA approval) in the flight plan. Separation criteria and safety improvement initiatives in the NAT region are made available to all appropriately equipped flights based on filed flight plan information. This also supports planning for future initiatives by providing more accurate information regarding the actual capabilities of the fleet operating in the ICAO NAT region.

8.3.2.1.5 Loading of Waypoint and OFP Annotation

(*) Revision: 23.1 - 15 MAR 25

The manual entry of NAT HLA waypoint data into the navigation systems must be a coordinated operation by two pilots, working in sequence and independently: one should insert the data, and subsequently the other shall recall it and confirm it against the flight plan. It is not sufficient for one crew member just to observe or assist another crew member inserting the data.

CAUTION	After uplink and loading the Flight Plan into the FMC, half-degree waypoints will be displayed in the FMC as whole-degree waypoint but the actual position is correct. Example: N6030.0W04000.0 may appear as N60W040 (rounded down) The crew shall therefore check the exact latitude/longitude waypoint and compare it to the OFP.

Once both pilots have verified that each NAT HLA waypoint in the FMC matches the flight plan (according to the Pre-flight procedure in Chapter *8.3.2.3 General Navigation Procedures*, “Pre-flight”), oceanic waypoints shall be annotated on the OFP with a half circle. After the oceanic clearance has been received, both pilots shall independently verify that each waypoint in the FMC matches the clearance, and the half circle around the waypoint shall then be completed. This procedure is replaced when using the EFF application according to the EFF user manual.

If the oceanic clearance does not match the flight plan, the PM shall amend the OFP and enter the new routing into the FMC. The PF shall then cross-check the FMC against the clearance and the amended OFP, and circle the waypoint on the OFP.

If using EFF, the above procedure shall be carried out within the approved EFF application.

8.3.2.1.6 ATS Communications

Equipments Requirements

Revision: 23 - 29 AUG 24

Operations in the NAT outside VHF coverage require the carriage of two long range communication systems, one of which must be HF. SATVOICE and/or CPDLC (appropriate to route of flight) may satisfy the requirement of the second-long range communication system. Due to coverage limitations, an Inmarsat CPDLC or SATVOICE system does not qualify as a long range communication system when operating north of 80°N. Aircraft that are equipped with both Inmarsat (J5) and Iridium (J7) data link capability should use Iridium when north of 80°N.

Flights planning to operate outside VHF coverage may request waivers from the HF requirement provided the flight falls into one of the following categories:

- Air carriers with HF unserviceable wishing to return to base for repairs; or
- Ferry or delivery flights; or
- Special event flights.

Relief from the HF requirement may be granted by the Air Traffic Control Centres serving the route of flight provided the aircraft has at least two other long-range communication systems appropriate for route of flight.

NOTE	See State AIPs for details.

HF Voice Communications

Revision: 23 - 29 AUG 24

It is important that flight crews appreciate that routine* air/ground ATS voice communications in the NAT region are conducted via aeronautical radio stations (hereafter referred to as radio stations) staffed by radio operators **who have no executive ATC authority**. Messages are relayed by the ground station to/from the air traffic controllers in the relevant OAC. This is the case, whether communications are via HF, GP/VHF or SATVOICE.

There are six radio stations in the NAT: Bodø Radio (Norway), Gander Radio (Canada), Iceland Radio (Iceland), New York Radio (USA), Santa Maria Radio (Portugal) and Shanwick Radio (Ireland).

Even with the growing use of data link communications a significant volume of NAT air/ground communications are conducted using voice on SSB HF frequencies and GP VHF frequencies. To support air/ground ATC communications in the North Atlantic region, twenty-four HF frequencies have been allocated, in bands ranging from 2.8 MHz to 18 MHz. Additionally, Shanwick Radio, Santa Maria Radio, and Iceland Radio operate a number of Regional and Domestic Air Route Area (RDARA) frequencies in accordance with operating requirements and agreements between the stations.

There are a number of factors which affect the optimum frequency for communications over a specific path. The most significant is the diurnal variation in intensity of the ionisation of the refractive layers of the ionosphere. Hence frequencies from the lower HF bands tend to be used for communications during night-time and those from the higher bands during day-time. Generally, in the North Atlantic frequencies of less than 6 MHz are utilised at night and frequencies of greater than 5 MHz during the day.

The 24 NAT frequencies are organized into six groups known as Families. The families are identified as NAT Family A, B, C, D, E and F. Each family contains a range of frequencies from each of the HF frequency bands. A number of stations share families of frequencies and co-operate as a network to provide the required geographical and time of day coverage. A full listing of the frequencies operated by each NAT radio station is contained in the "**HF Management Guidance Material for the North Atlantic Region**" (NAT Doc 003), available at www.icao.int/EURNAT/, following "EUR & NAT Documents", then "NAT Documents", in folder "NAT Doc 003".

Each individual flight may be allocated a primary and a secondary HF frequency before the oceanic boundary.

Radio operators usually maintain a continuous air-ground communication watch on more than one single frequency therefore it is useful for flight crews to state the frequency used when placing the initial call to the radio station.

HF Phraseology Applicable when using Data Link

Revision: 23 - 29 AUG 24

The integrity of the ATC service remains wholly dependent on establishing and maintaining HF or VHF voice communications with each ATS unit along the route of flight. The procedures in this section are applicable only in NAT airspace and pertain only to ATS data link operations.

Prior to or upon entering each NAT OCA, the flight crew should contact the appropriate aeronautical radio station.

If the flight enters an OCA followed by another OCA, the flight crew should, on initial contact:

a. Not include a position report;

b. After the radio operator responds, request a SELCAL check and state the next OCA;

c. The radio operator will assign primary and secondary frequencies, perform the SELCAL check and designate the position and frequencies to contact the aeronautical radio station serving the next OCA. If the communications instructions are not issued at this stage, the crew should assume that the frequencies to use prior or upon entering the next OCA will be delivered at a later time by CPDLC or voice.

Example (Initial contact from an eastbound flight entering GANDER Oceanic):

GANDER RADIO, AIRLINE 123, SELCAL CHECK, SHANWICK NEXTAIRLINE 123, GANDER RADIO, HF PRIMARY 5616 SECONDARY 2899, AT 30 WESTCONTACT SHANWICK RADIO HF PRIMARY 8891 SECONDARY 4675, (SELCALTRANSMITTED)GANDER RADIO, AIRLINE 123, SELCAL OKAY, HF PRIMARY 5616 SECONDARY 2899.AT 30 WEST CONTACT SHANWICK RADIO, HF PRIMARY 8891 SECONDARY 4675

If the flight will exit an OCA into continental airspace or airspace where the primary means of communication is VHF voice and an ATS surveillance service is available, on initial contact with the OCA, the flight crew should:

a. Not include a position report;

b. After the radio operator responds, request a SELCAL check;

Example (Initial contact from an eastbound flight about to enter SHANWICK Oceanic):

SHANWICK RADIO, AIRLINE 123, SELCAL CHECKAIRLINE 123, HF PRIMARY 2899 SECONDARY 5616 (SELCAL TRANSMITTED)SHANWICK RADIO, AIRLINE 123, SELCAL OKAY, HF PRIMARY 2899 SECONDARY 5616.

c. For flights on T9 and T290, monitor VHF channel 128.360 as advised by Shanwick Radio. Exceptionally, in the event of navigational non-conformance or in an emergency, controllers may communicate directly with the flight. Controllers will use the callsign "Shanwick Control".

Depending on which data link services are offered in the OCA and the operational status of those services, the aeronautical radio operator will provide appropriate information and instructions to the flight crew.

If a data link connection cannot be established, maintain normal voice communication procedures. In the event of data link connection failure in a NAT OCA after a successful logon revert to voice and notify the appropriate radio station. Inform the OAC in accordance with established problem reporting procedures.

NOTE	Flights on T9 or T290 should contact Shanwick Radio on HF voice.

To reduce frequency congestion, flight crews of flights using ADS-C should not additionally submit position reports via voice unless requested by aeronautical radio operator.

ADS-C flights are exempt from all routine voice meteorological reporting; however, the flight crew should use voice to report unusual meteorological conditions such as severe turbulence to the aeronautical radio station.

For any enquiries regarding the status of ADS-C connections, flight crew should use CPDLC. Should the ATS unit fail to receive an expected position report, the controller will follow guidelines for late or missing ADS-C reports.

When leaving CPDLC/ADS-C or ADS-C-only airspace, the flight crew should comply with all communication requirements applicable to the airspace being entered.

If the flight crew does not receive its domestic frequency assignment by 10 minutes prior to the flight's entry into the next OCA, the flight crew should contact the aeronautical radio station and request the frequency, stating the current OCA exit fix or coordinates.

NOTE	Flights on T9 or T290 should contact Shanwick Radio on HF voice.

SELCAL

Revision: 23 - 29 AUG 24

When using HF, SATVOICE, or CPDLC, flight crews shall maintain a continuous air-ground communication watch on the assigned frequency, unless SELCAL equipped, in which case they should ensure the following sequence of actions:

a. Provide the SELCAL code in the flight plan; (any subsequent change of aircraft for a flight will require refiling of the flight plan or submitting a modification message (CHG) which includes the new registration and SELCAL);

b. Check the operation of the SELCAL equipment, at or prior to entry into oceanic airspace, with the appropriate radio station. (This SELCAL check shall be completed prior to commencing SELCAL watch); and

c. Maintain thereafter a SELCAL watch.

It is important to note that it is equally essential to comply with the foregoing SELCAL provisions even if SATVOICE or CPDLC are being used for routine air/ground ATS communications. This will ensure that ATC has a timely means of contacting the aircraft.

Flight management staff and flight crews of aircraft equipped with SELCAL equipment should be made aware that SELCAL code assignment is predicated on the usual geographical area of operation of the aircraft. If the aircraft is later flown in geographical areas other than as originally specified by the aircraft operator, the aircraft may encounter a duplicate SELCAL code situation. Whenever an aircraft is to be flown routinely beyond the area of normal operations or is changed to a new geographic operating area, the aircraft operator should contact the SELCAL Registrar and request a SELCAL code appropriate for use in the new area.

When acquiring a previously owned aircraft equipped with SELCAL, many aircraft operators mistakenly assume that the SELCAL code automatically transfers to the purchaser or lessee. This is not true. As soon as practical, it is the responsibility of the purchaser or lessee to obtain a SELCAL code from the Registrar, or, if allocated a block of codes for a fleet of aircraft, to assign a new code from within the block of allocated codes.

Issues associated with duplicate SELCALS should be made to the SELCAL Registrar, Aviation Spectrum Resources, Inc. (ASRI). The SELCAL Registrar can be contacted via the AFTN address KDCAXAAG, and by including “ATTN. OPS DEPT. (forward to SELCAL Registrar)” as the first line of message text or via online at https://www.asri.aero/selcal/.

VHF Voice Communications

(*) Revision: 23.1 - 15 MAR 25

Radio stations are also responsible for the operation of General Purpose VHF (GP/VHF) outlets. North Atlantic flights may use these facilities for all regular and emergency communications with relevant OACs, except that VHF Channel 128.360 may not be used for routine communication on routes T9 and T290. Such facilities are especially valuable in the vicinity of Iceland, Faroes and Greenland since VHF is not as susceptible to sunspot activity as HF. Outlets are situated at Prins Christian Sund, which is operated by Gander Radio, and at Kangerlussuaq (Sondrestrom), Kulusuk, several locations in Iceland and the Faroes, via Iceland Radio. It is important for the flight crew to recognise that when using GP/VHF, as with HF and SATVOICE, these communications are with a radio station and the flight crew is not normally in direct contact with ATSU. However, contact between the flight crew and ATC can be arranged, for example via patchthrough on HF or GP/VHF frequencies by Iceland Radio and Shanwick Radio.

Reykjavik centre operates a number of Direct Controller Pilot Communications (DCPC) VHF stations in Iceland, Faroe Islands and Greenland. At jet flight levels the coverage is approximately 250 NM as indicated in Figure below. Those stations are used to provide tactical procedural control and ATS Surveillance services within the South, East and West sectors of the Reykjavik area. The callsign of the Reykjavik centre is “Reykjavik Control” or just “Reykjavik” and indicates that the flight crew is communicating directly with an air traffic controller. The callsign of Iceland radio is “Iceland radio” and indicates that the flight crew is communicating with a radio operator who is relaying messages between the flight crew and the appropriate control facility.

NOTE	Due to technical data link interoperability requirements, CPDLC uplink messages refer to Iceland Radio as "Iceland Radio Centre". This is done to enable the flight crew of capable aircraft to automatically load the specified frequency into the aircraft communication system.

Reykjavik Control Direct Controller Pilot VHF Coverage

For the current North Atlantic Operations and Airspace Manual (NAT Doc 007) refer to the ICAO NAT Documents folder.

SATVOICE Communication

Revision: 23 - 29 AUG 24

The Aeronautical Mobile Satellite (Route) Service (AMS(R)S), more commonly referred to as SATVOICE, can be used as a supplement to HF & CPDLC communications throughout the NAT region for any routine, non-routine or emergency ATS air/ground communications. NAT ATS provider State AIPs contain the necessary telephone numbers and/or short-codes for air-initiated call access to radio stations and/or direct to OACs. Since oceanic traffic typically communicates with ATC through radio facilities, routine SATVOICE calls should be made to such a facility rather than the ATC Centre. Only when the urgency of the communication dictates otherwise should SATVOICE calls be made to the ATC Centre. SATVOICE communication initiated due to HF propagation difficulties does not constitute urgency and should be addressed to the air-ground radio facility. The use of SATVOICE is described in The SATVOICE Operations Manual (Doc 10038).

The provisions governing the use of SATVOICE for ATS communications in the NAT region are contained in Doc 7030. These provisions include that even when using SATVOICE, flight crews must simultaneously operate SELCAL or maintain a continuous air-ground communication watch on the assigned HF/VHF frequency.

Operators must also recognise that they are bound by their own State of Registry’s regulations regarding carriage and use of any and all long-range ATS communications equipment. Some States do not authorise the carriage of SATVOICE as redundancy for HF equipage.

Data Link Communications

Revision: 23 - 29 AUG 24

Data link communications have been gradually introduced into the NAT for position reporting (via ADS-C and CPDLC) and air/ground ATC communications using FANS 1/A CPDLC. Operational procedures are specified in Doc 10037, Global Operational Data Link (GOLD) Manual. AIP publications of the NAT ATS provider States should be consulted to determine the extent of current implementation in each of the North Atlantic OCAs.

When operating CPDLC, the aircraft data link system provides indication to flight crews of any degraded performance which results from a failure or loss of connectivity. The flight crew should then notify the ATS unit of the failure as soon as practicable. Timely notification is essential to ensure that the ATS unit has time to assess the situation and apply a revised separation standard, if necessary.

Similar to SATVOICE usage, flight crews electing to use Data link communications for regular ATS communications in the ICAO NAT region remain responsible for operating SELCAL (including completion of a SELCAL Check), or maintaining a continuous air-ground communication watch on the assigned HF frequency outside VHF coverage. As stated in section 2.1.4 of the ICAO Global Operational Data Link (GOLD) Manual (Doc 10037) ANSPs are required to notify operators, using the AIP or other appropriate AIS, the detail of all the supported data link services. Such notification will include advice when the aircraft SATCOM system is not serviceable. In such circumstances, when the planned route of flight is to extend beyond VHF data link coverage, the ANSP may restrict the use of CPDLC and ADS-C, even within VHF data link coverage areas, if so Operators should then ensure that the relevant CPDLC/ADS-C descriptors (J5/J7/D1) are not filed.

Flights equipped with CPDLC and /or ADS-C should ensure that the data link system is logged on to the appropriate OAC. This applies even when the aircraft is provided with ATS Surveillance services. With the introduction of PBCS separation, establishing and maintaining a data link connection becomes even more important since an active data link connection is one of the requirements for the application of the separation. CPDLC provides communication redundancy and controllers will in many cases use CPDLC for communication even though the flight crew is maintaining a continuous air-ground communication watch on the assigned DCPC VHF frequency. ADS-C furthermore enables ATC to perform route conformance monitoring for downstream waypoints.

8.3.2.1.7 Inter-Pilot Air-to-Air VHF Facility 123.450 MHZ and Emergency Frequency 121.500 MHZ

Revision: 23 - 29 AUG 24

The frequency 121.500 MHz should be continuously monitored by all aircraft operating in the NAT region so as to be prepared to offer assistance to any other aircraft advising an emergency situation.

An air-to-air VHF frequency has been established for world-wide use when aircraft are out of range of VHF ground stations which utilise the same or adjacent frequencies. This frequency, 123.450 MHz, is intended for pilot-to-pilot exchanges of operationally significant information (it is not to be used as a “chat” frequency).

123.450 MHz may be used to relay position reports via another aircraft in the event of an airground communications failure.

This frequency (123.450 MHz) may also be used by flight crews to contact other aircraft when needing to coordinate offsets required in the application of the Strategic Lateral Offset Procedures (SLOP).

If necessary initial contact for relays or offset coordination can be established on 121.500 MHz, although great care must be exercised should this be necessary, in case this frequency is being used by aircraft experiencing or assisting with an ongoing emergency.

Therefore in order to minimise unnecessary use of 121.500 MHz, it is recommended that when possible aircraft additionally monitor 123.450 MHz when flying through NAT airspace.

8.3.2.1.8 Position Reporting

(*) Revision: 23.1 - 15 MAR 25

Time and Place of Position Reports

Unless otherwise requested by ATC, position reports from flights on routes which are not defined by designated reporting points shall be made at the significant points listed in the flight plan.

ATC may require any flight to report its position at any intermediate waypoints when deemed necessary.

In requiring aircraft to report their position at intermediate points, ATC is guided by the requirement to have positional information at approximately hourly intervals and also by the need to accommodate varying types of aircraft and varying traffic and MET conditions.

Unless providing position reports via ADS-C, if the estimated time for the ‘next position’, as last reported to ATC, has changed by **three minutes or more**, a revised estimate must be transmitted to the ATS unit concerned as soon as possible.

Flight crews must always report to ATC as soon as possible on reaching any new cruising level.

Contents of Position Reports

For flights outside domestic ATS route networks, position shall be expressed in terms of latitude and longitude except when flying over named reporting points. Except in those areas defined in State AIPs where operators meeting specified requirements can flight plan their user-preferred trajectories, flights whose tracks are predominantly east or west, latitude shall be expressed in degrees and minutes, longitude in degrees only. For flights whose tracks are predominantly north or south, latitude shall be expressed in degrees only, longitude in degrees and minutes. However, it shall be noted that when such minutes are zero then the position report may refer solely to degrees.

All times shall be expressed in four digits giving both the hour and the minutes UTC.

Radio operators may simultaneously monitor and operate more than one frequency. Therefore, when initiating an HF voice contact it is helpful if the flight crew include advice on the frequency being used (see examples below).

“Operations Normal” Reports

When “operations normal” reports are transmitted by flight crews, they shall consist of the prescribed call followed by the words “OPERATIONS NORMAL”.

Standard Message Types

Standard air/ground message types and formats are used within the NAT region and are published in State AIPs and Atlantic Orientation charts. To enable ground stations to process messages in the shortest possible time, flight crew shall observe the following rules:

a. Use the correct type of message applicable to the data transmitted;

b. State the message type in the contact call to the ground station or at the start of the message;

c. Adhere strictly to the sequence of information for the type of message;

d. **All times** in any of the messages shall be expressed in hours and minutes **UTC**.

The message types are shown below with examples:

Position

Pilot:	“Shanwick Radio, Swiss 456, Position on 8831”
Radio operator:	“Swiss 456, Shanwick Radio”
Pilot:	“Shanwick Radio, Swiss 456, RESNO at 1235, Flight Level 330, Estimating 56 North 020 West at 1310, Next 56 North 030 West”

Position report and request clearance

Pilot:	“Shanwick Radio, American 123, Request Clearance on 8831”
Radio operator:	“American 123, Shanwick Radio”
Pilot:	“Shanwick Radio, American 123, 56 North 020 West at 1308, Flight Level 330, Estimating 56 North 030 West at 1340, Next 56 North 040 West. Request Flight Level 350”

Request clearance

Pilot:	“Shanwick Radio, Speedbird 212, Request Clearance on 3476”

Radio operator:	"Speedbird 212, Shanwick Radio"
Pilot:	"Shanwick Radio, Speedbird 212, Request Flight Level 370"

Revised estimate

Pilot:	"Shanwick Radio, Speedbird 212, Revised Estimate on 3476"
Radio operator:	"Speedbird 212, Shanwick Radio"
Pilot:	"Shanwick Radio, Speedbird 212, 57 North 040 West at 0305"

Miscellaneous

Plain language – free format

8.3.2.1.9 "When Able Higher" (WAH) Reports

Revision: 23 - 29 AUG 24

The provision of WAH reports advises ATC of the time or position that a flight will be able to accept the next higher level allowing controllers to more effectively utilise their airspace and provide aircraft more fuel efficient profiles. A WAH report should be provided by all flights when entering the Santa Maria OCA. Provision of WAH reports on entering other NAT OCAs is optional or they may be requested by any OAC.

Information provided of the aircraft's future altitude "ability" will not automatically be interpreted by ATC as an advance "request" for a climb. It will be used as previously indicated to assist ATC in planning airspace utilisation.

It should be noted that ATC acknowledgement of a WAH report (and any included requests) is NOT a clearance to change altitude.

8.3.2.1.10 Meteorological Reports

Revision: 23 - 29 AUG 24

In accordance with ICAO Annex 3 – "Meteorological Service for International Air Navigation", aircraft are no longer required to provide voice reports of MET observations of wind speed and direction nor outside air temperature.

When an ATS unit establishes an ADS–C contract, it may also request the MET group, which contains wind and temperature data, to satisfy the MET authorities' requirements for the provision of MET data. However, it must be appreciated that any such automated MET Reports do not include information on any observations of special or non-routine significant meteorological phenomena, such as moderate/severe turbulence or icing, volcanic ash, thunderstorms, etc. Therefore, any flight crew providing position reports via data link, who encounters any such significant meteorological phenomena should report this information via voice or, if appropriate, via a CPDLC free text downlink message. The format to be used for the reporting of such observations should, where appropriate, be by reference to geographical coordinates.

VOLMET Services

This is a H24 continuous voice broadcast of weather information consisting of SIGMETS for the NAT region, terminal forecasts and actual weather observations for the principal airports in North America & Europe provided by Gander, New York and Shanwick. Consult State AIPs and NAT Doc 003-HF Management Guidance Material for the North Atlantic Region

8.3.2.1.11 Communications Failure

Revision: 23 - 29 AUG 24

Rules and procedures for the operation of an aircraft following a radio communications failure (RCF) are established to allow ATC to anticipate that aircraft's subsequent actions and thus for ATC to be able to provide a service to all other flights within the same vicinity, so as to ensure the continued safe separation of all traffic. The general principles of such rules and procedures are set out in Annexes 2 and 10 to the ICAO Convention. States publish in their AIPs specific RCF rules and regulations to be followed within their particular sovereign airspace.

Poor HF propagation conditions are the result of ionospheric disturbances. These are usually caused by sun-spot or solar flare activity creating bursts of charged particles in the solar wind which can spiral down around the Earth's magnetic lines of force and distort or disturb the ionised layers in the stratosphere which are utilised to refract HF radio waves. As with the Aurora Borealis, which is of similar origin, these ionospheric disturbances most commonly occur in regions adjacent to the Magnetic Poles. Since the Earth's North Magnetic Pole is currently located at approximately 87N 150W, flights through the North Atlantic and Northern Canada regions can, on occasion, experience HF communications difficulties.

Sometimes these disturbances are very wide-spread and HF air-ground communications on all frequencies can be severely disrupted throughout very large areas (e.g. simultaneously affecting the whole of the NAT region and the Arctic.). However, at other times the disturbances may be more localised and/or may only affect a specific range of frequencies.

In this latter circumstance, HF air-ground communications with the intended radio station may be possible on a frequency other than the primary or secondary frequencies previously allocated to an aircraft. In the event of encountering poor HF propagation conditions flight crews should try using alternative HF frequencies to contact the intended radio station.

While these disturbances may be severe, they may only be localized between the aircraft's position and the intended radio station rendering communications with that station impossible on any HF frequency. Radio stations providing air-ground services co-operate as a network and it may be possible to communicate with another radio station on HF and request that they relay communications.

The occurrence of poor HF propagation conditions can simultaneously interrupt HF air-ground communications for many aircraft over a wide area and ATC may be unable to make any interventions to assure safe traffic separations using HF. Flight crews must recognise that an HF blackout may impact the ability of ATC to ensure the safe separation of aircraft. Even if using other than HF for regular communications with ATC (CPDLC and SATVOICE), flight crews should still exercise appropriate caution when HF blackout conditions are encountered.

General Provisions

Revision: 23 - 29 AUG 24

The following procedures are intended to provide general guidance for aircraft which experience a VHF and HF communications failure with ATC while operating in, or proposing to operate in, the NAT region. These procedures are intended to complement and not supersede State procedures/ regulations

1. When so equipped, an aircraft should use CPDLC to communicate with the current controlling authority ATC;

2. When so equipped, an aircraft may also use SATVOICE to contact the responsible facility via special telephone numbers/short codes published in State AIPs (see also NAT Doc 003, "HF Management Guidance Material for the North Atlantic Region" which can be downloaded from the website www.icao.int/EURNAT/, following "EUR & NAT Documents", then "NAT Documents").
3. If the aircraft is not equipped with SATVOICE or CPDLC then the flight crew should attempt to use VHF to contact any (other) ATC facility or another aircraft, inform them of the difficulty, and request that they relay information to the ATC facility with which communications are intended;
4. The inter-pilot air-to-air VHF frequency, 123.450 MHz, may be used to relay position reports via another aircraft. The emergency frequency 121.500 MHz should not be used to relay regular communications, but since all NAT traffic is required to monitor the emergency frequency, it may be used, in these circumstances, to establish initial contact with another aircraft and then request transfer to the inter-pilot frequency for further contacts;
5. In view of the traffic density in the NAT region, flight crews of aircraft experiencing a twoway ATS communications failure should broadcast regular position reports on the inter-pilot frequency 123.450 MHz until such time as communications are re-established;
6. The flight crew of an aircraft experiencing a total two-way communications failure (including VHF, HF, CPDLC and SATVOICE) should operate the SSR Transponder on identity Mode A Code 7600 and Mode C.

8.3.2.1.11.1 Operational Procedures following Loss of HF Communications Prior to Entry into the NAT

Revision: 23 - 29 AUG 24

On-Board HF Communications Equipment Failure

Due to the potential length of time in oceanic airspace, it is strongly recommended that a flight crew, experiencing an HF communications equipment failure:

- Prior to departure:
  - Coordinate with the initial NAT OAC according to flight planned route to determine if eligible for HF relief waiver as outlined in ***Equipments Requirements*** above;
  - Include any coordinated HF waiver relief details in Item 18 of the flight plan.
- After departure and prior to entering the NAT:
  - Coordinate with the initial NAT OAC according to flight planned route to determine if eligible for HF relief waiver as outlined in ***Equipments Requirements*** above.

Operational Procedures for Loss of Communications before Entering the NAT

Revision: 23 - 29 AUG 24

If loss of communications is encountered before entering the NAT then the pilot should:

a. Follow the radio communication failure procedures of the airspace in which the aircraft is operating;
b. If the pilot elects to continue the flight, then enter oceanic airspace at the oceanic entry point at the level and speed resulting from the execution of the adjacent airspace RCF procedures; then

c. Follow the procedures in ***Operational Procedures for Loss of Communications after Entering the NAT*** below.

Operational Procedures for Loss of Communications after Entering the NAT

Revision: 23 - 29 AUG 24

If loss of communications is encountered after entering the NAT then:

a. The pilot shall maintain the currently cleared route, flight level and speed until reaching the Oceanic Exit Point;

b. No route, flight level or speed change shall be made before the Oceanic Exit Point unless a change is deemed necessary by the pilot in command to ensure the safety of the aircraft;

c. When being vectored or having been directed by ATC to proceed offset using RNAV without a specified limit, proceed in the most direct manner possible to re-join the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude.

NOTE	a) and b) above are NAT specific rules while c) is a globally applicable rule in accordance with PANS-ATM 15.3.3 b)3).

Aircraft with a destination within the NAT region should follow the procedures described above until reaching the top of decent point and should thereafter follow globally applicable procedures in accordance with PANS-ATM 15.3.3 b) 4) – 7). Those procedures are repeated below for convenience:

a. Proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with b) below, hold over this aid or fix until commencement of descent;

b. Commence descent from the navigation aid or fix specified in a) above at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;

c. Complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and

d. Land, if possible, within 30 minutes after the estimated time of arrival specified in b) above or the last acknowledged expected approach time, whichever is later.

In all cases, after the NAT oceanic exit point, follow the radio communication failure procedures of the airspace in which the aircraft is operating.

8.3.2.1.12 Flight Operations and Navigation Procedures

8.3.2.1.12.1 Flight Planning

Revision: 23 - 29 AUG 24

Communication/Navigation/Surveillance (CNS) Flight Plan Codes and Planning Documents

Perform the following:

1. Review the ATS flight plan with emphasis on Items 10a and 10b and Item 18;
2. Ensure that the appropriate CNS and Performance-based Navigation codes are properly filed in Items 10 and 18 of the flight plan;
3. Review aircraft MELs to ensure CNS equipment capability is correctly reported on the flight plan.

Oceanic Documents

Operators are encouraged to develop a flight planning checklist, specific to the aircraft/fleet, to ensure they have the necessary documents before departure. The checklist should include, but is not limited to, the following:

1. Master Document (i.e., master flight plan);
2. NOTAMs for departure, destination, alternate(s), Extended Diversion Time Operations (EDTO) alternates (as applicable) and oceanic FIRs;
3. Weather for departure, destination, alternate(s);
4. Track Message(s);
5. SIG WX Chart;
6. ETP(s);
7. GPS NOTAMs (as applicable);
8. Volcanic Ash Information;
9. PIREPs;
10. Plotting/Orientation Charts;
11. AIREP Form (as applicable) for position report;
12. Filing of the ATC FPL;
13. Space Wx (as appropriate).

Flight Plan

The document designated as the Master Document shall be carefully checked for date, aircraft type, fuel load and performance requirements. Crosschecks shall also be done for routing and forecast ground speeds. The Master Document shall be carefully checked against the filed flight plan to ensure the routing agrees with both documents. The en-route time on the Master Document shall be compared against the distance to destination for a reasonable ground speed. The en-route time should also be compared against the total distance for a reasonable fuel load.

Extended Diversion Time Operations (EDTO)

Verify EDTO alternates meet the appropriate limitations (e.g., 120 minutes, 180 minutes). Identify EDTO/ETOPS entry and exit points.

Equal Time Point (ETP)

ETPs should be computed for contingencies such as medical divert, engine loss or rapid depressurization. Performance with an engine loss and rapid depressurization should also be calculated. This is an ETOPS Critical Fuel Analysis. It is advisable to note the ETPs on the plotting/ orientation chart/EFB. Pilots should review with each other the appropriate diversion airport(s) when crossing ETPs. Pilot procedures should also include a manual method for computing ETPs. Pilots should not enter ETPs in the active route of the Flight Management System (FMS) as this could create out-of-conformance alerts on ground-based monitoring systems and could create confusion in the event of a revised route clearance.

Contingency Procedures and Plans

Operators and Pilots should understand airspace-specific contingency procedures (for in-flight contingencies and weather deviations) as well as plans for any en-route diversion (see Chapter *8.3.2.1.14 Special Procedures for In-flight Contingencies in NAT HLA*).

NOTE	Pilots should comply with ATC clearances. If a given contingency requires deviation from the current clearance, timely and effective coordination can help re-establish a new ATC clearance for the changed flight profile

Track Message

Pilots shall have access to a current track message even if filed for a random route or filed above North Atlantic High Level Airspace (HLA). Reviewing the date, effective UTC time and Track Message Identifier (TMI) ensures having a current track message on board. The TMI is linked to the Julian Date. Operators must also ensure that their flight planning and operational control process notify pilots in a timely manner of any amendments to the daily track message. Amendments will be identified by an alpha character to the TMI number for each revision (e.g., TMI031A). Awareness of adjacent tracks can improve situational awareness while executing a contingency procedure.

Weather Analysis

Pilots must note en-route temperature and turbulence forecasts as well as diversion/emergency airport weather, volcanic activity, magnetic storms, and solar flares affecting the route of flight.

8.3.2.1.12.2 Pre-flight

Revision: 23 - 29 AUG 24

Master Clock

A master clock, as designated on board, should be synchronized to UTC or GPS. This time source, which is typically the Flight Management System (FMS), must be used for all ETAs and ATAs.

Aircraft Maintenance Log

Before entering a special area of operation, pilots shall focus on any maintenance write-ups that affect communication, navigation, surveillance, EDTO/ETOPS, or RVSM requirements. Any discrepancies noted in the maintenance log or during the walk-around may require delays or rerouting.

RVSM

Required equipment includes two primary independent altimetry sources, one altitude alert system and one automatic altitude control system. In most cases a functioning transponder that can be linked to the primary altimetry source is also required. Pilots should note any issues that can affect accurate altimetry.

Altimeter Checks

Before taxi, pilots should set their altimeters to the airport QNH. Both primary altimeters must agree within ± 75 feet of field elevation. The two primary altimeters must also agree within the limits noted in the aircraft operating manual.

Wind Shear or Turbulence Forecast

Pre-flight preparations should include the projected wind shear and turbulence forecast. Forecast severe turbulence supported by PIREPS, could lead to RVSM suspension. Operators are cautioned against flight planning through areas of forecast greater than moderate turbulence.

Dual Long Range NAV System (LRNS)

Two operational LRNSs are required for remote oceanic operations. A single FMS receiving inputs from two navigation sensors is not considered to be two LRNSs. Aircraft with an "Alternate NAV" capability may be able to dispatch with one FMS INOP.

Long Range Communication Systems (LRCS)

Long range communication system checks:

- High Frequency (HF) Radio

  An HF check should be conducted on the HF Radio(s). If possible, the HF checks should be done on the ground or before entering oceanic airspace. A SELCAL check shall also be accomplished at each Oceanic Control Area (OCA) boundary even if datalink equipped;

- SATCOM

  Ensure SATCOM pre-flight complete to comply with FANS/CPDLC requirements.

Confirm Present Position Coordinates

Before taxi, both pilots should independently verify the Present Position coordinates using either published ramp coordinates or determine position from the airfield diagram. They should not rely solely on the Present Position when the FMS was shut down from the previous flight.

Master Document Symbols

Operators are encouraged to use consistent symbols on the Master Document. For example, a circled waypoint number or LAT/LONG (②), means the Pilot Monitoring (PM) has independently verified the coordinates entered or crosschecked by the Pilot Flying (PF). A checkmark (✓) may indicate that the track and distances have been confirmed. A diagonal line (\ ) may indicate that the Pilot Monitoring (PM) has confirmed the coordinates of the approaching and next waypoint. An X-symbol (X) may indicate having flown overhead the waypoint.

LRNS Programming

Check currency and software version:

- It is important to check the effective date of the database. Pilots should note if the database is projected to expire during their trip. MELs may allow relief to fly with an expired database but require the pilots to manually crosscheck all data. The software version of the database should also be confirmed in case there has been a change;
- Independently verify the full/expanded LAT/LONG of oceanic waypoint entries.

Regardless of the operator, FMS oceanic waypoint format of either full LAT/LONG or ARINC 424, it is critical that both the PF and the PM independently verify the full/expanded LAT/LONG of all unnamed oceanic waypoints. Full LAT/LONGs are truncated in the FMS and cannot be verified without displaying the full LAT/LONGs. ARINC 424 waypoints are coded waypoints susceptible to incorrect coding. Pilots should read from the FMS back to the Master Document when verifying data. Reading from the Master Document to the FMS has led to errors based on “seeing what we expect to see”.

Check course and distance:

- To minimize oceanic errors, pilots should conduct a magnetic course and distance check from oceanic entry to oceanic exit. Operators should establish a tolerance such as ± 2° and ± 2 NM. The course and distance check comparing the Master Document against the LRNS are critical in detecting errors that may not have been noticed by simply checking coordinates. A difference of more than 2° between waypoints may be due to a difference of the magnetic variation in the database versus the variation used in the Master Document. Any difference outside the ± 2° or ± 2 NM should be rechecked and verified.

Upload Winds

- FMS units generally allow the crew to upload forecast winds. This procedure supports more accurate reporting of ETAs.

8.3.2.1.12.3 Taxi and Prior to Take-off

Revision: 23 - 29 AUG 24

Ground Speed Check

During taxi to the active runway, pilots check the ground speed to see if it is reasonable.

Present Position Check

This Present Position check is conducted after leaving the gate. Check for gross difference between this Present Position and the gate coordinates. This check will alert the crew to possible error in the navigation database that can be investigated/corrected prior to take-off.

8.3.2.1.12.4 Prior to Oceanic Entry

(*) Revision: 23.1 - 15 MAR 25

Send RCL message

An RCL is a voice or data link message via ACARS used to provide ETA at OEP, requested flight level, and speed. There is a requirement to send an RCL message prior to the OEP as follows:

- Gander OCA 90-60 minutes;
- Shanwick OCA 90-30 minutes;
- Santa Maria OCA at least 40 minutes;
- Bodo OCA at least 20 minutes;
- Reykjavik OCA no earlier than 20 minutes;
- New York OCA East no requirement for RCL.

Gander: Flights departing airports less than 45 minutes flying time from the OEP should send RCL 10 minutes prior to start-up.

Reykjavik: Due to coverage limitations, aircraft equipped with Inmarsat data link won't be able to send an RCL message via ACARS data link when north of 82°N. Aircraft equipped with Iridium and/or HF ACARS data link should be able to send an RCL message via ACARS data link regardless of location.

The ACARS or voice RCL must contain all of the following information:

- Oceanic Entry Point (OEP);
- ETA for the OEP;
- Mach number (based on FMS cost index (ECON));
- Requested flight level;
- The highest acceptable Flight Level which can be attained at the OEP (via free text);
  - Provide the highest acceptable Flight Level as MAX FL;

NOTE	Requesting FL360 – enter free text MAX F380.

  - If requested Flight Level is the highest acceptable; provide the requested Flight Level as MAX FL;

NOTE	Requesting FL360 – enter free text MAX F360.

Voice shall be used to submit an RCL message if:

- Not ACARS data link equipped;
- ACARS data link is not operational;
- ETA for OEP is less than 30 minutes (other than Reykjavik);
- RCL REJECTED is received by the aircraft;
- No response to RCL is received within 15 minutes of sending RCL.

The following response message to the RCL will be generated automatically by the ANSP and delivered to the aircraft via ACARS or voice as appropriate:

RCL RECEIVED BY [ANSP]. FLY CURRENT FLIGHT PLAN OR AS AMENDED BY ATC

Revert to voice if **RCL REJECTED** is received.

NOTE	There will be no clearance sent via the traditional ACARS method. Flight crew should continue the flight in accordance with their existing ATC clearance.

NOTE	If ATC cannot accept the requested OEP altitude, the closest oceanic FL to the one requested (RCL) will be determined and a clearance to climb or descend issued prior to the OEP. The “MAX FL” will never be violated.

NOTE	Flight crews are reminded that a change in FL, Speed or Route can be requested at any time after the OEP.

The information provided in the RCL message is processed as follows:

RCL Data Item	ATC Processing
Oceanic Entry Point (OEP) and ETA time	Information is used to update the currently held ATC data.
Mach Number	ATC will use the requested Mach speed information as the reference speed for cost index (ECON) operations. The aircraft should continue to operate on FMS cost index (ECON) unless it is assigned a fixed Mach speed by ATC. ATC must be advised if the speed changes by Mach 0.02 or more from the Mach in the RCL.
Flight Level	ATC will store the requested flight level information. The aircraft shall not change flight level unless it is cleared for a flight level change by ATC.Flight crews are reminded that a change in Flight Level can be requested at any time after the OEP as the traffic situation constantly changes and previously blocked flight levels may become available.
Max Flight Level	Max FL shall be provided in the RCL.ATC will store the Max Flight Level Information for traffic planning purposes. If no Max Flight Level is provided, the RCL requested Flight Level will be considered as the highest acceptable flight level at OEP.

Aircraft routing from Gander Domestic to New York Oceanic via TALGO are required to send an RCL for TALGO to Gander Oceanic.

Aircraft routing from New York Oceanic to Gander Domestic via BOBTU are required to send an RCL for their OEP (RAFIN or north) to Gander Oceanic.

NOTE	In all cases, any necessary changes to route, level or speed will be issued by the jurisdictional controller.

For the current North Atlantic Operations and Airspace Manual (NAT Doc 007) refer to the ICAO NAT Documents folder.

Oceanic Route Change prior to the OEP

Any route amendment will be issued either by voice or CPDLC loadable route clearance uplink.

Route amendments are the number one scenario leading to Gross Navigation Errors. Pilots must be particularly cautious when receiving a route amendment.

1. Both pilots should confirm the new routing and conduct independent crosschecks after the FMS, Master Document and plotting/orientation chart are updated;
2. Ensure the expanded coordinates for new waypoints are checked and confirmed. It is critical that pilots check the magnetic course and distance between the new waypoints as noted in PREFLIGHT under the paragraph “FMS Programming”;

3. Brief all relief pilots on the amended route prior to them assuming cockpit duties. It is also good practice for relief pilots to independently check the amended route in the FMS.

Abbreviated route clearance may be issued by Air Traffic Services prior to the oceanic entry point when re-clearing an aircraft to fly along the whole length of an organised track. The flight crew should confirm the current NAT track message by using the TMI number (including any appropriate alpha suffix) in the read back. There is no requirement for the flight crew to read back the NAT track coordinates. If any doubt exists as to the TMI or the NAT track coordinates, the flight crew should request the complete track coordinates. Similarly, if the flight crew cannot correctly state the TMI, confirmation will include NAT track coordinates in full and a full read back of those coordinates will be required.

Shanwick

The Shanwick oceanic controller will only issue the ACARS message **CONTACT SHANWICK BY VOICE** instructing the flight crew to contact Shanwick OAC (123.950/127.650) when:

- An oceanic route amendment is necessary due to traffic;
- Shanwick OAC considers it appropriate to do so, to ensure the most efficient oceanic route and altitude.

Entry Conditions

En-route aircraft shall enter the oceanic airspace in accordance with their existing ATC clearance. **No oceanic clearance is required**.

Fly cost index (ECON). ATC will assign a fixed Mach number if required due to traffic and will rarely assign a fixed Mach number more than 0.01 faster or 0.02 slower than requested or filed in the flight plan.

An assigned Mach number must be maintained. If an immediate temporary change in an assigned Mach number is essential (due to turbulence for example), ATC must be informed.

Navigation Accuracy Check

Before oceanic entry, the accuracy of the GNSS navigation equipment (FMS) should be checked.

HF Checks

If the crew was unable to accomplish the HF and SELCAL checks on the ground, these checks should be accomplished before oceanic entry. Additional SELCAL checks should be conducted at each control area boundary, regardless whether CPDLC is working normally.

SATCOM data communication

If the aircraft is equipped, pilots should check that SATCOM data link is operational before oceanic entry.

Log on for CPDLC and ADS-C

If the operator is approved to use Controller Pilot Data Link Communications (CPDLC) and/or Automatic Dependent Surveillance Contract (ADS-C), the pilot should log on to the appropriate FIR 10 to 25 minutes prior to the boundary if not already logged on to ATC.

Verify RNP value

Pilots should verify that the RNP value set in the FMS is at least as stringent as that required for the route of flight and reflects the RNP capability indicated in the filed ATS flight plan.

Altimeter checks

Pilots are required to check the two primary altimeters which must be within 200 ft of each other. This check is conducted while at level flight. The stand-by altimeter should also be noted. The altimeter readings should be recorded along with the time. This is a requirement to operate in RVSM airspace.

8.3.2.1.12.5 After Oceanic Entry

Revision: 23 - 29 AUG 24

Route Conformance Checking

CONFIRM ASSIGNED ROUTE will be uplinked to FANS equipped aircraft after crossing the OEP. CPDLC loadable route clearance uplinks will be used to amend the current flight plan, when necessary, after the OEP.

Squawk 2000

Except when operating in the Reykjavik CTA, pilots shall squawk 2000 10 minutes after passing the OEP.

Speed

The aircraft shall maintain a cost index (ECON) speed unless ATC has issued a clearance to maintain a fixed Mach number. ATC must be advised if the speed changes by plus or minus Mach .02 or more from the speed in the RCL message or the last assigned Mach number.

VHF radios

After contacting oceanic radio (HF), and if not on an assigned VHF frequency, pilots should set their VHF radios to air-to-air (123.450 MHz) and guard frequency (121.500 MHz). Pilots must monitor these frequencies. They are not to be used for non-operational conversation.

Strategic Lateral Offset Procedures (SLOP)

SLOP shall be Standard Operating Procedure for all oceanic crossings. This procedure distributes traffic between the centreline and 2 NM right of centreline and greatly reduces collision risk in the airspace by virtue of randomness. SLOP shall also be used when there is a need to avoid wake turbulence; coordination with other aircraft may be necessary.

Operators that have an automatic offset capability should fly up to 2 NM right of the centreline. Aircraft that do not have an automatic offset capability (that can be programmed in the FMS) shall fly the centreline only. Aircraft that do not have a capability to offset in 0,1 NM increments shall fly the centreline, 1 NM, or 2 NM right only. **Left offsets are prohibited**.

NOTE	Pilots should make sure the "TO" waypoint is correct after entering SLOP. With some avionics, when executing an offset near the active "TO" waypoint, the FMS can sequence to the "next + 1" waypoint—skipping a point. Some GNEs have occurred as a result of this.

Routine monitoring

If the FMS provides a predicted ETA capability, pilots shall take advantage of that function in order to track the accuracy of ETAs and provide reminders for performing the "approaching waypoint" and "10 minute after" procedures. Ensure there is an active CPDLC connection with the proper current data authority.

8.3.2.1.12.6 Approaching Waypoints

Revision: 23 - 29 AUG 24

Confirm Next Latitude / Longitude

Within a few minutes of crossing an oceanic waypoint pilots shall crosscheck the coordinates of the next and subsequent ("next + 1") oceanic waypoints. This check shall be done by comparing the expanded coordinates against the Master Document based on the currently effective ATC clearance. Verify the course/heading and distance in the FMS to the next waypoint matches the Master Document. Confirm autopilot steering is engaged in the proper lateral (LNAV/NAV) mode.

8.3.2.1.12.7 Waypoint Crossing

Revision: 23 - 29 AUG 24

Confirm Aircraft Transitions to Next Waypoint

When overhead an oceanic waypoint, pilots shall ensure that the aircraft transitions to the next leg. This is confirmed by noting the magnetic heading and distance to the next waypoint compared against the Master Document (as updated based on the current flight plan) and that the aircraft remains in the proper lateral (LNAV/NAV) mode.

Confirm Time to Next Waypoint

When transmitting waypoint position reports via voice, a change of three (3) minutes or more requires that ATC be notified in a timely manner. Inaccurate position reports adversely affect ATC's ability to safely separate aircraft.

Position Report

After passing over the oceanic waypoint, pilots that give a position report to ATC must use the standard format. Pilots shall also note and record their fuel status at each oceanic waypoint. This is especially important if the cleared route and flight level differ significantly from the filed flight plan.

8.3.2.1.12.8 10-Minutes after Waypoint Passage

Revision: 23 - 29 AUG 24

Cross-check Navigational Performance and Course Compliance

In FMS-equipped aircraft, pilots should confirm that proper lateral (LNAV/NAV) mode is engaged and the aircraft is tracking to the proper waypoint. Other methods of navigation crosschecking may be used subject to State aviation authority approval.

8.3.2.1.12.9 Midway between Waypoints

Revision: 23 - 29 AUG 24

Confirm ETA

It is recommended that during a wind check the pilots also confirm the ETA to the next waypoint. When transmitting waypoint position reports via voice, a change of three (3) minutes or more requires that ATC be notified in a timely manner.

8.3.2.1.12.10 Oceanic Exit

Revision: 23 - 29 AUG 24

Remove Strategic Lateral Offset

Any lateral offset used during the oceanic crossing must be removed prior to the OXP. It is advisable to include this as a checklist item.

Confirm Routing beyond Oceanic Airspace

Before entering the domestic route structure, pilots must confirm their routing and speed assignment.

NOTE	Pilots experiencing loss of communications leaving oceanic airspace shall follow State guidance as published in AIPs.

Speed

If ATC assigns a fixed Mach number in oceanic airspace, request NORMAL SPEED (via CPDLC or voice) after the OXP in Domestic airspace.

8.3.2.1.12.11 Destination / Block In

Revision: 23 - 29 AUG 24

Navigation Accuracy Check

When arriving at the destination gate, pilots shall note any drift or circular error in the LRNS. A GPS Primary Means system normally shall not exceed 0,27 NM for the flight. Some inertial systems may drift as much as 2 NM per hour. Because the present generation of LRNSs is highly accurate, operators shall establish a drift tolerance which if exceeded would require a write-up in the Maintenance Log. RNP requirements demand that drift be closely monitored.

RVSM Write-ups

Problems noted in the altimetry system, altitude alert or altitude hold must be noted in the Aircraft Maintenance Log.

8.3.2.1.13 In-flight Contingencies and Emergencies in NAT HLA Airspace

Revision: 23 - 29 AUG 24

Some aircraft carry triplex equipment (3 LRNSs) and hence if one system fails, even before take-off, the two basic requirements for NAT HLA operations may still be met and the flight can proceed. The following guidance is offered for aircraft having state approval for unrestricted operations in the NAT HLA and which are equipped with only two operational LRNSs:

One System Fails before Take-off

Revision: 23 - 29 AUG 24

The crew must consider:

1. Delaying departure until repair is possible;
2. Obtaining a clearance above or below the NAT HLA;
3. Planning on the special routes known as the 'Blue Spruce' Routes, which have been established for use by aircraft suffering partial loss of navigation capability.

NOTE	These routes may also be flown by aircraft approved for NAT HLA operations but equipped with only a single LRNS.

These Blue Spruce Routes are as follows:

- MOXAL – RATSU (for flights departing Reykjavik Airport);

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- OSKUM – RATSU (for flights departing Keflavik Airport);

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- RATSU – ALDAN – KFV (Keflavik);

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- ATSIX – 61°N 12°34'W – ALDAN – KFV;

  (HF is required on this route)
- GOMUP – 60°N 15°W – 61°N 16°30'W – BREKI – KFV;

  (HF is required on this route)
- KFV – EPENI – 63°N 30°W – 61°N 40°W – OZN

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- KFV – SOPEN – DA (Kulusuk) – SF (Kangerlussuaq) – YFB

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- SF (Kangerlussuaq) – DARUB – YXP

  (VHF coverage exists. Non HF equipped aircraft can use this route)

- OZN – 59°N 50°W – AVUTI (FL290 to FL600) - PRAWN – YDP

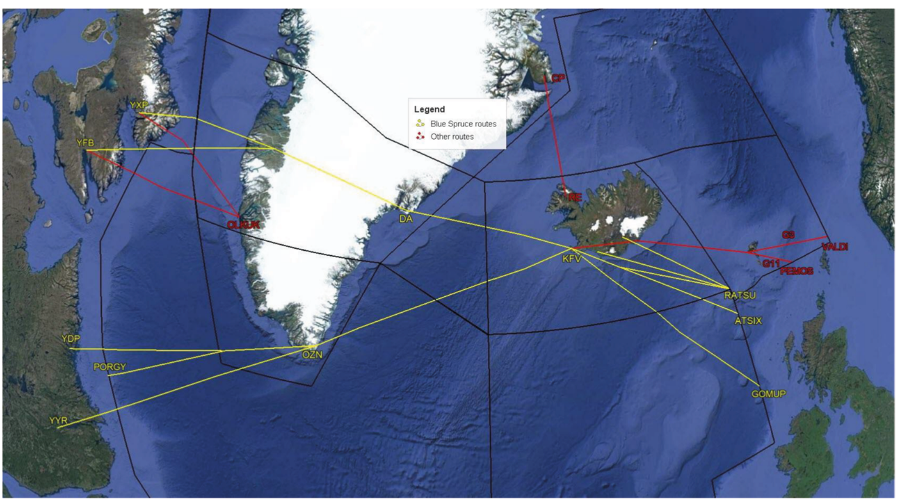
  (VHF coverage exists. Non HF equipped aircraft can use this route)
- OZN – 59°N 50°W – CUDDY (FL290 to FL600) – PORGY

  (VHF coverage exists. Non HF equipped aircraft can use this route)
- OZN – 58°N 50°W – HOIST – YYR

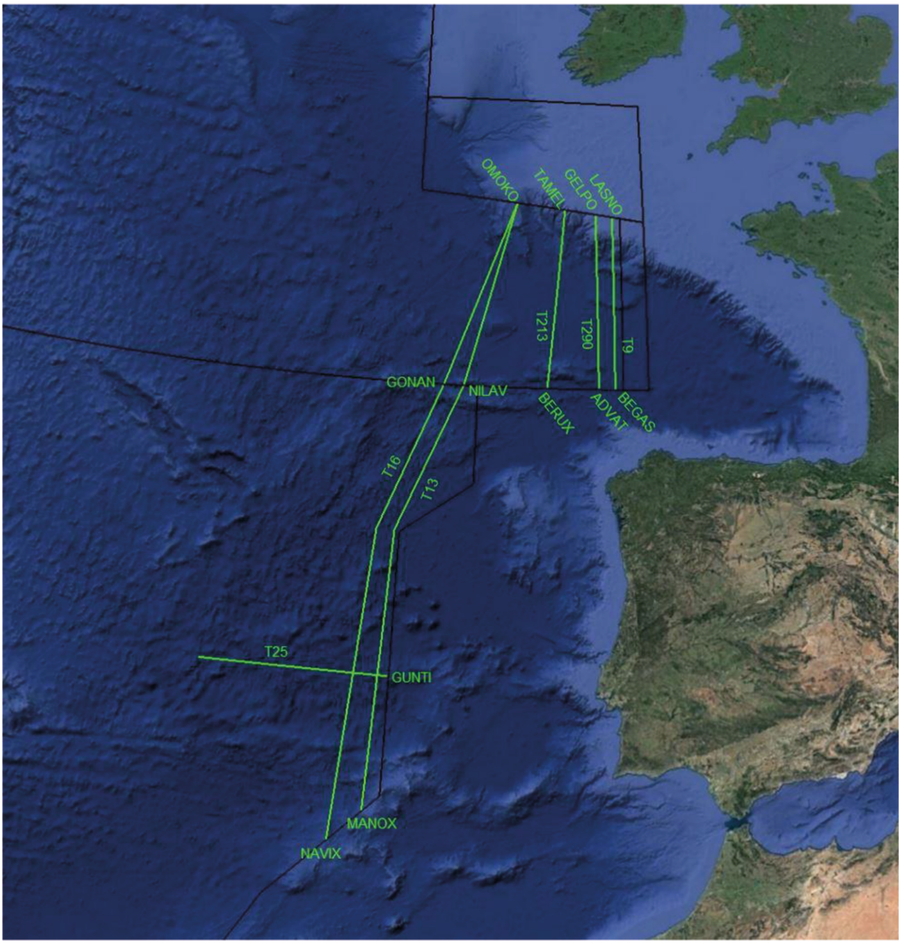
  (VHF coverage exists. Non HF equipped aircraft can use this route)

4. The following special routes may also be flown without an LRNS (i.e. with only short-range navigation equipment such as VOR, DME, ADF), but it must be noted that State approval for operation within the NAT HLA via these routes is still necessary:
   - VALDI - MY (Myggenes) - ING – KFV (G3);
   - PEMOS - MY (Myggenes) (G11).

Northern Routes



Tango Routes



Such use of the foregoing routes is subject to the following conditions:

1. Sufficient navigation capability remains to ensure that NAT HLA accuracy and the ICAO Annex 6 (Part I para 7.2.9 and Part II para 2.5.2.9) requirements for redundancy can be met by relying on short-range navaids;
2. A revised flight plan is filed with the appropriate ATS unit;
3. An appropriate ATC clearance is obtained.

(Further information on the requisite procedures to follow can be obtained from Section ENR 1.8.2.2.3 in AIP Iceland and in Section RAC 11.22 in AIP Canada.)

NOTE	Detailed information (including route definitions and operating procedures), which enables flight along other special routes within the NAT HLA, may be found in relevant AIPs. This is specifically so, for aircraft operating without 2 LRNSs between Iceland and Greenland and between Greenland and Canada.

One System Fails before the OCA Boundary is Reached

Revision: 23 - 29 AUG 24

The crew must consider:

1. Landing at a suitable aerodrome before the boundary or returning to the aerodrome of departure;
2. Diverting via one of the special routes described previously;
3. Obtaining a re-clearance above or below the NAT HLA.

One System Fails after the OCA Boundary is Crossed

Revision: 23 - 29 AUG 24

Once the aircraft has entered oceanic airspace, the flight crew shall continue to operate the aircraft in accordance with the current flight plan or as amended by ATC, appreciating that the reliability of the total navigation system has been significantly reduced.

The crew shall however:

1. Assess the prevailing circumstances (e.g. performance of the remaining system, remaining portion of the flight in the NAT HLA, etc.);
2. Prepare a proposal to ATC with respect to the prevailing circumstances (e.g. request clearance above or below the NAT HLA, turn-back, obtain clearance to fly along one of the special routes, etc.);
3. Advise and consult with ATC as to the most suitable action;
4. Obtain appropriate re-clearance prior to any deviation from the last acknowledged clearance.

When the flight continues in accordance with its current flight plan or as amended by ATC (especially if the distance ahead within the NAT HLA is significant), the flight crew shall begin a careful monitoring programme:

1. To take special care in the operation of the remaining system bearing in mind that routine methods of error checking are no longer available;
2. To check the main and standby compass systems frequently against the information which is still available;
3. To check the performance record of the remaining equipment and if doubt arises regarding its performance and/or reliability, the following procedures shall be considered:
    - Attempting visual sighting of other aircraft or their contrails, which may provide a track indication;
    - Calling the appropriate OAC for information on other aircraft adjacent to the aircraft's estimated position and/or calling on VHF to establish contact with such aircraft (preferably same track/level) to obtain from them information which could be useful (e.g. drift, ground speed, wind details).

The Remaining System Fails after Entering the NAT HLA

Revision: 23 - 29 AUG 24

The crew shall:

1. Immediately notify ATC;
2. Make best use of procedures specified above relating to attempting visual sightings and establishing contact on VHF with adjacent aircraft for useful information;
3. Keep a special look-out for possible conflicting aircraft, and make maximum use of exterior lights;
4. If no instructions are received from ATC within a reasonable period consider climbing or descending 500 feet, broadcasting action on 121.500 MHz and advising ATC as soon as possible.

NOTE	This procedure also applies when a single remaining system gives an indication of degradation of performance, or neither system fails completely but the system indications diverge widely and the defective system cannot be determined.

Complete Failure of Navigation Systems Computers

Revision: 23 - 29 AUG 24

A characteristic of the navigation computer system is that the computer element might fail, and thus deprive the aircraft of steering guidance and the indication of position relative to cleared track, but the basic outputs of the IRS (LAT/LONG, Drift and Groundspeed) are left unimpaired. A typical drill to minimise the effects of a total navigation computer system failure is suggested below. It requires comprehensive use of the plotting chart/JeppFD Pro.

1. Use the basic IRS/GPS outputs to adjust heading to maintain mean track and to calculate ETAs;
2. Draw the cleared route on a chart and extract mean true tracks between waypoints;
3. At intervals of not more than 15 minutes plot position (LAT/LONG) on the chart and adjust heading to regain track.

NOTE	EAG Chart AT (H) 1; No 1 AIDU (MOD) Charts AT(H)1, 2, 3 & 4; the Jeppesen North/Mid Atlantic Plotting Charts and the NOAA/FAA North Atlantic Route Chart are considered suitable for this purpose.

8.3.2.1.14 Special Procedures for In-flight Contingencies in NAT HLA

Revision: 19 - 14 MAR 21

Refer to FliteDeck Pro - “Special Procedures for In-Flight Contingencies in Oceanic Airspace”.

Emergency Descent Procedures

An aircraft that is not NAT/HLA/MNPS/RVSM-approved and is unable to maintain a flight level above NAT/HLA/RVSM airspace should descend to a flight level below NAT/HLA/RVSM airspace.

An aircraft compelled to make a descent through NAT HLA airspace, whether continuing to destination or turning back, should, if its descent will conflict with an organized track:

1. Plan to descend to a level below FL280;
2. Prior to passing FL410, proceed to a point midway between a convenient pair of organized tracks prior to entering that track system from above;

3. While descending between FL410 and FL280, maintain a track that is midway between and parallel with the organized tracks; and
4. Contact ATC as soon as practicable and request a revised ATC clearance.

Wake Turbulence

The Strategic Lateral Offset Procedures are now a standard operating procedure throughout the NAT Region. Thus when flying within NAT HLA, if the aircraft encounters wake turbulence and the pilot considers it necessary to offset from the current track then the pilot may only elect to fly a different offset or no offset. It is no longer possible to offset left of the track centre-line to avoid wake turbulence. If neither of the remaining SLOP offset tracks are upwind of the other aircraft which is causing the wake turbulence, then the pilot should coordinate with the other aircraft via the interpilot frequency 123.45 MHz, and perhaps request that the other aircraft adopt an alternative (SLOP) allowable downwind offset. If wake turbulence is encountered, even if it is subsequently avoided by judicious use of offsets, a report should be made.

TCAS Alerts and Warnings

Climb and descent rates in RVSM airspace and transition areas should be limited to 1,000 ft/min when operating within 5 NM and ± 2,000 ft of other aircraft to minimize the generation of TAs (Traffic Advisory) and RAs (Resolution Advisory). This can also help to ensure that the cleared FL is not under - or overshot by more than 150 ft. In the event that a TA is received, commence a visual search and prepare to respond to a RA. All RAs should be reported to ATC verbally, as soon as practicable and upon landing an “Altitude Deviation Report Form” should be completed whenever an Altitude Deviation of 300 ft or more occurred including those due to TCAS, Turbulence and Contingency events. Use the “Wake Turbulence Report” Form in instances of Wake Vortex incidents.

All civil fixed-wing turbine-engined aircraft having a maximum take-off mass exceeding 5,700 kg, or a maximum approved passenger seating configuration of more than 19 are required to be equipped with and operate TCAS version 7.1.

8.3.2.1.14.1 Loss or Sudden Withdrawal of Air Traffic Control Services in the NAT Region

(*) Revision: 23.1 - 15 MAR 25

The following are common ANSP procedures regarding loss or sudden withdrawal of air traffic services in the NAT:

1. In the event of a loss or sudden withdrawal of Air Traffic Services in the NAT, ANSPs will notify all affected agencies and operators appropriately;
2. In Limited Service situations the individual ANSP will decide upon the level of notification necessary and act appropriately;
3. In “No Service” situations, it is likely that the ATC facility involved will be subject to evacuation. In this instance the ANSP will issue NOTAMs and broadcast on appropriate frequencies that contingency procedures have been initiated;
4. The notification process employed by individual ANSPs is detailed in NAT Doc 006, however the general format will be as follows:

a. Issue a NOTAM advising operators of the evacuation. The following is an example of the type of information which may be promulgated:

"Due to emergency evacuation of (OAC) all ATC services are terminated. Flights within (OCA) FIR should continue as cleared and contact the next ATC agency as soon as possible. Flights that have not entered (OAC) FIR should land at an appropriate airfield or request clearance to avoid (OAC) FIR. Flights should monitor (defined frequencies)."

b. Broadcast an evacuation message on appropriate frequencies:

"Emergency evacuation of (OAC) is in progress. No air traffic control service will be provided by (OAC). Use extreme caution and monitor (control frequencies), emergency frequencies and air to air frequencies. Contact the next air traffic control unit as soon as possible."

Pilot Procedures for Flights Outside the NAT

Pilots are strongly advised not to enter the airspace. Request clearance to avoid the affected OCA or land at an appropriate aerodrome.

Flights can choose to continue using pilot's discretion. Continue in accordance with the current flight plan (what is loaded in the FMS) or as amended by ATC.

Pilot Procedures for Flights Inside the NAT

The procedures outlined below are to be used as guidance for pilots following a loss or sudden withdrawal of the Air Traffic service as described above.

Although advised not to enter the NAT OCA without Air Traffic Services, which could entail significant reroutes, flights can continue with their current flight plan (what is loaded in the FMS) or as amended by ATC.

1. Pilots shall continue with their current flight plan (what is loaded in the FMS) or as amended by ATC. Pilots shall use extreme caution and use all available means to detect any conflicting traffic;
2. On receipt of the contingency message, pilots are requested to broadcast to other flights on 121.500 MHz and 123.450 MHz and a listening watch on these frequencies must be maintained. Pilots shall continuously monitor VHF frequencies 121.500 MHz and 123.450 MHz in order to exchange position information with other flights, in the event they are unable to communicate on HF;
3. Pilots shall establish communication with the next OCA at the earliest opportunity stating current position, cleared flight level, next position and estimate and subsequent position. This also applies to flights using automatic position reports (ADS-C) as these reports may not have been received by the next OCA;
4. Where no contact with the next OCA can be established, HF radio or SATVOICE shall be used. HF frequency congestion is likely. Communications should be kept to a minimum;
5. When ADS equipped flights are notified of a loss or sudden withdrawal of air traffic services, they must revert to voice position reporting until clear of current OCA, or notified otherwise. Pilots shall note that they may be asked to log-on to other OCAs. Pilots shall not initiate this action until instructed to do so;
6. Requests for changes to route, flight level, or speed shall be limited to those required for flight safety;

7. Any flight conducting a flight level change shall complete the FL change as soon as possible in accordance with the clearance;
8. If unable to establish radio contact, pilots may use SATVOICE to provide position reports;
9. Pilots may request their flight dispatch offices to forward position reports if they are otherwise unable to make position reports;
10. Pilots may also use other flights to relay their position reports, on 121.500 or 123.450 MHz, if necessary.

Contact Details

Oceanic Centre	Telephone Number	SATVOICE Short Code
New York	+1 631 468 1413	436623
Gander	+1 709 651 5207	431613
Reykjavik, via Iceland Radio	+354 568 4600	425105
Bodø	+47 755 42900	425702
Ballygirreen (Shanwick Radio)	+353 61 368241 Ground/Air Ops	425002
Santa Maria	+351 296 820 438 +351 296 886 042 (satellite link)	426305

Common Broadcast Procedures

In the event of a loss or sudden withdrawal of Air Traffic Service in the NAT, the following communication procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO (Annex 11 – Air Traffic Services, Attachment B).

- At least 3 minutes prior to the commencement of a climb or descent, the flight shall broadcast on the last assigned frequency, 121.500 MHz, 243.000 MHz and 123.450 MHz the following:

NOTE	243.000 MHz is a UHF military frequency that can only be used and heard by other military aircraft/pilots.

"ALL STATIONS (callsign) (direction) DIRECT FROM (position) TO (position)

LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance)(direction) FROM (position) AT (time)".

- When the flight level change begins, pilots shall make the following broadcast:

"ALL STATIONS (callsign) (direction) DIRECTION FROM (position) TO (position)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)."

- When level, pilots shall make the following broadcast:

"ALL STATIONS (callsign) MAINTAINING FLIGHT LEVEL (number)."

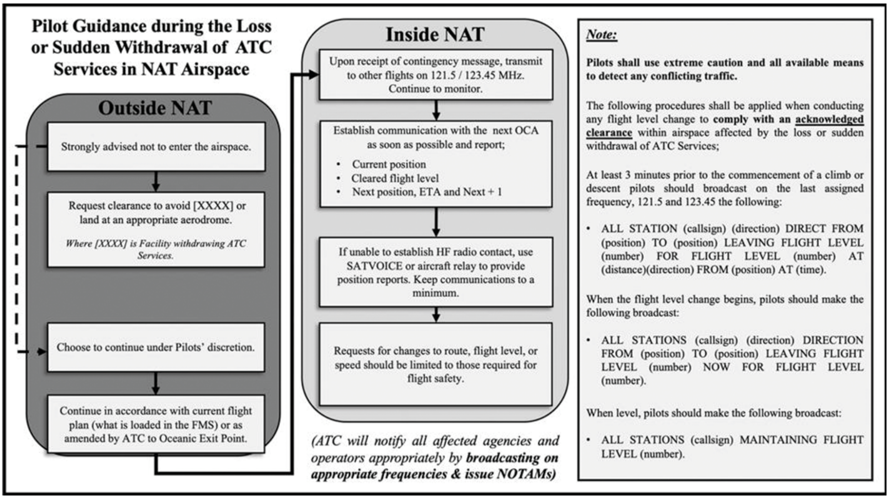


Illustration : Visual aid for pilot guidance during loss or sudden withdrawal of ATC services in NAT airspace

8.3.2.1.15 Performance Based Communication and Surveillance (PBCS)

(*) Revision: 23.1 - 15 MAR 25

General

Organised Track System (OTS) tracks are designed with a minimum of 42.6km (23 NM) lateral spacing through whole and half degrees of latitude between NAT OTS tracks, between flight level (FL) 340 – 400 (inclusive), except when the OTS occurs in the New York OCA.

OTS tracks spaced using 42.6km (23 NM) lateral separation minima (spacing of half degree of latitude) at any point will be designated as 'PBCS tracks' and will be uniquely identified in Remark 3 of the Track Message. See "Flight Planning Provisions" below.

A 'PBCS Track' can either be:

a. A whole degree of latitude 'PBCS track' (e.g., all waypoints are anchored on whole degrees of latitude; 55 degrees NORTH latitude 20 degrees WEST longitude); or

b. A half degree latitude 'PBCS track' (e.g., all waypoints are anchored on half degrees of latitude;54 degrees-30 minutes NORTH latitude 20 degrees WEST longitude); or

c. A combination of whole and half degrees of latitude 'PBCS track' (e.g., waypoints can be anchored on either whole or half degrees of latitude.).

Eligibility for the provision of performance-based minima and access to 'PBCS Tracks' is based on the following:

Operators are eligible to flight plan to operate on published 'PBCS Tracks' provided the flights are:

a. Authorised for Required Navigation Performance 4 (RNP 4);

b. Fitted with and operating FANS 1/A CPDLC and ADS-C; and

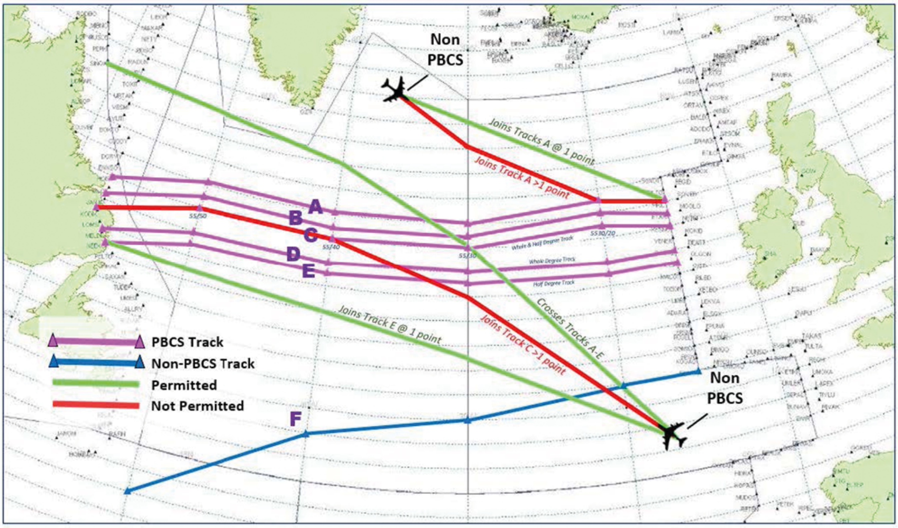
c. Authorized for RCP 240 and RSP 180.

Operators / aircraft not eligible to operate on published 'PBCS Tracks' may be permitted to:

a. Infringe 'PBCS Tracks' at FL340 – FL400 (inclusive) at only one point (including Oceanic Entry / Exit Point) i.e., cross but not join an OTS PBCS track, and;

b. Climb or descend through levels FL340 – FL400 on a 'PBCS Track' provided the climb or descent is continuous.

NOTE Such clearances will only be permitted on a tactical basis.



Flight Planning Provisions

Operators must file the correct ICAO Flight Plan annotations in Items 10 and 18 to indicate that required equipment and authorizations are available for the flight.

a. Item 10a (Radio communication, navigation and approach aid equipment and capabilities):

- Insert "J5" to indicate FANS 1/A Inmarsat CPDLC SATCOM and/or "J7" to indicate FANS 1/A CPDLC Iridium SATCOM data link equipage and operation;
- Insert "P2" to indicate RCP 240 authorisation;
- Insert "R" to indicate that aircraft navigation system equipage and operation meet Performance Based Navigation (PBN) levels specified in Item 18. See 4.1 c) below on the related Item 18 entry for RNP 4.

b. Item 10b (Surveillance equipment and capabilities):

- Insert "D1" to indicate FANS 1/A ADS-C equipage and operation.

c. Item 18 (Other information)

- Insert the characters "PBN/" followed by "L1" to indicate RNP 4 authorization;
- Insert the characters "SUR/" followed by "RSP180" with no spaces to indicate RSP 180 authorisation.

Only those operators/aircraft eligible to flight plan to operate on 'PBCS Tracks' as described in 2.2 above, are allowed to operate on 'PBCS Tracks' between FL340 – FL400 (inclusive). All 'PBCS tracks' and flight levels are uniquely identified in "Remark 3" of the OTS Track Message as shown below:

Westbound NAT Track Message Example: PBCS Tracks

NOTE	See "Remark 3". Tracks A, B, C, D and E are designated as PBCS tracks between FL340-FL400.

```
ZCZC OLG068 2020190FF EGZZOWXX EGZZOXXX
082009 202019 EGGXZOZX (NAT-1/3 TRACKS FLS
340/390 INCLUSIVE
APR  09/1130Z TO APR09 1900Z
PART ONE OF THREE PARTS-
A PIKIL 5630/20 56/30 56/40 56/50 JANJO
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL-
B ETARI 56/20 5530/30 5530/40 5530/50 KOKID
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL-
C RESNO 5530/20 55/30 55/40 55/50 LOMSI
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL-
END OF PART ONE OF THREE PARTS)
FF CYZZWNAT
ZCZC OLG068 2020190FF EGZZOWXX EGZZOXXX
082009 202019 EGGXZOZX
(NAT-2/3 TRACKS FLS 340/390 INCLUSIVE
APR 09/1130Z TO APR 09/1900Z
PART TWO OF THREE PARTS-
D DOGAL 5430/20 5430/30 5430/40 5430/50 MELDI
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL-
E NEBIN 54/20 54/30 54/40 54/50 NEEKO
EAST LVLS NIL
WEST LVLS  340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL
F BEDRA 49/20 48/30 47/40 43/50 SOORY
EAST LVLS NIL
WEST LVLS 340 350 360 370 380 390
EUR RTS WEST NIL
NAR NIL
END OF PART TWO OF THREE PARTS)
FF CYZZWNAT
ZCZC OLG068 2020190FF EGZZOWXX EGZZOXXX
082009 202019 EGGXZOZX
(NAT-3/3 TRACKS FLS 340/390 INCLUSIVE
APR 09/1130Z TO APR 09/1900Z
PART THREE OF THREE PARTS-
REMARKS.
1. TMI IS 100 AND OPERATORS ARE REMINDED TO
INCLUDE THE
TMI NUMBER AS PART OF THE OCEANIC CLEARANCE
READ BACK.
2. OPERATORS ARE REMINDED THAT ADS-C AND CPDLC
IS MANDATED IN NAT AIRSPACE FL290 TO FL410.
3. PBCS OTS LEVELS 340-400. PBCS TRACKS AS
FOLLOWS
TRACK A
TRACK B
TRACK C
TRACK D
TRACK E
END OF PBCS OTS...
```

8.3.2.1.15.1 Required Reports

(*) Revision: 23.1 - 15 MAR 25

The PIC shall file an ICARUS report if any of the following occur:

1. Failure to log on/notify;
2. Uncommanded logoff/disconnect;
3. Corrupted messages;
4. Excessive delay.

8.3.2.1.15.2 PBCS Monitoring

(*) Revision: 23.1 - 15 MAR 25

EL AL has signed the PBCS Global Charter as its means for communication and surveillance performance monitoring, which includes reporting and addressing problems. This platform allows EL AL to investigate issues where PBCS requirements are not being met, and take feasible corrective action.

The PBCS Charter Point of Contact ("PBCS POC") is the Navigation Database Manager.

Problem Reporting

Flight crew members report problems as per Chapter ***8.3.2.1.15. Required Reports*** above, and the ICARUS report is distributed to the list in Appendix A. The PBCS POC is responsible to raise a problem report on the PBCS Charter website.

If another PBCS Charter Stakeholder (i.e. ATC) raises a problem report in the system, the PBCS POC will be notified by e-mail and is then responsible to forward the details to the distribution list by entering the report into ICARUS.

Problem Investigation

All problems reported will be jointly investigated by the persons listed in Appendix A, and feasible corrective action will be taken accordingly.

Performance Monitoring

Once every six months, the PBCS POC will analyze the NAT PBCS Monitoring Results report available on the PBCS Charter website (see CPDM for details) and will report any findings to the distribution list in Appendix A.

In case an airplane fails to meet the required standards, the PBCS POC will enter the problem into ICARUS and will be investigated as described above.

Appendix A – Distribution List

Chief Pilot Division – Standards Pilot

Chief Pilot Division – Navigation Database Manager

Chief Pilot Division – 777/787 Fleet Manager

Chief Pilot Division – 777 Chief Pilot

Chief Pilot Division – 777 Fleet Technical Manager

IT – Project Manager

OCC – Chief Dispatcher

Avionics Engineering – Avionics Engineering Manager

8.3.2.1.16 NAT GNSS Interference Procedures

(*) Revision: 23.1 - 15 MAR 25

Early Notification of GNSS Interference

Early notification of any failure or malfunction of GNSS, loss of RNP 4/10 capability, loss of CPDLC, loss of ADS-C, or loss of ADS-B enables improved ATC coordination and strategic planning of flights into the NAT utilizing non-performance-based separation minima, which could result in either no or minimal impact to the cleared profile, subject to the traffic scenario.

Late Notification of GNSS Interference

A late notification by flight crews, for example as the flight approaches the Oceanic Entry Point (OEP), or through automated ATC system alerts triggered by lack of usable ADS-B or ADS-C data, or failure to establish CPDLC connections, causes significant controller workload.

The result may be large profile changes being issued to the affected flight and in some cases to other flights to ensure the correct application of separation minima, to meet NAT requirements (e.g. HLA) or to meet coordination requirements by adjacent ANSPs.

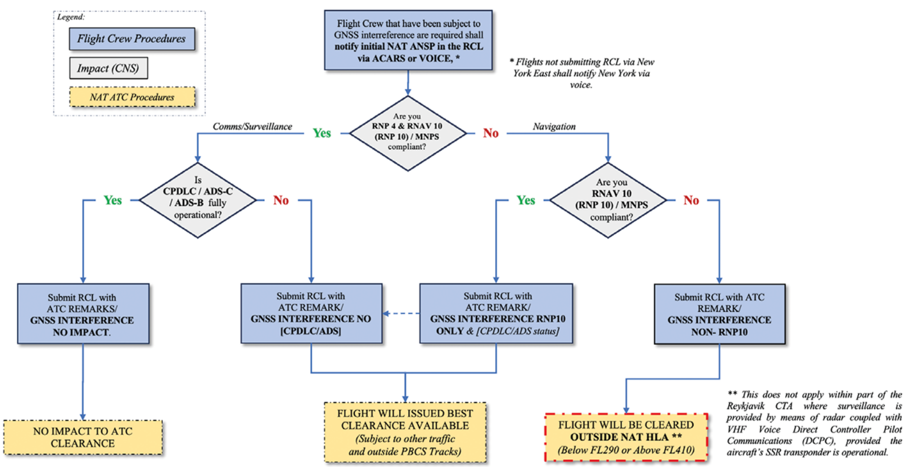
Flight crews that experience or suspect GNSS interference enroute to the NAT Region shall notify the initial NAT ANSP in the RCL. Flights not submitting an RCL message (via New York East) shall notify New York via voice.

Notification should be included in the RCL message via ACARS or voice, confirming degradation of navigation status and detail of ongoing loss/impacts to the aircraft systems and capabilities.

EXAMPLE	– 'ATC REMARKS/ GNSS INTERFERENCE RNP10 ONLY' – 'ATC REMARKS/ NO DATA LINK' – 'ATC REMARKS/ DEGRADED NAVIGATION NO GNSS'

In addition, operators can also make the ANSP aware when one of their flights has been impacted by GNSS interference through direct contact.

NAT GNSS Interference Procedures



8.3.2.2 Performance-Based Navigation (PBN)

Revision: 19 - 14 MAR 21

The PBN concept represents a shift from sensor-based navigation to performance based navigation. PBN introduces 2 new classes of navigation specifications – RNAV and RNP which specify that performance requirements be defined in terms of the accuracy, integrity, continuity and functionality, which are needed for the proposed operations in the context of a particular airspace. There are two kinds of navigation specifications: RNAV and RNP. The specification is designated by the prefix RNAV or RNP. The specification requires that during 95% of the flight time there shall be a deviation of no more than the RNAV or RNP value in NM from the intended flight path. RNAV does not include the requirement for performance monitoring and alerting whereas RNP does require this.

The authorization for PBN operation types are specified in the table below.

The RNAV and RNP Specifications are not to be confused with procedure identification as it appears on Jeppesen charts. In order to understand if a chart is an RNAV or RNP Specification, and the accuracy requirements per flight phase (in NM) refer to the following table.

	Navigation Specification	Chart Designation	Approved Aircraft	Flight Phase								Operational Basis
				Oceanic Remote	En-Route	Approach					Dep	
						Arrival	Initial	Intermediate	Final	Missed		
RNAV	RNAV 10		All	10								GNSS, DME/ DME/ IRU
	RNAV 5	B-RNAV RNAV 5			5	5						
	RNAV 2	P-RNAV RNAV 2 RNAV			2	2	2	2		2	2	
	RNAV 1	P-RNAV RNAV 1 RNAV			1	1	1	1		1	1	
RNP	RNP 10			10								
	RNP 4			4								GNSS
	RNP 1	RNAV (RNP 1)			1	1	1	1		1	1	
	RNP APCH	RNAV (GNSS) RNAV (GPS) RNP					1	1	0.3	1		

8.3.2.3 General Navigation Procedures

Revision: 22 - 20 FEB 24

Flight plans activated in the navigation system shall be checked by both Pilots according to the OM Part B / FCOM.

For in-flight re-planning pilots shall check if the available navigational aids for the re-planned route and/or the re-planned destination as well as the airborne equipment will be sufficient and satisfactory for a safe conclusion of the flight.

Notwithstanding the overall responsibility of the PIC for precise navigation and proper use and handling of navigation systems, the Pilot Flying (PF) is responsible for the selection of the navigation aids and of the required navigation system configuration.

The PF, whenever flying manually, will direct the Pilot Monitoring (PM) to set specific NAVAIDs. In such cases, the PM is responsible to set, identify and check the NAVAIDs specified by the PF and to establish the required navigation system configuration.

For conventional procedures it is good practice to check the aircraft position against the navigation aids (raw data).

ILS facilities of all categories are known to produce false beams outside their coverage sectors due to radiation aberrations. Such beams are subject to being captured without a warning flag. In order to ensure proper localizer beam capture, the ILS mode shall not be armed until the vicinity of the beam has been ascertained and checked by an independent GPS/FMC/other navigation radio aid position and the capture shall be monitored by the same means.

A DME distance check at glide slope intercept should be performed whenever possible. An altitude check shall be performed at the OM position or its equivalent. GPS based data may be used to determine aircraft position relative to a navigation aid or as a DME fix. This allowance applies also when a facility is identified as required on a procedure (for example, “ADF required or DME required”).

An RNP procedure and route shall not be performed unless it is retrievable by procedure name from the on- board navigation database and conforms to the charted procedure.

An RNAV procedure and route may be performed if it is retrievable by procedure name or a waypoint from the on- board navigation database and conforms to the charted procedure.

The procedure may subsequently be modified through the insertion or deletion of specific waypoints from the FMC database in response to ATC clearances. The manual entry of waypoints which are not in the database (such as latitude and longitude, Place-Bearing/Distance or Place-Bearing/Place-Bearing) is not permitted for RNAV 1, RNAV 2, RNP 1, RNP 2 or RNP APCH operations.

For aircraft without GPS updating, a reasonableness check is required where feasible according to the FCOM or by entering a VOR/DME station in the CDU FIX page and comparing the bearing and range to the actual RMI reading of that particular NAVAID.

Where the contingency to revert to a conventional arrival procedure might be required, the flight crew shall make the necessary preparation and briefing.

Database

Revision: 19 - 14 MAR 21

The navigation database installed in the aircraft shall be checked for its currency before the flight. The navigation database shall be current and appropriate for the duration of the flight.

The database expires at 23:59 UTC of the date shown on the FMC. If the database will expire during the flight, select the most appropriate data base considering the effective date of planned SID/STAR/Approaches.

NOTE	777/787 databases have a one day overlap between cycles; always select the new database if the flight departs on or after the Start date.

Navigation Aids

Revision: 19 - 14 MAR 21

Navigation aids should be selected for coverage and geometry with adequate cross checks. Distance information for cross checks shall be used only if a DME is co-located with a VOR which coincides with a waypoint. DMEs co-located to ILS or approach localizers normally indicate zero DME at touch down and therefore unless otherwise specified, are not suitable for navigational purposes other than the final approach.

If not otherwise specified for certain procedures, manually tuned navigation aids shall be positively identified before being used. VOR or ILS associated DMEs require separate identification.

Whenever elements of information relative to position are contradictory, the reliability of any relevant navigation aid(s) should be verified by additional independent means.

Navigation and approach aids shall not be used:

- Whenever positive identification is not possible;
- Whenever reports or other information (e.g., NOTAMs) indicate that a system might be unreliable or inadequate for en-route navigation or approach.

Pre-flight

Revision: 19 - 14 MAR 21

The active flight plan should be checked by comparing the charts, SID or other applicable documents, with the Navigation Display and the CDU. This includes the confirmation of the correct waypoint sequence, reasonableness of track angles and distances for SID, STAR, and Atlantic waypoints, any altitude or speed constraints, and correct identification, where possible, of waypoints as fly-by or flyover waypoints (using the ND). Slight differences between the navigation information portrayed on the chart and their primary navigation display heading might occur.

Differences of three degrees or less may result from the application of magnetic variation and are operationally acceptable.

Crews shall particularly focus on any segment of the procedure which is below MSA. If required by a procedure, a check will need to be made to confirm that position updating will use a specific navigation aid, or to confirm exclusion of a specific navigation aid. A procedure shall not be used if doubt exists as to the validity of the procedure in the navigation database.

Route Modifications

Route modifications in the Terminal Area may take the form of radar headings or 'direct to' ATC clearances and the flight crew shall be ready to react promptly. This may include the insertion of a waypoint sequence loaded from the database as part of an alternative manual entry or modification by the flight crew of the loaded procedure. Using temporary waypoints or fixes not provided in the database, is not permitted during RNAV/RNP operations. Any published altitude and speed constraints shall be observed unless otherwise instructed by ATC.

Take-off and Departure

Prior to commencing take-off, the flight crew shall verify that the RNAV/RNP system is available and operating correctly and the correct airport and runway data have been loaded.

For PRNAV/RNAV1/RNAV SIDs and Transition, where GPS is not available, an FMC position update to the take-off runway threshold or intersection shall be performed. For aircraft without this capability:

1. Align INS using accurate parking position coordinates;
2. Perform a re-alignment before taxi;
3. Verify navigation accuracy. At a 10 NM scale on ND the runway width displayed is 1,520 ft. The maximum allowed error is 900 ft.

Cruise

For flights dispatched with RNP requirements, verify the required RNP value is set for the applicable area.

Arrival and Approach

Verify that the correct terminal procedure has been loaded. The active flight plan should be checked by comparing the charts with the Navigation Display and with the CDU. This includes the confirmation of the waypoint sequence, reasonableness of track angles and distances, any altitude or speed constraints and, where possible, which waypoints are fly-by and which are fly-over (using the ND).

When it is necessary to use an instrument approach, a standard published instrument approach procedure shall be used. A procedure shall not be used if doubt exists as to the validity of the procedure in the navigation database.

The crew briefing shall include reversion to a conventional procedure and the go-around procedure.The creation of new waypoints by manual entry into the RNAV/RNP system by the flight crew is not permitted as it would invalidate the procedure.

8.3.2.4 Contingency Procedures

Revision: 19 - 14 MAR 21

Contingency procedures shall be used whenever there is a degradation of the required navigation accuracy. Contingency procedures address cautions and warnings for the following conditions:

1. Failure of the RNAV/RNP system components including those affecting flight technical errors (e.g. failures of the flight director or automatic pilot);
2. Multiple system failures;
3. Failure of the navigation sensors;
4. Coasting on inertial sensors beyond a specified time limit.

Contingency procedures shall be briefed by the PF and shall be performed as appropriate for the phase of flight. The PIC shall notify ATC of any problem with the RNAV/RNP system that results in the loss of the required navigation capability, together with the proposed course of action.

If feasible, the pilot should continue to follow the LNAV track, state “**UNABLE RNAV/Precision RNAV**” and request radar vectors or request reversion to a conventional navigation procedure.

In the event of communications failure, the flight crew should continue with the RNAV procedure in accordance with the published lost communication procedure.

As a result of a failure or degradation of the RNAV system below the accuracy of RNAV 5, an aircraft shall not enter the B-RNAV airspace, nor continue operations in accordance with the current air traffic control clearance. ATC shall be advised and a revised clearance shall, whenever possible, be obtained by the pilot. Subsequent air traffic control action in respect of that aircraft will be dependent upon the nature of the reported failure and the overall traffic situation. Continued operation in accordance with the current ATC clearance may be possible in many situations. When this cannot be achieved, a revised clearance may be required to revert to VOR/ DME navigation. The crew will then, on each ATC frequency change, report the situation by announcing “NEGATIVE - RNAV” on initial contact.

8.3.2.5 Future Air Navigation System (FANS)

8.3.2.5.1 General

Revision: 19 - 14 MAR 21

Fundamentals of the CNS/ATM (Communication, Navigation, Surveillance/Air Traffic Management) concept:

- It is mainly built on satellite technology and digital communications;
- It aims at increasing the air space capacity;
- It aims on enhancing the operational flexibility and global safety of air traffic.

8.3.2.5.2 Communication

Revision: 19 - 14 MAR 21

Implementing the CNS/ATM concept, Controller Pilot Data Link Communication (CPDLC) will become the primary source of communication instead of the classical VHF and HF voice communication between pilot and controllers.

Especially in oceanic and remote areas or in congested airspace, CPDLC is a powerful means for communication and for reducing congestion on VHF frequencies. CPDLC messages will be displayed to the crew in flight and can be stored and printed, see Chapter ***8.3.3 Controller Pilot Data Link Communication (CPDLC) Procedures***.

In addition to air-to-ground communication, ground-to-ground communication is also part of this concept. The purpose is, to link different ATC service organizations (or services of the same ATC) and AOCs (Airline Operational Centres).

8.3.2.5.3 Navigation

Revision: 19 - 14 MAR 21

Aircraft are required to fulfil a certain RNP level, to benefit from the CNS/ATM concept. This statement on the navigation performance accuracy is necessary for operation in the respective airspace and will be defined by the relevant ATS of the concerned area. The combination of CPDLC, RNP and ADS-C (see ***8.3.2.5.4 Surveillance***) enables the reduction of procedural separations (longitudinal and lateral) down to 30 NM, hereby increasing airspace capacity.

8.3.2.5.4 Surveillance

Revision: 19 - 14 MAR 21

Common types of surveillance are: SSR modes A, C and S. All these types require radar coverage. In addition to the mentioned SSR modes, ATC can receive the aircraft position and other surveillance data via the Automatic Dependant Surveillance (ADS).

Two kinds of ADS are existent:

- **ADS-B (Automatic Dependant Surveillance - Broadcast)**

  ADS-B enables SSR like surveillance services, as ADS-B capable aircraft use an ordinary GNSS receiver to derive its precise position from the GNSS constellation. The position and other aircraft parameters as speed, heading, altitude and flight number are then simultaneously broadcasted to other ADS-B capable aircraft and to ADS-B ground stations, or satellite communication transceivers which then relay the aircraft's position and additional information to Air Traffic Control centers in real time. ADS-B ground stations can easily be installed and are cheaper in terms of installation and maintenance;

- **ADS-C (Automatic Dependant Surveillance - Contract)**

  ADS-C is an application that enables one or more ground systems (supporting ATS or AOC) to establish an ADS contract with an aircraft. The ADS contract instructs the aircraft system to automatically provide ADS-C reports that contain certain parameters (e.g. position, altitude, and speed) and intent information for surveillance and route conformance monitoring. Some of these parameters are mandatory, while others are optional and are defined in the ADS contract uplinked by the ground system.

Although the terms are similar, ADS-C and ADS-B are two different applications. ADS-C permits as many as five different ground systems to establish a contract with an aircraft. Each facility specifies to the aircraft system the information to be included in a report and the conditions on when to send it. The aircraft sends the report only to the ground system(s) that have established the contract.

8.3.2.5.5 Air Traffic Management (ATM)

Revision: 19 - 14 MAR 21

As Air Traffic Management becomes more and more important due to the increasing amount of air traffic, a close co-operation of ATS, crews and airline operational centres is required and expected to be reached through data communications and automated sharing of real-time information. CPDLC, ADS and AOC/ATC inter-facility link are some of the tools used to support new ATM methods such as Collaborative Decision Making (CDM). The aim of CDM is to enable the corresponding actors (crews, controllers and airline operations) involved in ATM system, to improve mutual knowledge of the forecast/current situations, of each other constraints, preferences and capabilities, so as to resolve potential problems.

8.3.2.5.6 Point Merge Concept

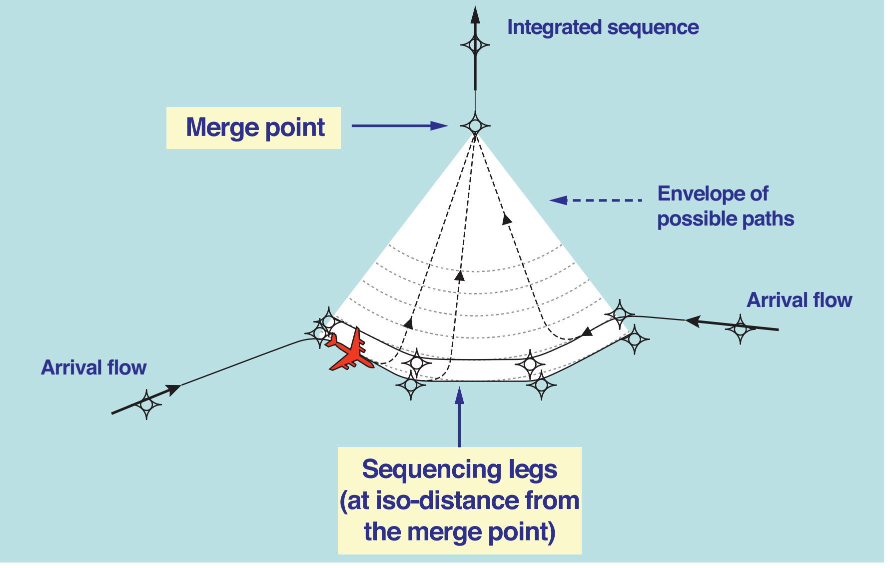
Revision: 19 - 14 MAR 21

Point Merge is based on a specific RNAV/RNP route structure (denoted Point Merge System) that is made of a point (the merge point) and pre-defined legs (the sequencing legs) equidistant from this point (and vertically separated). These legs are dedicated to path stretching/shortening (see figure below).

The operating method comprises two main steps:

- Create the spacing by a “direct-to” instruction to the merge point issued for each aircraft at the appropriate time while on the leg;
- Maintain the spacing by speed control after leaving the legs.

The descent may be given when leaving the legs (and clear of traffic on the other leg). It shall be a continuous descent as the distance to go is then known by the FMS.



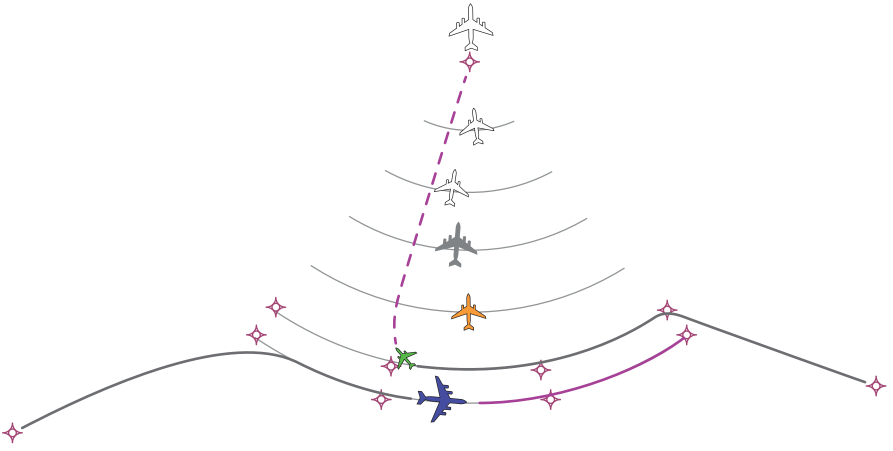


Illustration : The Green aircraft is given a “Direct To” when the Gold aircraft reaches the appropriate distance from the leg.

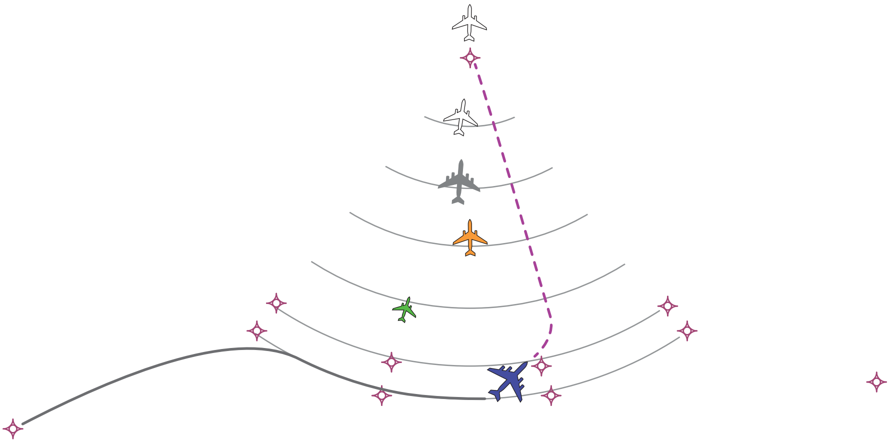


Illustration : The same technique is repeated for the Blue aircraft

8.3.3 Controller Pilot Data Link Communication (CPDLC) Procedures

8.3.3.1 General

Revision: 19 - 14 MAR 21

CPDLC is intended to serve as either a primary or supplementary communication means. For data link communications to work as designed, prompt initiation and correct response to data link advisories is important. Flight crews using data link communications should respond in accordance with the following guidelines:

- Prompt initiation of messages where needed;
- Prompt response to messages where appropriate;
- Appropriate crew coordination so that each crew member receives pertinent information needed;
- Appropriate retention of messages (archive) requiring later action (printer copies of oceanic clearances etc.);
- Appropriate resolution of uncertain messages;
- Appropriate use of data link and voice, respectively, where circumstances or operations dictate (e.g., voice for backup or clarification of non-normal situations).

8.3.3.1.1 Flight Plans

Revision: 19 - 14 MAR 21

Flights intending to conduct operations using data link communication must file an accurate flight plan. Air Traffic Service Unit (ATSU) automation relies on correct flight plan codes to determine aircraft and operator data communication eligibility for various services (e.g., reduced separation).

If data link equipment is deferred before flight, a new flight plan shall be filed reflecting the revised capability codes. The flight plan shall always accurately reflect the aircraft’s current capabilities.

If data link equipment fails in-flight before entering airspace where data link is required, the flight crew shall notify the ATSU as soon as practical.

8.3.3.2 CPDLC Good Operating Practices

Revision: 19 - 14 MAR 21

The following data link communications “good operating practices” have been identified:

- To preclude unnecessary communication and possible interference with ground facilities, data link communications should be used only in conjunction with facilities specified for the route or procedure to be flown. An example would be as follows: data link communications with other than designated ground facilities should be accomplished only as necessary to support flight plan or flight operations requirements;
- Free text messages should only be used when a standard message element does not exist or is inadequate. When sending a free text message, use standard ATC phraseology and avoid using non-standard abbreviations;
- When appropriate, verify data link communication functions prior to departure.

8.3.3.3 CPDLC Operating Procedures

8.3.3.3.1 Use of CPDLC

Revision: 19 - 14 MAR 21

- Each flight crew member (e.g. pilot flying and pilot monitoring - communicating) shall independently review each CPDLC uplink prior to responding and/or executing a clearance that it may contain, and each CPDLC downlink message prior to transmission;
- In augmented crew, the flight crew member carrying out the ‘handover’ briefing should thoroughly brief the “changeover” flight crew or flight crew member on the status of ADS-B and CPDLC, including a review of stored uplink and downlink CPDLC messages;
- When ATC sends an uplink message to an aircraft that is accepted (WILCO) by the flight crew, ATC expects the flight crew to comply with the clearance. Each flight crew member shall read the uplinked message independently (silently) before initiating a discussion about whether and how to act on the message. Reading a message independently is a key element to ensure that each flight crew member does not infer any preconceived intent different from what is intended or appropriate;
- CPDLC downlink messages should be independently reviewed by each applicable flight crew member before the message is sent. Having one flight crew member (e.g. the pilot monitoring) input the message and having a different flight crew member (pilot flying) review the message before it is sent promotes an adequate level of situational awareness, comparable to or better than when using voice transmissions;
- The flight crew should coordinate uplink and downlink messages using the appropriate flight deck displays;
- When operating within airspace where CPDLC is available and local ATC procedures do not state otherwise, CPDLC should be the primary means of communication. Voice should be used as the backup communication medium (e.g. direct VHF, direct HF, third party HF, Satellite voice);

- During an emergency, the flight crew would normally revert to voice communications. However, the flight crew may use CPDLC for emergency communications if it is either more expedient or if they are unable to establish voice contact;
- The response to a CPDLC message should be via CPDLC, and the response to a voice message should be via voice;
- If a conflicting CPDLC and voice clearance/instructions is received, the flight crew should obtain clarification using voice;
- If an ATC data link clearance contradicts a voice clearance, comply with the voice clearance;
- If the intent of an uplinked message is uncertain, the flight crew should reject (UNABLE) the message. The flight crew may use either CPDLC or voice to confirm the intent of the message;
- If the flight crew is unable to comply with any portion of a multi-part message, "UNABLE" the entire message. Additionally, avoid sending multiple requests to the ATSU in a single message;
- When the controller uses free text to ask the crew affirmative/negative questions, the flight crew can only respond with ROGER or WILCO, which means they have read and understood the message, but does not answer the question affirmatively. In these cases, the flight crew should respond to the question with a separate message;
- Regardless of whether CPDLC is being used as the primary means for communication, the flight crew should continuously monitor VHF. In addition, the flight crew shall continuously maintain a listening or SELCAL watch on the specified backup or secondary frequency (frequencies);
- Aircraft crew alerting systems notify the flight crew when aircraft SATCOM data link system fails. When operating CPDLC over SATCOM for primary communications and the flight crew is notified of a failure of the SATCOM system, the flight crew should notify the air traffic service unit (ATSU) of the failure. Timely notification is appropriate to ensure that the ATSU has time to assess the situation and apply a revised separation standard, if necessary;
- Intermittent NO COMM annunciations may occur and do not necessarily mean the ATC connection is lost.

  Pilots should delay logging off/disconnecting to allow the annunciation to end as the system may reestablish the connection. Logging off/disconnecting and logging back on/notifying will cause the ATC connection to end and may block future connections;
- When failure of a data link communication connection is detected (downlink message fails to send), terminate the connection and then initiate a new logon/notification with the current ATSU. If another failure occurs, revert to voice communication using the phraseology, "CPDLC failure, continuing on voice";
- If a CPDLC dialogue is interrupted by a data link service failure, expect the controller to recommence the entire dialogue by voice communication. When the controller recognizes a failure of the CPDLC connection, the controller will instruct the flight crew to terminate the connection and then initiate another logon/notification;
- Normally, the flight crew should leave ADS-C armed for the entire flight. However, in airspace where ADS-C is available, if the flight crew switches ADS-C off for any reason, or they receive indication of avionics failure leading to loss of ADS-C, advise ATC and follow alternative procedures;

- In airspace where ADS-C is not available, the flight crew may switch ADS-C off to cancel inadvertent ADS-C connections. In such cases, the flight crew should ensure the ADS-C is armed when reentering airspace where ADS-C is again available;
- The flight crew may activate the ADS-C emergency mode, which changes all existing ADS-C periodic contracts from normal mode to emergency mode and creates emergency mode ADS-C periodic contracts on any ADS-C connections that do not have a periodic contract already in place. The pilot may also activate ADS-C emergency mode by sending a “MAYDAY MAYDAY MAYDAY” or “PAN PAN PAN” CPDLC message. ADS-C emergency mode may be deactivated by the ATSU or by the flight crew sending a “CANCEL EMERGENCY” CPDLC message;
- If an automatic transfer of the CPDLC connection does not occur at the boundary between ATSUs, contact the transferring ATSU by sending a CPDLC TRANSFER FAILURE message or voice equivalent, advising them the transfer has not occurred. If this does not resolve the situation, logoff/disconnect and logon/notify the next ATSU. Revert to voice if still unable to logon/notify NDA;
- A CONTACT or MONITOR message instructs the pilot to change to the specified frequency and may include a position or time for when to change to the new frequency. Use of a CONTACT or MONITOR message is as follows:
  - When a MONITOR message is received, change to the specified frequency upon receipt of the instruction or at the specified time or position. Do not establish voice contact on the frequency;
  - When a CONTACT message is received, change to the specified frequency upon receipt of the instruction or at the specified time or position, and establish voice contact on the frequency.
- Ensure waypoints are sequenced correctly. If an aircraft passes abeam a waypoint and the FMS does not automatically sequence the waypoints, the flight crew must, manually sequence the waypoints in the FMS. Otherwise, incorrect information will be contained in ADS-C reports and CPDLC position reports; the next waypoint in these reports will actually be the waypoint that the aircraft has already passed. This may result in a timing error or out of conformance indication on the Air Navigation Services Providers (ANSP) ground system.

8.3.3.3.2 Logging On/Off

Revision: 19 - 14 MAR 21

- For DCL via CPDLC (i.e. in the USA), the logon/notification should be approximately 30 minutes prior to proposed departure time. In the USA, maintain KUSA until logged off/disconnected by air traffic control (ATC). If leaving U.S. domestic airspace, the automatic transfer from KUSA to the next ATSU may not be possible. In such cases, the pilot must terminate the CPDLC connection(s) and then initiate a logon/notification to prompt the new ATSU to establish a CPDLC connection;
- Initiate a logon/notification 10 to 25 minutes prior to entry into airspace where data link communication services are provided or prior to entering oceanic and remote continental airspace;
- To perform an initial logon/notification request, the pilot enters the four character ICAO identifier of the ATSU and enters/verifies the following flight-specific information, as listed on the flight plan:
  a. Aircraft identification;

b. Aircraft registration, if applicable, and/or aircraft address; and

c. Departure and destination airports, when required.

NOTE	When the aircraft identification includes a numeric component, this component must exactly match what is listed on the flight plan. In other words, "ABC3" does not match "ABC003."

NOTE	While the ATSU identifier is only four characters, Aeronautical Telecommunications Network (ATN) Baseline 1 (B1) is capable of supporting up to eight characters.

NOTE	If applicable, ensure ADS-C is on or armed prior to logon/notification.

- To avoid an automatic rejection of the logon/notification request, the flight crew must ensure the flight-specific information entered into the aircraft system is the same as the corresponding details filed in the flight plan. The following are possible reasons for receiving an indication of logon/notification failure:

  a. Logon/Notification information does not exactly match flight plan (e.g., incorrect tail number and/or call sign/flight ID);

  b. Ground or air system anomaly;

  c. Data corruption;

  d. Suspected duplicate aircraft registration;

  e. Aircraft intentionally blocked from logging on/notifying (i.e., on blocked list due to problem reports with the aircraft); and/or

  f. There is no flight plan for the flight or the flight plan did not transfer from one ATSU to the next.

- The logon/notification response message provides information to the aircraft system concerning whether:

  - The logon/notification request was successful (e.g., could be correlated with a flight plan); or•The logon/notification request was unsuccessful (e.g., could not be correlated with a flight plan).

- The ATSU should automatically logoff/disconnect data authority approximately 15 minutes after exiting CPDLC and/or ADS-C areas.

  After 15 minutes, if aircraft equipment permits, the flight crew should ensure there are no active CPDLC or ADS-C connections. Ensuring connections are not active eliminates the possibility of inadvertent or inappropriate use of the connections;

- Contact the current ATSU unit prior to the manual termination of any ADS-C contract. This applies even when outside the applicable ATSU and the pilot logs off/disconnects ADS-C because it did not logoff/disconnect 15 minutes after leaving ADS-C airspace;

- In the event the connection termination has failed, contact the ATSU via voice or any other appropriate means;

- Prior to logoff/disconnect, the ensure there are no unresolved or open messages. The flight crew will logoff/disconnect and confirm CPDLC connection is terminated and continue with voice communication;

- USA Domestic Logoff/Disconnect: Logoff/disconnect should automatically occur approximately 5 minutes after departure for DCL services. Do not logoff/disconnect until ATC terminates the session. If proceeding to international or oceanic and remote continental airspace and CPDLC services are not terminated, then manually logoff/disconnect prior to a new logon/notification.

NOTE	When KUSA is active as the domestic U.S. single data authority, CPDLC services will not automatically terminate after departure. Aircraft leaving U.S. airspace must logon/notify the next appropriate ATSU.

8.3.4 Altimeter Setting Procedures

Revision: 19 - 14 MAR 21

These procedures provide adequate vertical separation from other aircraft and, in conjunction with correct navigation procedures, ensure adequate terrain clearance during all phases of flight.

When the Flight Level/height is given in meters, the PM shall state the converted FL/Altitude according to the conversion chart. The PF shall cross check the PM using the conversion chart.

Aircraft equipped with a metric altimeter, should use the metric altimeter readout to confirm the set level after it has been set in feet.

8.3.4.1 Altimeter Setting Reference Datum

Revision: 19 - 14 MAR 21

Three altimeter settings are used as shown in table below. The indicated vertical distance above the selected reference datum assumes International Standard Atmosphere conditions and errors become significant at extremely low temperatures, see *8.3.4.8.1 Cold Temperature Altitude Correction*.

Altimeter Setting	Reference Datum	Altimeter Indication
Standard	1013.2 hPa / 29,92 ins	Flight level
QNH	Local mean sea level pressure	Altitude
QFE	Aerodrome (or threshold) elevation	Height above reference elevation

8.3.4.2 Altimeter Serviceability Checks

Revision: 19 - 14 MAR 21

1. Before leaving the ramp the pressure scales of all altimeters shall be set to the actual QNH of the airport;
2. The altimeter indications thus obtained shall be observed and checked against the elevation of the airport at the location of the aircraft;
3. When the altimeter does not indicate the reference elevation or height exactly, but is within the tolerance specified in OM Part B, no adjustment of this indication shall be made at any stage of the flight. Furthermore, any error that is within tolerance noted during the pre-flight check on the ground shall be ignored by the pilot during flight (excluding RVSM Requirements - see RVSM);
4. If an altimeter indication is not within the specified tolerance follow procedures as outlined in OM Part B.

8.3.4.3 Transition Altitude

Revision: 19 - 14 MAR 21

During flight at or below "Transition Altitude" an aircraft is flown at "Altitudes" based upon QNH. The altimeter setting will be the regional QNH, unless operating in a Terminal Area (TMA) when the Zone QNH or associated airport QNH should be set. A Transition Altitude is normally specified for each airport by the State in which it is located and is shown on TMA charts.

8.3.4.4 QFE Altimeter Setting Procedure

Revision: 19 - 14 MAR 21

In the states where vertical dimensions are metric, IAL charts for these airports indicate all vertical distances as altitudes (QNH) in feet with conversion to heights in feet QFE and meters QFE.

1. Air traffic control instructions and Flight Crew reports concerning vertical navigation below transition height/level are expressed in "meters QFE" (height);
2. For departure, for en-route flying at or below transition altitude/level and for intermediate and final approach, all altimeters shall be set to QNH and the QNH/QFE conversions shall be used to establish vertical position.

8.3.4.5 Flight Levels

Revision: 19 - 14 MAR 21

Flight above the Transition Altitude is conducted at "Flight Levels" which are surfaces of constant atmospheric pressure based on the "Standard" altimeter setting of 1,013.2 hPa/29,92 in. The Flight Level is the altimeter reading divided by 100 (e.g. 23,000 ft = FL 230).

NOTE	In some countries Flight Levels are metric and the complete altimeter reading is used so that 5,000 m (16,400 ft) is stated as "Flight Level 5,000 m Standard". Conversion tables are found on the en-route charts and in the OM Part C (FliteDeck Pro).

8.3.4.6 Transition Level

Revision: 19 - 14 MAR 21

The transition level is the lowest flight level available for use above the transition altitude. It is determined by the approach control office or aerodrome control tower for use at the relevant aerodrome depending on QNH.

8.3.4.7 Transition Layer

Revision: 19 - 14 MAR 21

1. The transition from flight levels to altitudes and vice versa in the vicinity of an aerodrome is effected in the airspace between the transition altitude and the transition level called the transition layer.

NOTE	The vertical dimensions of the transition layer may vary according to atmospheric pressure. Where required to ensure vertical separation, the vertical dimensions of the transition layer will be at least 1.000 ft.

2. Change from flight level to altitude shall be made at the transition level when descending, and from altitude to flight level at the transition altitude when climbing.

NOTE	In exceptional cases approach or departure procedures may prescribe flight at an altitude above the transition altitude, or at a flight level below the transition level (but not below the transition altitude). In these cases it is the responsibility of ATC to ensure that vertical separation is not infringed.

8.3.4.8 Checking of Terrain Clearance

Revision: 19 - 14 MAR 21

Also see Chapter *8.1.1.9 Minimum and Maximum Flight Altitudes*.

The adequacy of terrain clearance during the departure phase of flight and during the approach to land is determined by using the QNH altimeter setting of the airport concerned; see Chapter *8.3.4.8.1 Cold Temperature Altitude Correction*.

8.3.4.8.1 Cold Temperature Altitude Correction

Revision: 19 - 14 MAR 21

Under most unfavorable conditions, such as temperatures significantly lower than ISA, true altitude will be lower than indicated. This altimetry error may be significant and can become extremely important when considering obstacle clearance in very cold temperatures.

Cold temperature correction procedures defined in the OM Part B (FCTM and FCOM) shall be applied.

8.3.4.9 Setting of Radio and Baro Minimum Reference Altitude

Revision: 19 - 14 MAR 21

When conducting Category II/III approaches the radio altimeter minimum reference altitude shall be set to the appropriate radio altimeter setting height (RA).

When conducting Category I, Circling, APV and Non Precision Approaches, the barometric Minimum Reference Altitude shall be set to the appropriate minima.

8.3.5 Altitude Alerting System Procedures

Revision: 20.2 - 14 DEC 22

The purpose of the altitude alerting system is to alert the flight deck crew by the automatic activation of a visual and/or an aural signal (see respective OM Part B) when the aircraft is about to reach or is leaving the preselected altitude/flight level. The system and its operation shall ensure an accurate altitude adherence during all phases of the flight.

Passing 1,000 ft before reaching the selected altitude/flight level, the PM shall make a call-out as specified in the FCOM.

NOTE	The altitude alerting system does not in any way relieve the flight deck crew from the responsibility of ensuring that the aircraft levels off or will be leveled off at the correct altitude or flight level.

8.3.6 (Enhanced) Ground Proximity Warning System

Revision: 19 - 14 MAR 21

The GPWS automatically provides aural warnings or cautions (see OM Part B).

These warnings and cautions require immediate action by the flight crew:

- **An immediate and positive response shall be made to all GPWS cautions and warnings;**

- **GPWS response action may result in high pitch angles;**
- **Investigation of the reason for an alert/warning shall take second place to the response action;**
- **The OM Part B (QRH) defines the required maneuvers and actions for EGPWS warnings and cautions.**

8.3.6.1 Terrain Awareness and Warning System (TAWS)

Revision: 19 - 14 MAR 21

In addition to the basic or advanced GPWS equipment, the TAWS functions give forward looking warnings to the flight crew. This information is not only based on Radio Altitude but also uses a database with terrain information.

Terrain Awareness and Warning Systems automatically provide visual and aural signals. This information is displayed on a Terrain Awareness Display. It gives the Flight Crew sufficient alerting time to prevent “Controlled Flight Into Terrain”-events (CFIT). It also provides forward looking capability and a terrain clearance floor.

8.3.6.2 Unwanted Warnings

Revision: 19 - 14 MAR 21

Unwanted (i.e. false or nuisance) warnings may be received during normal, safe operations when, for example, the aircraft is being vectored by ATC and is descending in an area of hilly terrain, particularly at high speed with a high closure rate and/or intense rising sand storm. A Mode 5 (glideslope) alert may be triggered when the aircraft is being flown outside the validity area of the glideslope signal, such as when maneuvering visually to land on a non-instrument runway following an approach to the ILS runway. An alert/warning may also be triggered if the approach is flown with the flaps set to a different position from that normally used for landing. Provided that flight crews remain fully aware of these limitations of the equipment and follow the recommended procedures immediately on receipt of GPWS alerts and warnings, its use may well avoid an otherwise inadvertent closure, or contact, with the ground.

It is emphasized that even if a warning is anticipated or suspected to be false or nuisance, immediate and aggressive action is required by the crew unless the conditions described in the OM Part B (QRH) can be complied with.

8.3.7 Policy and Procedures for the Use of Traffic Alert and Collision Avoidance System (TCAS)

Revision: 19 - 14 MAR 21

Operational rules for TCAS require immediate flight crew response to an RA, unless doing so would jeopardise the safety of the aircraft. These rules are applicable within all airspace classes and all meteorological conditions (i.e. Visual Meteorological Conditions and Instrument Meteorological Conditions).

The most important single factor affecting the performance of TCAS is the timely response of the flight crew to RAs. Disregarding an RA instruction will decrease the safety level provided by the TCAS system, as visually acquired traffic may not be the same traffic causing an RA. The visual perception of an encounter may be misleading.

TCAS relies upon information mutually exchanged between transponder equipped aeroplanes. RAs will only be generated if both the receiving aeroplane and the potential intruder are transmitting Mode "C".

The Transponder Mode Selector should be selected to TA/RA unless operation in the TA only mode is required to prevent undesired RAs.

TA only mode may be used during engine out operation and when intentionally operating near other aeroplane that may cause RAs, such as during parallel approaches and VFR operations.

Normal vigilance is still required, even when TCAS is fitted and functioning. TCAS is unaware of aeroplane without transponders, and unable to give collision avoidance information when an intruder does not report altitude.

8.3.7.1 TCAS

Revision: 19 - 14 MAR 21

TCAS provides collision avoidance manoeuvre advice in the vertical plane, in either of two forms:

1. Traffic Advisories (**TA**s), which indicate the approximate position relative to the subject aeroplane, either in azimuth only, or azimuth and altitude, of nearby transponding aeroplane which may become a threat;
2. Resolution Advisories (**RA**s) which recommend manoeuvres or manoeuvre restrictions in the vertical plane to resolve conflicts with aeroplane transponding SSR Mode C altitude.

When the pilot is made aware by an TCAS TA or ATC of another aeroplane at or approaching an adjacent altitude or flight level, PF should use appropriate procedures to assure that the rate of climb or descent is less than 1,500 ft/min throughout the last or 1,000 ft of climb or descent to the assigned altitude or flight level.

8.3.7.2 Action

Revision: 19 - 14 MAR 21

If a TA or a RA is received, the following action must be taken:

1. **TA** – a TA is intended to alert the crew that an RA, requiring a change in-flight path, may follow. Pilots should not manoeuvre their aircraft in response to traffic advisories (TAs) only;
2. **RA** – an RA is intended to advise pilots on the manoeuvre they must carry out in order to achieve or maintain adequate separation from an established threat. In the event of an TCAS RA, pilots shall:
    a. Respond immediately by following the RA, as indicated, unless doing so would jeopardise the safety of the aircraft;
    b. Follow the RA even if there is a conflict between the RA and an ATC instruction to manoeuvre;
    c. Not manoeuvre in the opposite sense to an RA;
    d. As soon as possible, as permitted by flight crew workload, notify the appropriate ATC unit of any RA which requires a deviation from the current ATC instruction or clearance;
    e. Promptly comply with any modified RAs;
    f. Limit the alterations of the flight path to the minimum extent necessary to comply with the RAs;

g. Promptly return to the terms of the ATC instruction or clearance when the conflict is resolved; and

h. Notify ATC when returning to the current clearance.

When a pilot reports an TCAS RA, the controller shall not attempt to modify the aircraft flight path until the pilot reports “CLEAR OF CONFLICT”.

Once an aircraft departs from its ATC clearance or instruction in compliance with an RA, or a pilot reports an RA, the controller ceases to be responsible for providing separation between that aircraft and any other aircraft affected as a direct consequence of the manoeuvre induced by the RA. The controller shall resume responsibility for providing separation to all the affected aircraft when:

1. The controller acknowledges a report from the flight crew that the aircraft has resumed the current clearance; or
2. The controller acknowledges a report from the flight crew that the aircraft is resuming the current clearance and issues an alternative clearance which is acknowledged by the flight crew.

Crew member should always be aware of the fact that a visual acquired traffic is not necessarily the intruder. The visual perception of an encounter may be misleading, particularly at night. Even if TAs and RAs are suspected of being nuisance or false advisories, they should be treated as genuine.

Note that the TCAS works on a multi-aircraft logic and can optimise separations from two aircraft by climbing or descending towards one of them. For example, TCAS only considers intruders that it considers to be a threat when selecting an RA. As such, it is possible for TCAS to issue an RA against one intruder that results in a manoeuvre towards another intruder which is not classified as a threat. If the second intruder becomes a threat, the RA will be modified to provide separation from that intruder.

In case of TCAS Failure the following actions must be accomplished:

1. CONTINUE the flight in accordance with the RVSM Clearance given;
2. MAINTAIN an extra vigilant LOOKOUT;
3. Enter the TCAS defect in the TECH LOG on arrival at destination.

The crew should review and be aware of the TCAS limitations and conditions under which certain functions are inhibited. Ground proximity warning systems (GPWSs) warnings and wind shear warnings take precedence over TCAS advisories. When either a GPWS or wind shear warning is active, TCAS aural annunciations will be inhibited and TCAS will automatically switch to the 'TA only' mode of operation.

8.3.7.3 Phraseology

Revision: 19 - 14 MAR 21

1. When an TCAS Resolution Advisory that require a deviation from ATC clearance or instruction need to be reported the appropriate message is:
   - Phraseology:

     TCAS RA.
2. When the pilot is unable to comply with an ATC clearance or instruction because there is an RA, the appropriate message is:

- Phraseology:

  UNABLE, TCAS RA.

3. When the conflict causing the RA is over the pilots are required to explicitly announce it and the appropriate message is:
   - Phraseology:

     CLEAR OF CONFLICT, RETURNING TO, (assigned clearance);

     Or:

     CLEAR OF CONFLICT, (assigned clearance) **RESUMED**.

8.3.7.4 High Vertical Rate (HVR) Encounters

Revision: 19 - 14 MAR 21

Pilots shall use appropriate procedures by which an aeroplane climbing or descending to an assigned altitude or flight level, especially with an autopilot engaged, may do so at a rate less than 8 m/s (or 1,500 ft/min) throughout the last 300 m (or 1,000 ft) of climb or descent to the assigned altitude or flight level when the pilot is made aware of another aircraft at or approaching an adjacent altitude or flight level, unless otherwise instructed by ATC. These procedures are intended to avoid unnecessary TCAS resolution advisories in aircraft at or approaching adjacent altitudes or flight levels.

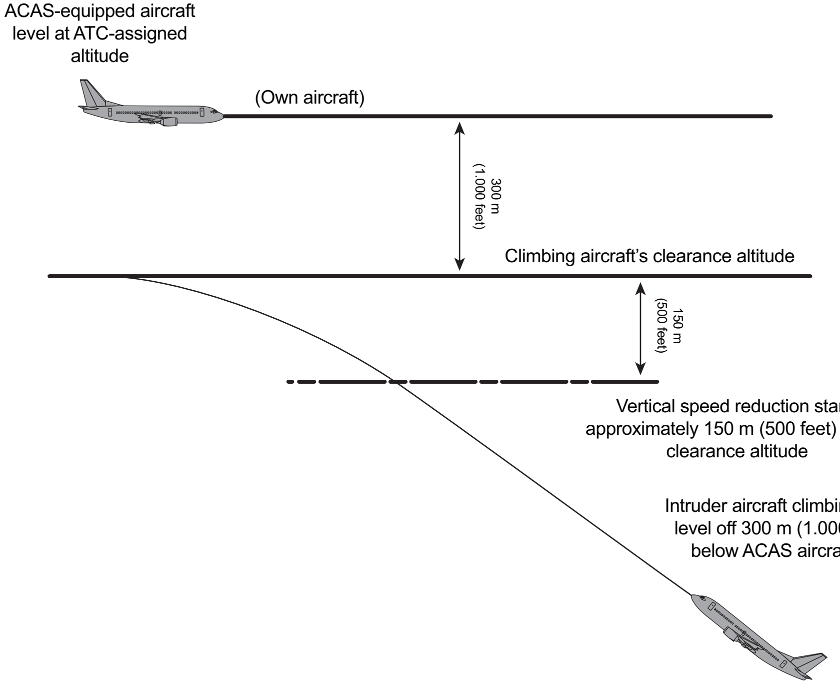


Illustration : Representative HVR Encounter Geometry

8.3.7.5 Reporting

Revision: 19 - 14 MAR 21

Whenever, as a result of a TCAS II warning, an aeroplane has been manoeuvred such that it has departed from its air traffic control clearance, the appropriate ATC unit is to be informed as soon as possible of the departure, and of the return to the previously cleared flight conditions.

Whenever an aeroplane has departed from an air traffic control clearance in compliance with an RA, the pilot is to report the circumstances to the Company and/or Authority in compliance with the Company safety reporting scheme.

8.3.8 Policy and Procedures for In-Flight Fuel Management

Revision: 23 - 29 AUG 24

APPROVED

The fuel situation shall be continually monitored by the flight crew. The PIC shall ensure that fuel checks are recorded at least every hour during a flight. On a flight of less than one hour an intermediate record is to be made at a convenient time when the cockpit workload permits.

The relevant fuel data shall be recorded on the Operational Flight Plan / NAV log (EFF) and evaluated to:

- Compare actual consumption with planned consumption;
- Check that the usable remaining fuel is sufficient to complete the flight, in accordance with the requirements below; and
- Determine the expected usable fuel remaining on arrival at the destination airport.

NOTE	Actual total fuel quantity should be read from the Totalizer (B787/B777) or from the fuel gauges (B737).

The PIC shall ensure that the flight is conducted so that the expected usable fuel remaining on arrival at the destination airport (taking into account expected delays) is not less than:

1. The final reserve fuel plus the required alternate fuel (to the alternate requiring the higher fuel, if 2 destination alternates are required); or
2. The final reserve fuel plus fuel for 15 minutes holding at 1,500 ft above the destination airport elevation in standard conditions if a destination alternate airport is not required.

However, when unanticipated circumstances which occur upon reaching the vicinity of the destination airport may result in landing at the destination airport with less than the fuel in (1) or (2) above, the PIC may proceed to land at the destination with not less than the final reserve fuel remaining under the following conditions:

1. An assured landing can be made in the immediate and prevailing operational conditions; and
2. An Expected Approach Time (EAT) has been allocated, or confirmation directly from ATC of the maximum likely delay.

When evaluating whether an assured landing can be made, the PIC shall request delay information from ATC and shall take into account:

- The number of available runways;
- The prevailing weather in relation to the available approaches;

- Traffic and the operational conditions prevailing at the destination airport, at the destination alternate airport (if a destination alternate is required) and at any other alternate airport.

Practically speaking, this in-flight re-analysis and adjustment option allows converting fuel originally allocated for a diversion to an alternate, into fuel to proceed or "divert to" the destination.

The PIC shall advise ATC of a minimum fuel state by declaring MINIMUM FUEL when, having committed to land at a specific airport, the pilot calculates that any change to the existing clearance to that airport may result in landing with less than planned final reserve fuel.

NOTE	The declaration of MINIMUM FUEL informs ATC that all planned airport options have been reduced to a specific airport of intended landing and any change to the existing clearance may result in landing with less than planned final reserve fuel. This is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.

It should be noted that Pilots should not expect any form of priority handling as a result of a "MINIMUM FUEL" declaration. ATC will, however, advise the flight crew of any additional expected delays as well as coordinate when transferring control of the aircraft to ensure other ATC units are aware of the flight's fuel state.

The PIC shall declare a situation of fuel emergency by broadcasting MAYDAY, MAYDAY, MAYDAY, FUEL, when the calculated usable fuel predicted to be available upon landing at the nearest airport where a safe landing can be made is less than the planned final reserve fuel.

The following table summarizes the actions required step by step:

Step 1: Request delay information when required	Seek information from ATC concerning any expected delays
Step 2: Declare MINIMUM FUEL when committed to land at a specific airport and any change in the existing clearance may result in a landing with less than planned final reserve fuel	Declare "Minimum Fuel" which should represent the last lines of defense in a multi-layered strategy designed to ensure the protection of final reserve fuel and safe flight completion. Practically speaking, the PIC should declare "MINIMUM FUEL" when, based on the current ATC clearance, the anticipated amount of fuel remaining upon landing at the airport to which the aircraft is committed is approaching the planned Final Reserve fuel quantity. This declaration is intended to convey to the applicable air traffic controller that so long as the current clearance is not modified, the flight should be able to proceed as cleared without compromising the PIC's responsibility to protect final reserve fuel.
Step 3: Declare a fuel emergency when the calculated fuel on landing at the nearest suitable airport, where a safe landing can be made, will be less than the planned final reserve fuel	Declare Fuel Emergency using "MAYDAY, MAYDAY, MAYDAY, FUEL". The last in a series of procedural steps to ensure the safe completion of a flight is the declaration of an emergency. This declaration provides the clearest and most urgent expression of an emergency situation brought about by insufficient usable fuel remaining to protect the planned final reserve. It communicates that immediate action shall be taken by the PIC and the air traffic control authority to ensure that the aircraft can land as soon as possible. The "MAYDAY" declaration is used when all opportunities to protect final reserve fuel have been exploited and in the judgment of the PIC, the flight will now land with less than final reserve fuel remaining in the tanks. The word FUEL is used as part of the declaration simply to convey the nature of the emergency to ATC. It is also important to note an emergency declaration not only opens all options for pilots (e.g. available closed runways, military fields, etc.) but it also allows ATC added flexibility in handling an aircraft.

8.3.9 Fuel Saving Procedures

Revision: 22 - 20 FEB 24

GPU and ground Conditioned Air shall be used (unless stated differently in a crew NOTAM). Delay APU start as much as possible after landing (unless performing an engine out taxi in), and before engine start, taking into account cockpit, cabin crew and passenger comfort. Verify Ground Power (GPU) and external conditioned air (as needed) is connected to the aircraft as soon as possible after engine shutdown. Note that fuel saving can be made by off loading electric and/or pneumatic loads when not required. Shut down the APU after an in-flight start maintenance purposes, and once external power is connected.

Perform NADP 2 unless airport procedures or limitations require otherwise.

The flight plan calculates and displays the optimum flight level with the exceptions of specific aircraft (fleet) and route restrictions. Pilots shall fly no lower than the OFP planned flight levels unless weather conditions require a lower level or if it is more economical. For economic reasons, pilots should perform the flights at the most economical altitude (FMC Recommended Altitude for 777/787 aircraft) based on the current conditions.

Cost index values are calculated by the flight planning system and are included in the OFP. The OFP value shall be entered in the FMC during the pre-flight procedure and shall not be changed from the value in the OFP except when the aircraft may not land with the required reserve fuel and the PIC wishes to reduce the fuel consumption.

The sooner the airplane can be accelerated to the climb speed schedule, the more time and fuel efficient the flight.

The aircraft shall be flown at the FMC Cost Index speed for climb and cruise except when:

1. SID/STAR's or ATC require other speeds;
2. 250 knots is required below 10,000 ft;
3. A fixed mach number or IAS is required for a specific route or requested by ATC;
4. In turbulence;
5. Flight crew flight time limitations require the aircraft to land sooner than would happen with Cost Index speed;
6. Airport closure or slot restrictions require the aircraft to land sooner or later than would happen with Cost Index speed.

Plan the descent according to the FMC recommended TOD and the Continuous Descent Arrival (CDA) method.

NOTE	During descent, ECON speed should be maintained, unless there are operational reasons that require a change in speed.

Avoid extending flaps and landing gear earlier than necessary, while adhering to the “Stabilized Approach” requirements.

Perform an Engine Out Taxi-in, conditions permitting.

Whenever a Fuel leak is suspected, the crew shall act according to the relevant non-normal procedures in the QRH. When one of the below occur which cannot be explained due to prevailing winds, longer routing, actual level flown, ZFW etc.:

- Flight time exceeding 6 hrs: when the fuel consumed is greater than 1,5% than the planned trip fuel; or

- Flight time of up to 6 hrs: when 10% or more of the contingency fuel is consumed without an apparent reason (300 kg for 737 aircraft).

A malfunction shall be entered in the aircraft technical log, including relevant information that could assist in the troubleshooting process: Percentage or quantity of fuel consumed over the planned quantity, fuel quantity at landing, any deviations from the flight plan, and any additional information that could assist maintenance.

8.3.10 Adverse and Potentially Hazardous Atmospheric Conditions

8.3.10.1 General

Revision: 19 - 14 MAR 21

A pilot shall notify an appropriate ground station as a special air report via data link or when not available, via voice communication as soon as practicable whenever encountering any of the following meteorological conditions:

1. Severe turbulence; or
2. Severe icing; or
3. Severe mountain wave; or
4. Thunderstorms, without hail, that are obscured, embedded, widespread or in squall lines; or
5. Thunderstorms, with hail, that are obscured, embedded, widespread or in squall lines; or
6. Heavy duststorm or heavy sandstorm; or
7. Volcanic ash cloud; or
8. Pre-eruption volcanic activity or a volcanic eruption.

The following sections contain a compilation of hazardous atmospheric conditions and recommended practices and procedures for operating in and/or avoiding those conditions.

8.3.10.1.1 ATC in Flight Weather Avoidance Assistance

Revision: 19 - 14 MAR 21

1. To the extent possible, controllers will issue pertinent information on weather or chaff areas and assist Flight Crews in avoiding such areas when requested. Flight Crews should respond to a weather advisory by acknowledging it and, if considered necessary, requesting an alternative course of action as follows:
    - Request to deviate off course by stating the number of miles and the direction of the requested deviation. In this case, when the requested deviation is approved, the pilot is expected to provide his own navigation, maintain the altitude assigned by ATC and to remain within the specified mileage of his original course;
    - Request a new route to avoid the affected area;
    - Request a change of altitude;
    - Request radar vectors around the affected areas.

2. Flight Crew shall not deviate from the course or altitude or flight level without a proper ATC clearance. When weather conditions encountered are so severe that an immediate deviation is necessary and time will not permit approval by ATC, the PIC’s emergency authority may be exercised.

8.3.10.2 Thunderstorms

Revision: 19 - 14 MAR 21

Avoid severe thunderstorms even at the cost of diversion or an intermediate landing. A flight may be performed through areas of thunderstorms when no alternative course of action is possible.

8.3.10.2.1 Recommended Procedures for Flying Through Areas of Thunderstorm Activity

Revision: 19 - 14 MAR 21

Approaching the Thunderstorm Area

- Inform the ISM. Ensure that crew members' safety belts or harnesses are firmly fastened and secure any loose articles beforehand. Switch on the seat belt signs and make sure that all passengers are securely strapped in and that loose equipment (e.g. cabin trolleys and galley containers) are firmly secured. Pilots should remember that turbulence is normally worse in the rear of an aircraft than on the flight deck. If time and conditions permit, a PA to the passengers is reassuring;
- Set the OM Part B recommended speed for flight in turbulence;
- Operate the anti-icing and de-icing systems according to the OM Part B;
- Disregard ADF indications which may be subject to static interference;
- Set cockpit lighting to minimize the blinding effect of lightning;
- If severe turbulence is encountered, follow the procedures in the OM Part B;
- Avoid flying over the top of a thunderstorm whenever possible;
- Never fly beneath a cumulonimbus cloud.

Within the Storm Area

- Maintain control of the aircraft while attempting to maintain a constant pitch attitude appropriate to climb, cruise or descent. Avoid harsh or excessive control movements with reference to the attitude indicator/s. Do not be misled by conflicting indications on other instruments;
- Attempt to maintain the original heading;
- Do not correct for altitude gained or lost through up/down drafts unless absolutely necessary;
- Maintain the trim settings and avoid changing the thrust setting except when necessary to restore the margins from stall warning or high speed buffet. Do not reduce thrust to decrease speed - use the speedbrake as per the OM Part B;
- Do not climb in an attempt to get over the top of the storm.

Take-off and Landing

- Do not take-off towards a thunderstorm, unless the flight path can be deviated to avoid the storm;
- Do not perform an approach through a thunderstorm. Delay or divert if necessary.

8.3.10.3 Use of Weather Radar — Guidance for Pilots

Revision: 19 - 14 MAR 21

When available, the radar shall be on for take-off and landing if radar returns are required for the take-off and landing or in IMC or at night and when operating in areas of forecast, observed or reported cumuloform cloud activity. Guidance for weather avoidance criteria based on radar information are detailed in the following table.

Flight Altitude (1,000s of ft)	Shape	Echo Characteristics		Rate of Change
		Intensity	Gradient of Intensity[84]	
0 - 20	Avoid by 10 miles echoes with hooks fin-gers scalloped edges or other protrusions	Avoid by 10 miles echoes with sharp edges or strong in-tensities	Avoid by 10 miles echoes with strong gradients of intensity	Avoid by 10 miles echoes showing rapid change of shape height or intensity
Above 20	Avoid all echoes by 20 miles			

NOTE	If storm clouds have to be overflown, always maintain at least 5,000 ft vertical separation from cloud tops. It is difficult to estimate this separation but ATC or MET information on the altitude of the tops may be available for guidance.

NOTE	If the aeroplane is not equipped with radar or it is inoperative, avoid by 10 miles any storm that by visual inspection is tall, growing rapidly or has an anvil top.

NOTE	Intermittently monitor long ranges on radar to avoid getting into situations where no alternative remains but the penetration of hazardous areas.

NOTE	Avoid flying under a cumulonimbus overhang. If such flight cannot be avoided, tilt antenna full up occasionally to determine, if possible, whether precipitation (which may be hail) exists in or is falling from the overhang.

NOTE	Pilots are strongly advised to continue monitoring the weather radar in order to select the safest track for penetration under all circumstances.

NOTE	The local activity of thunderstorms can often be of relatively short nature, 20-30 minutes. Therefore, if a take-off or landing is planned during times of thunderstorm activity consideration of the development of the storm shall determine whether a delay might cause the worst effects to be avoided.

8.3.10.4 Icing Conditions In Flight

Revision: 19 - 14 MAR 21

No company aircraft shall be dispatched, take-off, continue on its planned route, or make an approach and landing when, in the opinion of the PIC or FOO, icing conditions are expected or encountered which might adversely affect the safety of the aircraft.

84 Applicable to sets with Iso-Echo or a colour display. Iso-Echo produces a hole in a strong echo when the returned signal is above a pre-set value. Where the return around the hole is narrow, there is a strong gradient of intensity.

8.3.10.4.1 Flight Procedures in Icing Conditions

Revision: 19 - 14 MAR 21

It is important to remember that the certification standards provide protection for a wide variety of atmospheric conditions encountered, avoid prolonged flight in freezing rain or freezing drizzle or in a mixture of supercooled droplets and snow or ice particles.

The following sections describe generally applicable flight procedures in icing conditions.

Flight in known severe icing conditions is not allowed. If such conditions are nevertheless encountered, alter the flight path/altitude as quickly as possible. Remember that stalling speeds with contaminated wings are higher than normal and that therefore a stall may be entered without warning.

Frequently check weather conditions for destinations and alternates as ceilings and visibilities can be very low. Particular care shall be taken when there are reports of freezing rain or drizzle. There is the possibility of longer holding times in these conditions when landing weather is at or below minima.

Make sure that the arrival briefing includes landing conditions, braking, cross wind limitations, use of reverse thrust, as well as Ground Handling/taxiing techniques, see also Chapter ***8.1.3 Methods for Establishing of Airport Operating Minima***.

Cat	In-Flight Icing Accumulation Rates
Trace	Ice becomes perceptible, but is of no consequence and does not affect the performance of the aircraft. It should be reported by pilots for meteorological purposes.
Light	The rate of accumulation may create a problem if extended flight in this condition occurs. It can be safely handled by the aircraft anti-/de-icing equipment. No restriction to operations provided the systems are used.
Moderate	The rate of accumulation is such that even short encounters become potentially hazardous. The aircraft anti-/de-icing equipment will safely handle it. However, for practical purposes, it should be a signal to the pilot to alter his flight path so as to avoid further exposure.
Severe	Adverse icing condition in which the rate of accumulation is such that the anti-/de-icing equipment fails to reduce or control the hazard. Pilots shall change the flight path immediately to establish more favourable conditions or land as soon as possible.

8.3.10.5 Fuel Freezing

Revision: 19 - 14 MAR 21

Extreme cold weather may cause fuel to freeze. Observe the aircraft specific limitations and recommended actions that appear in the OM Part B - FCOM and FCTM. If in doubt regarding the freezing point of the fuel carried, contact OCC who shall provide the PIC with the fuel freezing point of the last 3 consecutive refuellings, see also Chapter ***8.1.1 Flight Planning***.

8.3.10.6 Turbulence

Revision: 19 - 14 MAR 21

Turbulence is defined as a disturbed, irregular flow of air with embedded irregular whirls or eddies and waves. An aircraft in turbulent flow is subjected to irregular and random motions while, more or less, maintaining its intended flight path.

- **Light** = Slight discomfort;

- **Moderate** = Moderate changes in aircraft attitude and/or altitude accompanied by small variations in airspeed. Walking is difficult, loose objects move around;
- **Severe** = Abrupt changes in aircraft attitude and/or altitude. The aircraft may be out of control for short periods accompanied by large variations in airspeed. Occupants are forced violently against seat belts. Loose objects are tossed around.

If moderate or severe turbulence is forecast or encountered try and avoid flying along the edge of the jet stream by changing route or altitude.

8.3.10.6.1 PIREPs Relating to Turbulence

Revision: 19 - 14 MAR 21

When encountering turbulence, pilots are urgently requested to report such conditions to ATC as soon as practicable. The PIREPs should state:

- Aircraft location;
- Time of occurrence in UTC;
- Turbulence intensity;
- Whether the turbulence occurred in or near clouds;
- Aircraft altitude or flight level;
- Type of aircraft;
- Duration of turbulence.

8.3.10.7 Intertropical Convergence Zone (ITCZ)

Revision: 19 - 14 MAR 21

The ITCZ is characterised by powerful convective activity which often generates often vigorous thunderstorms over large areas.

The position of the ITCZ varies with the seasons. In July and August, over the Atlantic and Pacific, the ITCZ is between 5 and 15 degrees north of the Equator, but over the land masses of Africa and Asia it is located further north. In eastern Asia, the ITCZ may propagate up to 30 degrees north of the Equator. In January, over the Atlantic, the ITCZ is generally located no further south than the Equator, but it extends much further south over the land masses of South America, Southern Africa, and Australia.

Where the trade winds are weak, the ITCZ is characterised by isolated Cumulus (Cu) and Cumulonimbus (Cb) cells.

However, where the trade winds are stronger, the ITCZ can generate a solid line of active Cb cells embedded with other cloud types, developing as a result of instability at higher levels. Cb tops can reach and sometimes exceed an altitude of 55,000 feet, and the ITCZ can be as wide as 300 nautical miles in places, thus presenting a formidable obstacle to aircraft transit.

Aircraft flying through an active ITCZ (strong trade winds) will most probably encounter the hazards associated with thunderstorms and adverse convective weather. All thunderstorms have conditions that are a hazard to aviation. These hazards occur separately or in various combinations. While not every thunderstorm contains all hazards, it is not possible to visually determine which hazards a thunderstorm contains.

8.3.10.8 Windshear

Revision: 19 - 14 MAR 21

There is only limited time for windshear recognition and action, typically 5 to 15 seconds. Several factors can impede windshear recognition:

- Marginal weather conditions;
- High crew work load conditions;
- Illusion of normality: during the initial part of the windshear encounter, everything may appear normal. Even severe windshear onset may not provide dramatic early indications to the Flight Crew.

Standard response of the Flight Crew should be according to the windshear maneuver in the aircraft type QRH. Further information appears in the aircraft type FCTM.

The actions to be taken by the Flight Crews can be summed up as follows:

- Evaluation of the weather situation;
- Avoidance of known windshear;
- Consideration of precautions;
- Using standard operating techniques when crossing areas of windshear and for recovering.

8.3.10.8.1 Windshear PIREPs

Revision: 19 - 14 MAR 21

Pilots shall promptly volunteer reports to controllers of windshear conditions they encounter.

Advanced warning of such conditions will assist other Flight Crews in avoiding or coping with a windshear on approach or departure.

The recommended method for windshear reporting is to state the loss or gain of airspeed and the altitudes at which it was encountered.

8.3.10.9 Crosswind Operation

Revision: 19 - 14 MAR 21

Aircraft shall not take-off or land in crosswinds exceeding the limits laid down in the OM Part B - QRH - Ops Info.

8.3.10.10 Volcanic Ash Clouds

8.3.10.10.1 Description of Hazard

Revision: 19 - 14 MAR 21

Volcanic ash mostly consists of sharp-edged, hard glass particles and pulverized rock, which is very abrasive and, being largely composed of siliceous materials, has a melting temperature below the operating temperature of modern turbine engines at cruise thrust. A volcanic ash cloud may be accompanied by gaseous solutions of sulphur dioxide, chlorine and other chemicals which are corrosive to the airframe and hazardous to health. Given these facts, it is self evident, that volcanic ash in the atmosphere may pose a serious hazard to aeroplane in-flight. Thus, volcanic ash encounters by aeroplane should be avoided.

Volcanic ash may extend for several hundred miles, and eruptions may send ash plumes up to 40,000 ft.

8.3.10.10.2 Ash Encounter Indicators and Effects

Revision: 19 - 14 MAR 21

In day VMC a precursor to a volcanic ash encounter will likely be a visual indication of a volcanic ash cloud or haze. If a flight crew observes a cloud or haze suspect of containing volcanic ash they shall be alerted that a volcanic ash encounter is imminent and action shall be initiated to avoid the contaminated airspace.

Indicators that an aeroplane is encountering volcanic ash are related principally to odor, haze, changing engine conditions, airspeed, pressurization and static discharges.

- **Odor.** When encountering volcanic ash, flight crews usually notice a smoky or acrid odor that can smell like electrical smoke, burned dust or sulphur;
- **Haze.** Most flight crews, as well as cabin crew or passengers, see a haze develop within the aeroplane cockpit and/or cabin. Dust can settle on surfaces;
- **Changing engine conditions.** Surging, torching from the tailpipe, and flameouts can occur. Engine temperatures can change unexpectedly, and a white glow can appear at the engine inlet;
- **Airspeed.** If volcanic ash fouls the pitot tube, the indicated airspeed can decrease or fluctuate erratically;
- **Pressurization.** Cabin pressure can change, including possible loss of cabin pressurization;
- **Static discharges.** A phenomenon similar to St. Elmo's fire or glow can occur. In these instances, blue-coloured sparks can appear to flow up the outside of the windshield or a white glow can appear at the leading edges of the wings or at the front of the engine inlets;
- **Windscreen.** May become opaque caused by ash particles.

Any of these indicators shall suffice to alert the flight crew of an ash encounter and appropriate action shall be taken to vacate the contaminated airspace as safely and expeditiously as possible.

NOTE	Do not rely on weather radar to detect ash clouds or volcanic dust as they cannot be detected by weather radar.

8.3.10.10.3 Recommended Actions

Revision: 19 - 14 MAR 21

When encountering ash cloud follow the procedures in the QRH.

If the visibility through the windshield is impaired a runway with auto-land capability should be considered.

Flight crews are requested to make special air-reports when volcanic eruption is observed or when volcanic ash cloud is observed or encountered (see reporting form in Chapter ***11.6 Forms***).

8.3.10.10.4 Flights in or into Areas where a Risk of the Presence of Volcanic Ash Clouds does Exist – Risk Assessment

Revision: 23 - 29 AUG 24

The safety risk assessment for operation in areas possibly contaminated by volcanic ash is part of the Safety Management System.

Before initiating operations into airspace forecast to be or airports known to be contaminated with volcanic ash the risk assessment shall be reviewed.

As a guideline for every risk assessment the following policy should be considered:

1. Avoid operations in visible or discernible ash. Discernable ash is ash that can be sensed by human sight, smell or other senses;
2. Flight planning in high concentration is forbidden for all engine types (see Chapter ***8.3.10.10.5. Volcanic Ash Concentration Charts***);
3. For CFM engine – flight planning is allowed in low concentration.

   In order to flight plan in a medium concentration a VP Flight Operations authorization is required;
4. For Rolls-Royce Trent engine – flight planning is allowed in low concentration and up to one hour in medium concentration.

Any volcanic ash event will be assessed based on the above policy with the option to apply restrictions beyond the policy in items 1-4.

NOTE	The above guidelines are based on the following documents published by CFM and Rolls-Royce: 1. CFM56-All – Reminder: recommendations for operation in volcanic ash environment (15-04-7200-04); 2. All RB211 and Trent Engines – Volcanic Ash Limits Guidance Doc Ref: WW11365-1.

In addition to this the company will:

- Take into account data published by the relevant aircraft and engine type certificate holders regarding the susceptibility to volcanic cloud-related airworthiness effects of the aircraft they operate, the nature of these effects and the related pre-flight, in-flight and post-flight precautions to be observed by the company;
- Ensure that those of its personnel needing to be familiar with the details of the safety risk assessments receive all relevant information (both pre-flight and in-flight) in order to be in a position to apply appropriate mitigation measures as specified by the safety risk assessments, especially when the situation deviates from any scenario contemplated in the safety risk assessments;
- Ensure that reports are immediately submitted to the nearest ATS unit using the Volcanic Activity Report (VAR) procedures followed up by a more detailed VAR on landing together with, as applicable, an ASR and Tech Log entry for:
  1. Any incidents related to volcanic clouds;
  2. Any observation of volcanic ash activity; and
  3. Anytime that volcanic ash is not encountered in an area(s) where it was forecast to be.

When a flight is intended to fly through contaminated airspace or planned to an airport in contaminated airspace, then the process involves:

- Identifying the hazard (i.e. arising from the generic hazard of airspace or airports with known or forecast contamination by volcanic ash clouds with characteristics harmful to the airworthiness and operation of the aircraft);
- Considering the seriousness of the hazard occurring (i.e. the actual level of damage expected to be inflicted on the particular aircraft from exposure to that volcanic ash cloud);
- Evaluating the probability of encountering volcanic ash clouds with characteristics harmful to the safe operation of the aircraft;
- Determining whether the consequent risk is acceptable and within the organization's risk performance criteria;
- Taking action to reduce the safety risk to a level that is acceptable to the Director of Flight Operations.

Details of the hazard identification, risk severity and probability as well as the Levels of tolerability are described in the Safety Management System (SMS) manual.

8.3.10.10.5 Information Promulgation

Revision: 19 - 14 MAR 21

Information on volcanic activities, including pre-eruption activity, volcanic eruption and volcanic ash clouds is transmitted to aircraft operating on routes that could be affected (ASHTAM, VAA).

This information may also be published by NOTAMS and SIGMETS up to a 12 hours validity period and, if necessary, recommendations on re-routings will be included.

8.3.10.10.5.1 Volcanic Ash Concentration Charts

Revision: 20.2 - 14 DEC 22

Areas of ash contamination will be displayed on the Volcanic Ash concentration Chart available from the appropriate Met Office. For operations in European airspace, EASA recommends the use of ash concentration charts provided by the London VAAC and Toulouse VAAC.

In accordance with ICAO, Volcanic Ash Concentration Charts will be available for the following heights:

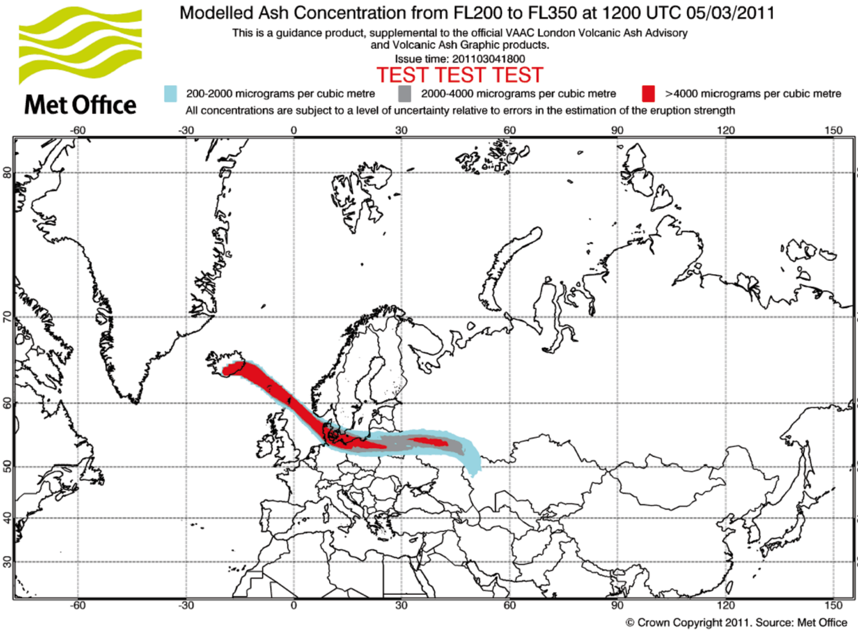
- FL000 to FL200;
- FL200 to FL350;
- FL350 to FL550.

To identify areas of contamination, the following colour scheme is used:

Zone designator according to ICAO Doc 19 (EUR/NAT)	Predicted Maximum Contamination	Colour Code acc. to VAAC
Area of Low Contamination Airspace slightly contaminated with volcanic ash.	0.2 mg/cm^3 or more but less than 2 mg/m^3	CYAN
Area of Medium Contamination Airspace moderately contaminated with volcanic ash	2 mg/cm^3 or more but less than 4 mg/m^3	GREY
Area of High Contamination	4 mg/m^3 or more	RED

Zone designator according to ICAO Doc 19 (EUR/NAT)	Predicted Maximum Contamination	Colour Code acc. to VAAC
Airspace highly contaminated with volcanic ash		

A sample Volcanic Ash Concentration Chart issued by the UK Met Office can be found below.



The Civil Aviation Authority will issue NOTAMs and ASHTAMs specifying airspace predicted to contain medium and high contaminations of volcanic ash. Areas of high contamination will be promulgated as Volcanic Ash TDAs. This term should not be confused with the Initial Danger Zone, which is established with a 120 NM radius in the vicinity of the volcanic eruption.

The boundaries of the Temporary Danger Areas will be communicated via NOTAMs/ASHTAMs.

Volcanic Ash Concentration Charts/SIGMETs/NOTAMs/ASHTAMs issued by the Authority should be used to determine areas of medium and high contamination and the associated TDAs.

1. Smoothing of the contamination area for ease of interpretation in the NOTAM/ASHTAM;
2. Observational evidence received since the forecast has been issued and prior to any revised or updated forecast being issued, this may include:
   - Old ash has dispersed more quickly than expected in the models;
   - Small areas of high contamination, which may be considered unrealistic; and
   - Detached areas of ash from a main plume that are incorrectly modeled.

It should also be noted that on occasions it may be necessary to amend the NOTAM/ASHTAM that is in force when updated information is received.

8.3.10.10.5.2 Volcanic Alert Level System

Revision: 19 - 14 MAR 21

To help aircraft avoid ash clouds, a universal volcanic alert level system for aviation has been developed using four colour codes.

The colour codes reflect conditions at or near a volcano and are not intended to pertain to hazards posed downwind by the drifting ash - all discernible ash clouds are assumed to be highly hazardous and should be avoided.

Not all observatories currently provide information in this format, but where they do, the aviation colour code is currently defined as below.

Aviation Colour Codes Recommended by the International Civil Aviation Organization	
GREEN	Volcano is in normal, non-eruptive state. *... or, after a change from a higher level:* Volcanic activity considered to have ceased, and volcano reverted to its normal, non-eruptive state.
YELLOW	Volcano is experiencing signs of elevated unrest above known background levels. *... or, after a change from higher level:* Volcanic activity has decreased significantly but continues to be closely monitored for possible renewed increase.
ORANGE	Volcano is exhibiting heightened unrest with increased likelihood of eruption. *... or,* Volcanic eruption is underway with no or minor ash emission. *[specify ash-plume height if possible]*
RED	Eruption is forecast to be imminent with significant emission of ash into the atmosphere likely. *... or,* Eruption is underway with significant emission of ash into the atmosphere. *[specify ash-plume height if possible]*

8.3.10.10.6 Advice to the Flight Crew

Revision: 19 - 14 MAR 21

Pilots can expect ATS providers to inform them of the presence of a Volcanic Ash TDA before the aeroplane enters such an area and to ask them about their intentions. The following phraseology should be expected:

"YOU ARE ABOUT TO ENTER A NOTIFIED VOLCANIC ASH TEMPORARY DANGER AREA IN YOUR . . . . . O'CLOCK POSITION UP TO FL . . . . . STATE YOUR INTENTIONS."

8.3.10.10.7 Report of Volcanic Ash Activity During Flight

Revision: 19 - 14 MAR 21

If volcanic ash activity is identified during a flight, the following information shall be transmitted to the nearest ATS unit:

1. Call sign;
2. Position;

3. Time;
4. Flight level;
5. Position, bearing, distance to the volcanic activity;
6. Level of contamination expected;
7. Vertical and lateral extent of the ash cloud, rate of growth etc.;
8. Air temperature;
9. Wind.

The report shall be transmitted as soon as the PIC deems that it is safe to do so.

8.3.10.10.8 Records

Revision: 19 - 14 MAR 21

Whenever a safety risk assessment in regards to volcanic activity or in regards to flying into volcanic ash clouds was carried out, this shall be documented and submitted to the CAAI. Mitigating actions should be completed, verified and supported prior to the start of operations.

Any assumption should be clearly stated, and the safety risk assessment reviewed at regular intervals, to ensure that the assumptions and decisions remain valid.

Any safety performance monitoring requirements should also be identified and undertaken through the organization's safety risk management processes.

8.3.10.11 Heavy Precipitation

Revision: 19 - 14 MAR 21

Heavy precipitation may occur as rain showers, snow showers and hail. The greatest hazards to flight are the reduced visibility, which is often significantly worse than the reported visibility, and the risk of icing in combination with low temperature.

On the ground contaminated runways may influence the performance, crosswind limitations and give a risk of aquaplaning. The special procedures of the OM Part B of the respective aircraft must be followed.

During heavy rain, be aware that reported braking action may deteriorate quickly as water accumulates on the runway. Performance calculations should therefore be based on braking action that is worse than reported.

Partial loss of orientation may occur after changeover from instruments to visual flying during the approach, especially in snow showers and blowing snow.

In falling or blowing snow, landing lights should be used with caution as the reflected light may actually reduce the effective visibility and even cause false impression of drift during flare and roll-out.

8.3.10.12 Sand Storms

Revision: 19 - 14 MAR 21

Sand may be ingested into engines or penetrate bearings and hinge points, and accumulations may occur on shock struts and actuator sliding parts. As severe damage can be caused by the abrasive and congestive characteristics of sand and dust, it is important to avoid sand storms whenever possible.

Sanded aprons, runways and certain landing sites can inflict ingestion damage on turbine engines, and every caution should be executed to prevent such and other damage typically caused by sand or dust.

8.3.10.13 Mountain Waves

Revision: 19 - 14 MAR 21

Mountain waves and downslope wind shear are caused by a significant airflow crossing a mountain range together with special atmospheric conditions. The strong vertical and horizontal wind shears, so-called rotor turbulences, represent a danger at low heights as well as the strong downslope wind at the lee side of the mountains.

Frequently, a second rotor will form up to 100 NM from the lee side of the mountain, producing original wave action. Flight crews shall be aware of the potential hazard at airports within the flow regime of the wave.

Depending on moisture content of the air, lenticular (lens-shaped) clouds may be present:

1. When approaching a mountain range from the upwind side, there will usually be a smooth updraft. Therefore, it is not quite as dangerous an area as the lee of the range. From the leeward side, it is always a good idea to add an extra thousand feet or so of altitude because downdrafts can exceed the climb capability of the aeroplane. Never expect an updraft when approaching a mountain chain from the leeward. Flight crews shall always be prepared to cope with a downdraft and turbulence;
2. If severe turbulence is encountered, simultaneously reduce power and adjust pitch until aeroplane approaches manoeuvring speed, then adjust power and trim to maintain manoeuvring speed and fly away from the turbulent area.

8.3.10.14 Significant Temperature Inversions

Revision: 19 - 14 MAR 21

Strong inversions in pre-cold-front situations may be associated with strong low altitude jet winds immediately above the ground. The main negative performance factor is caused by the decrease in engine power resulting from the temperature rise.

Flight Crews must be aware of sea breeze windshear especially on flights to islands in summer time where the runways are often close to the shore. Generally airfields near the coast will be more affected than those inland.

8.3.10.15 Directional Control / Braking Assessment Criteria

Revision: 22 - 20 FEB 24

When a pilot is asked to report braking action or directional control, the following guidelines should be used.

Control / Braking Assessment Criteria

Deceleration or Directional Control Observation	Pilot Reported Braking Action
Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
Braking deceleration OR directional control is between Good and Medium.	Good to Medium
Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium

Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	NIL

NOTE When the runway braking action encountered is less then reported the PIC shall advise ATC.

8.3.11 Wake Turbulence

8.3.11.1 General

Revision: 19 - 14 MAR 21

Wake turbulence is generated by a pressure exchange between the lower and upper surface of the wing. This pressure exchange causes counter rotating vortices trailing from the outer wing tips. The heavier the aeroplane, the larger those vortices will be. The wake of a heavy aeroplane may generate large control inputs on an aeroplane flying in the area behind it. They are most hazardous to aeroplane with a small wingspan during take-off, initial climb, final approach and landing phases of flight. Required control inputs may exceed the roll control capability of the following aeroplane. The pilot must be aware of the location of the vortex flow generated by a preceding aeroplane and adjust his flight path accordingly.

Tests with large/heavy aeroplanes have shown that the vortex flow field — in a plane cutting through the wake at any point downstream — covers **an area about twice the wing span in width and one wing span in depth.** The vortices from the two tips remain spaced and will drift with the wind.

Vortex generation on take-off will begin at rotation, with the creation of lift being initialised, and ends with the touchdown on landing.

The vortices will sink with a rate of descent of 400–500 fpm. There is a tendency that the vortices will “level off” about 800–1,000 ft below the flight path of the vortex-generating aeroplane. Vortex strength diminishes with time and distance behind the aeroplane.

In calm wind conditions, the remaining vortices from a landing aeroplane may persist without noticeable weakening or dissipation for up to 5 minutes.

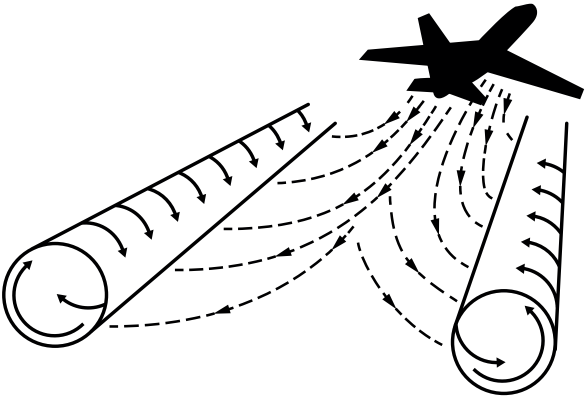


Illustration : General View of Aeroplane Trailing Vortex System

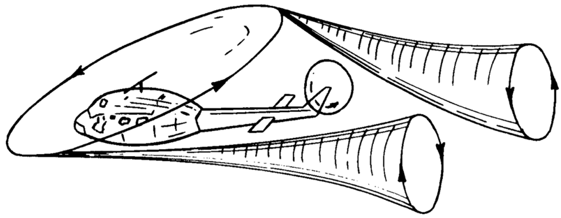


Illustration : Vortices Helicopter

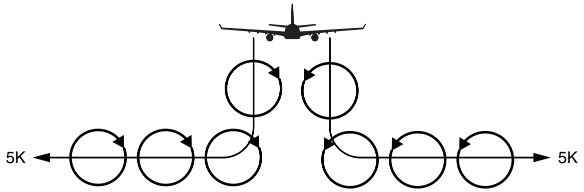


Illustration : Vortex Movement near the Ground in Still Air, Viewed from behind the Generating Aeroplane

The maximum tangential airspeed in the vortex system, which may be as much as 300 ft/sec immediately behind a large aeroplane, decays slowly with time. After the passage of the aeroplane the tangential airspeed eventually drops sharply as the vortex system disintegrates.

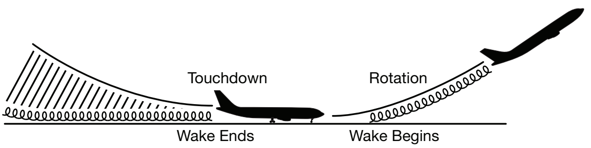


Illustration : Vortex Generation in the Landing and Take-off Phases of Flight

Vortex strength increases with the mass of the generating aeroplane. With the aeroplane in a given configuration, the vortex strength decreases with the increasing aeroplane speed; and for a given mass and speed the vortex strength is greatest when the aeroplane is in a clean configuration.

There is some evidence that for a given mass and speed a helicopter produces a stronger vortex than a fixed-wing aeroplane.

In a stable airflow, the wake vortex system will drift with the wind. The figure below shows the possible effect of a crosswind on the motion of a vortex pair close to the ground.

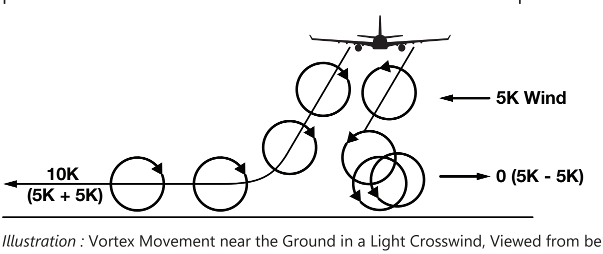


Illustration : Vortex Movement near the Ground in a Light Crosswind, Viewed from behind the Generating Aeroplane

Wind shear causes the two vortices to descend at different rates and, close to the ground, may cause one of the vortices to rise.

Atmospheric turbulence and high winds close to the ground hasten the decay and disintegration of vortices. Special attention needs to be given to situations of light wind, when vortices may stay in the approach and touchdown areas of aerodromes or sink into the landing or take-off paths of succeeding aeroplane.

To create safe separation margins between aeroplanes landing/departing the same runways, international authorities have established minimum separation criteria taking into account the relation between aeroplane mass and the strength of wake turbulences being generated.

8.3.11.2 Wake Turbulance Categories and Groups of Aircraft

Revision: 19 - 14 MAR 21

Except as provided in wake turbulence groups below, wake turbulence separation minima shall be based on a grouping of aircraft types into four categories according to the maximum certificated take-off mass as follows:

1. **SUPER (J)** – aircraft types specified as such in ICAO Doc 8643, “Aircraft Type Designators” E.g. A380-800 and Antonov 225.
2. **HEAVY (H)** – aircraft types of 136,000 kg or more, with the exception of aircraft types listed in the SUPER (J) category;
3. **MEDIUM (M)** – aircraft types less than 136,000 kg but more than 7,000 kg; and
4. **LIGHT (L)** – aircraft types of 7,000 kg or less.

NOTE	The wake turbulence category for each aircraft type is contained in Doc 8643, Aircraft Type Designators.

When approved by the appropriate ATS authority, wake turbulence separation minima may be applied utilizing wake turbulence groups and shall be based on wake generation and resistance characteristics of the aircraft.

These depend primarily on maximum certificated take-off mass, wing characteristics and speeds.

The group designators are described as follows:

1. **GROUP A** – aircraft types of 136,000 kg or more, and a wing span less than or equal to 80 m but greater than 74,68 m;
2. **GROUP B** – aircraft types of 136,000 kg or more, and a wing span less than or equal to 74,68 m but greater than 53,34 m;
3. **GROUP C** – aircraft types of 136,000 kg or more, and a wing span less than or equal to 53,34 m but greater than 38,1 m;
4. **GROUP D** – aircraft types less than 136,000 kg but more than 18,600 kg, and a wing span greater than 32 m;
5. **GROUP E** – aircraft types less than 136,000 kg but more than 18,600 kg, and a wing span less than or equal to 32 m but greater than 27,43 m;
6. **GROUP F** – aircraft types less than 136,000 kg but more than 18,600 kg, and a wing span less than or equal to 27,43 m;
7. **GROUP G** – aircraft types of 18,600 kg or less (without wing span criterion).

For aircraft in the SUPER or HEAVY wake turbulence categories, the word “super” or “heavy” shall be included, as appropriate, immediately after the aircraft call sign in the initial radiotelephony contact between such aircraft and ATS units.

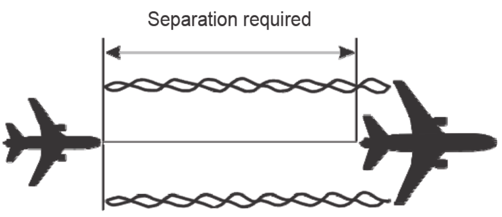
NOTE	Wake turbulence Group A is equivalent to the SUPER wake turbulence category, and Groups B and C are equivalent to the HEAVY category.

8.3.11.3 Distance-based Separation Minima Based on ATS Surveillance

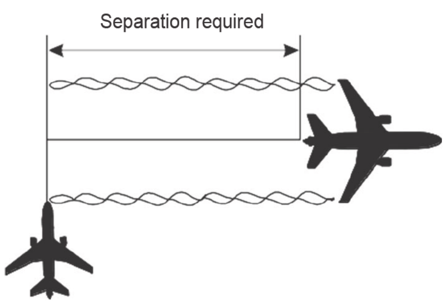
Revision: 19 - 14 MAR 21

When using wake turbulence categories or groups, the following distance-based wake turbulence separation minima shall be applied to aircraft being provided with an ATS surveillance service in the approach and departure phases of flight in the following circumstances:

1. An aircraft is operating directly behind another aircraft at the same altitude or less than 300 m (1,000 ft) below; or



2. Both aircraft are using the same runway, or parallel runways separated by less than 760 m (2,500 ft); or
3. An aircraft is crossing behind another aircraft, at the same altitude or less than 300 m (1,000 ft) below.



Distance-based Separation by Wake Turbulence Categories

Aircraft Category		Distance-based Wake Turbulence Separation Minima
Preceding Aircraft	Succeeding Aircraft	
SUPER	HEAVY	5 NM (9,3 km)
	MEDIUM	7 NM (13,0 km)
	LIGHT	8 NM (14,9 km)
HEAVY	HEAVY	4 NM (7,4 km)

Aircraft Category		Distance-based Wake Turbulence Separation Minima
Preceding Aircraft	**Succeeding Aircraft**	
	MEDIUM	5 NM (9,3 km)
	LIGHT	6 NM (1,1 km)
MEDIUM	LIGHT	5 NM (9,3 km)

Distance-based Separation by Wake Turbulence Groups

Preceding Aircraft Group	Succeeding Aircraft Group	Distance-based Wake Turbulence Separation Minima
A	B	4 NM (7,4 km)
	C	5 NM (9,3 km)
	D	5 NM (9,3 km)
	E	6 NM (11,1 km)
	F	6 NM (11,1 km)
	G	8 NM (14,9 km)
B	B	3 NM (5,6 km)
	C	4 NM (7,4 km)
	D	4 NM (7,4 km)
	E	5 NM (9,3 km)
	F	5 NM (9,3 km)
	G	7 NM (13,3 km)
C	D	3 NM (5,6 km)
	E	3.5 NM (6,5 km)
	F	3.5 NM (6,5 km)
	G	6 NM (11,1 km)
D	G	4 NM (7,4 km)
E	G	4 NM (7,4 km)

8.3.11.4 Time-based Wake Turbulence Longitudinal Separation Minima

8.3.11.4.1 Applicability

Revision: 19 - 14 MAR 21

The ATC unit concerned shall not be required to apply wake turbulence separation:

1. For arriving VFR flights landing on the same runway as a preceding landing SUPER, HEAVY or MEDIUM aircraft; and
2. Between arriving IFR flights executing visual approach when the aircraft has reported the preceding aircraft in sight and has been instructed to follow and maintain own separation from that aircraft.

The ATC unit shall, in respect of the flights specified above, as well as when otherwise deemed necessary, issue a caution of possible wake turbulence. The Pilot-in-Command of the aircraft concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their requirements.

8.3.11.4.2 Arriving Aircraft

Revision: 19 - 14 MAR 21

The following minima shall be applied to aircraft landing behind a SUPER, a HEAVY or a MEDIUM aircraft:

1. HEAVY aircraft landing behind SUPER aircraft – 2 minutes;
2. MEDIUM aircraft landing behind SUPER aircraft – 3 minutes;
3. MEDIUM aircraft landing behind HEAVY aircraft – 2 minutes;
4. LIGHT aircraft landing behind SUPER aircraft – 4 minutes;
5. LIGHT aircraft landing behind a HEAVY or MEDIUM aircraft – 3 minutes.

8.3.11.4.3 Departing Aircraft

Revision: 19 - 14 MAR 21

When aircraft are using:

1. The same runway;
2. Parallel runways separated by less than 760 m (2,500 ft);
3. Crossing runways if the projected flight path of the second aircraft will cross the projected flight path of the first aircraft at the same altitude or less than 300 m (1,000 ft) below;
4. Parallel runways separated by 760 m (2,500 ft) or more, if the projected flight path of the second aircraft will cross the projected flight path of the first aircraft at the same altitude or less than 300 m (1,000 ft) below.

The following minimum separations shall be applied when **wake turbulence categories** are used:

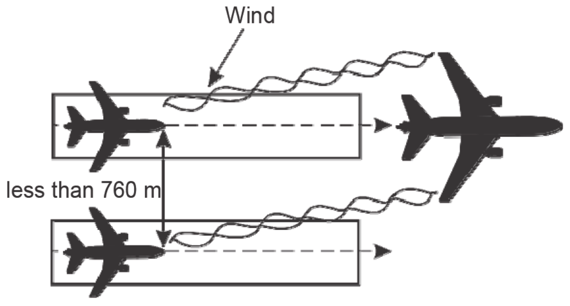
1. HEAVY aircraft taking off behind a SUPER aircraft – 2 minutes;
2. LIGHT or MEDIUM aircraft taking off behind a SUPER aircraft – 3 minutes;
3. LIGHT or MEDIUM aircraft taking off behind a HEAVY aircraft – 2 minutes;
4. LIGHT aircraft taking off behind a MEDIUM aircraft – 2 minutes.

When using **wake turbulence groups**, the following separation minima shall be used:

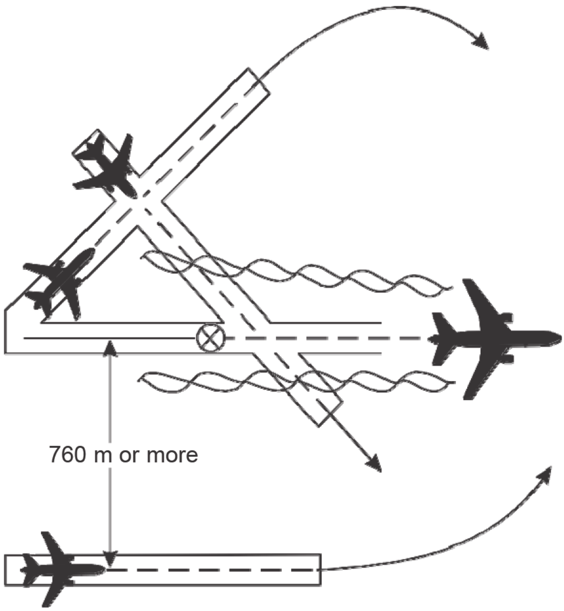
Preceding Aircraft Wake Turbulence Group	Succeeding Aircraft Wake Turbulence Group	Time-based Wake Turbulence Separation Minima
A	B	100 seconds
	C	120 seconds
	D	140 seconds
	E	160 seconds
	F	160 seconds

Preceding Aircraft Wake Turbulence Group	Succeeding Aircraft Wake Turbulence Group	Time-based Wake Turbulence Separation Minima
	G	180 seconds
B	D E F G	100 seconds 120 seconds 120 seconds 140 seconds
C	D E F G	80 seconds 100 seconds 100 seconds 120 seconds
D	G	120 seconds
E	G	100 seconds

Wake Turbulence Separation for Following Aircraft:



Wake Turbulence Separation for Crossing Aircraft



8.3.11.4.4 Departing Aircraft - Take-off from Intermediate Part of the Runway

Revision: 19 - 14 MAR 21

For aircraft taking off from an intermediate part of the same runway or an intermediate part of a parallel runway separated by less than 760 m (2,500 ft), the following minimum separations shall be applied.

When **wake turbulence categories** are used:

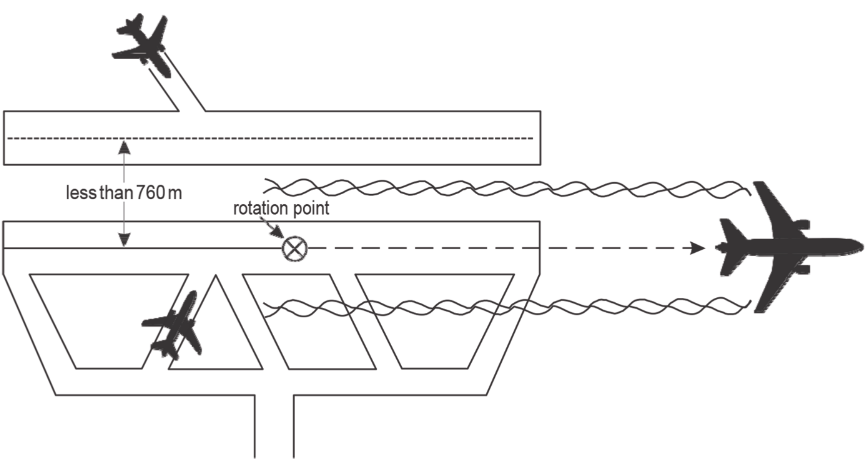
1. HEAVY aircraft taking off behind a SUPER aircraft – 3 minutes;
2. LIGHT or MEDIUM aircraft taking off behind a SUPER aircraft – 4 minutes;
3. LIGHT or MEDIUM aircraft taking off behind a HEAVY aircraft – 3 minutes;
4. LIGHT aircraft taking off behind a MEDIUM aircraft – 3 minutes.

When **wake turbulence groups** are used:

Preceding Aircraft Wake Turbulence Group	Succeeding Aircraft Wake Turbulence Group	Time-based Wake Turbulence Separation Minima
A	B	160 seconds
	C	180 seconds
	D	200 seconds
	E	220 seconds

Preceding Aircraft Wake Turbulence Group	Succeeding Aircraft Wake Turbulence Group	Time-based Wake Turbulence Separation Minima
	F	220 seconds
	G	240 seconds
B	D	160 seconds
	E	180 seconds
	F	180 seconds
	G	200 seconds
C	D	140 seconds
	E	160 seconds
	F	160 seconds
	G	180 seconds
D	G	180 seconds
E	G	160 seconds

Wake Turbulence Separation for Following Aircraft



8.3.11.4.5 Displaced Landing Threshold

Revision: 19 - 14 MAR 21

When operating a displaced landing threshold, the following minimum separations shall be applied if the projected flight paths are expected to cross.

When **wake turbulence categories** are used:

1. A departing HEAVY aircraft following a SUPER aircraft arrival – 2 minutes;
2. A departing LIGHT or MEDIUM aircraft following a SUPER aircraft arrival – 3 minutes;

3. A departing LIGHT or MEDIUM aircraft following a HEAVY aircraft arrival – 2 minutes;
4. A departing LIGHT aircraft following a MEDIUM aircraft arrival – 2 minutes;
5. A HEAVY aircraft arrival following a SUPER aircraft departure – 2 minutes;
6. A LIGHT or MEDIUM aircraft arrival following a SUPER aircraft departure – 3 minutes;
7. A LIGHT or MEDIUM aircraft arrival following a HEAVY aircraft departure – 2 minutes;
8. A LIGHT aircraft arrival following a MEDIUM aircraft departure – 2 minutes.

When **wake turbulence groups** are used, the following separation minima shall be applied for:

1. A departing aircraft following an arriving aircraft; or
2. An arriving aircraft following a departing aircraft.

Preceding Arriving/Departing Aircraft Group	Succeeding Departing/Arriving Aircraft Group	Time-based Wake Turbulence Separation Minima
A	B	100 seconds
	C	120 seconds
	D	140 seconds
	E	160 seconds
	F	160 seconds
	G	180 seconds
B	D	100 seconds
	E	120 seconds
	F	120 seconds
	G	140 seconds
C	D	80 seconds
	E	100 seconds
	F	100 seconds
	G	120 seconds
D	G	120 seconds
E	G	100 seconds

8.3.11.4.6 Opposite Direction

Revision: 19 - 14 MAR 21

For a heavier aircraft making a low or missed approach and when the lighter aircraft is:

1. Using an opposite-direction runway for take-off; or
2. Landing on the same runway in the opposite direction, or on a parallel opposite-direction runway separated by less than 760 m (2,500 ft).

The following minimum separations shall be used when using wake turbulence categories:

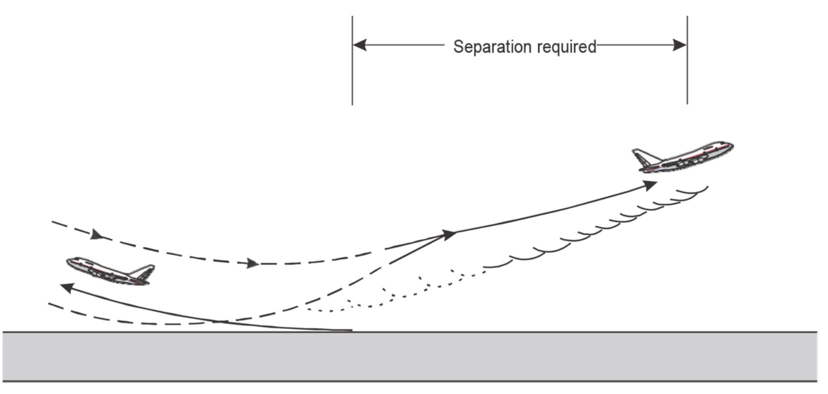
1. Between a HEAVY aircraft and a SUPER aircraft – 3 minutes;
2. Between a LIGHT or MEDIUM aircraft and a SUPER aircraft – 4 minutes;

3. Between a LIGHT or MEDIUM aircraft and a HEAVY aircraft – 3 minutes;
4. Between a LIGHT aircraft and a MEDIUM aircraft – 3 minutes.

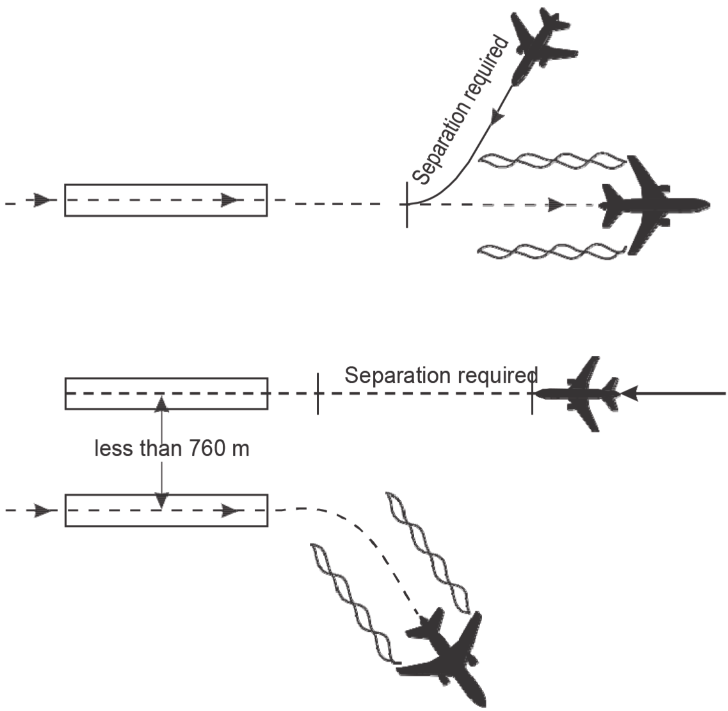
When using **wake turbulence groups,** the following separation minima shall be used:

Preceding Aircraft Group	Succeeding Aircraft Group	Time-based Wake Turbulence Separation Minima
A	B	160 seconds
	C	180 seconds
	D	200 seconds
	E	220 seconds
	F	220 seconds
	G	240 seconds
B	D	160 seconds
	E	180 seconds
	F	180 seconds
	G	200 seconds
C	D	140 seconds
	E	160 seconds
	F	160 seconds
	G	180 seconds
D	G	180 seconds
E	G	160 seconds

Wake Turbulence Separation for Opposite-direction Take-off



Wake Turbulence Separation for Opposite-direction Landing



8.3.11.5 RECAT-EU Wake Turbulence Separation

Revision: 19 - 14 MAR 21

RECAT-EU is a new categorisation of aircraft published by Eurocontrol, whose aim is to safely increase arrival and/or departure capacity at airports by redefining wake turbulence categories and their associated separation minimum.

Today's ICAO separations are based on certificated Maximum Take Off Mass (MTOM) and it includes three categories (i.e. HEAVY, MEDIUM or LIGHT) allocating all aircraft into one of them.

Because the separations are defined based on the worst case in each category, this leads to over separation in many instances.

This means that each category may cover a wide range of different sized aircraft, what leads to over-conservative separations in many cases, and so a loss of runway throughput.

Below are examples of categorization for common aircraft.

At airports where RECAT-EU is implemented, the separation minima prescribed shall be applied instead of the standard wake turbulence separation minima defined in the preceding chapters.

Aircraft New Categories Examples

Super Heavy	Upper Heavy	Lower Heavy	Upper Medium	Lower Medium	Light
CAT A	**CAT B**	**CAT C**	**CAT D**	**CAT E**	**CAT F**
				AT43	
				AT45	
				AT72	
			A318	B712	
		A306	A319	B732	FA10
	A332	A30B	A320	B733	FA20
	A333	A310	A321	B734	D328
	A343	A703	AN12	B735	E120
	A345	B752	B736	CL60	BE40
	A346	B753	B737	CRJ1	BE45
	A359	B762	**B738**	CRJ2	H25B
A388	B744	B763	**B739**	CRJ7	JS32
A124	B748	B764	C130	CRJ9	JS41
	B772	B783	IL18	DH8D	LJ35
	B773	C135	MD81	E135	LJ60
	B77L	DC10	MD82	E145	SF34
	B77W	DC85	MD83	E170	P180
	B788	IL76	MD87	E175	C650
	B789	MD11	MD88	E190	C525
	IL96	TU22	MD90	E195	C180
		TU95	T204	F70	C152
			TU16	F100	
				GLF4	
				RJ85	
				RJ1H	

RECAT-EU Distance-based Separation Minima on Approach and Departure

RECAT-EU		**Super Heavy**	**Upper Heavy**	**Lower Heavy**	**Upper Medium**	**Lower Medium**	**Light**
Leader / Follower		**A**	**B**	**C**	**D**	**E**	**F**
Super Heavy	**A**	3 NM	4 NM	5 NM	5 NM	6 NM	8 NM
Upper Heavy	**B**		3 NM	4 NM	4 NM	5 NM	7 NM
Lower Heavy	**C**		X[85]	3 NM	3 NM	4 NM	6 NM
Upper Medium	**D**						5 NM
Lower Medium	**E**						4 NM
Light	**F**						3 NM

85 X = Means minimum radar separation (MRS), set at 2,5 NM, is applicable as per current ICAO doc 4444 provisions.

RECAT-EU Time-based Separation Minima on Departure

RECAT-EU		Super Heavy	Upper Heavy	Lower Heavy	Upper Medium	Lower Medium	Light
Leader / Follower		**A**	**B**	**C**	**D**	**E**	**F**
Super Heavy	**A**		100 s	120 s	140 s	160 s	180 s
Upper Heavy	**B**				100 s	120 s	140 s
Lower Heavy	**C**				80 s	100 s	120 s
Upper Medium	**D**						120 s
Lower Medium	**E**						100 s
Light	**F**						80 s

NOTE	It remains optional to locally deploy part of the RECAT-EU scheme, or apply larger separation minima than proposed ones, or opt for a progressive application.

8.3.12 Crew Members at their Stations

Revision: 19 - 14 MAR 21

During take-off and landing each Flight Crew Member required to be on the flight deck duty shall be at his station, according to Chapter *4.1.2 Flight Crew Stations and Relief of Flight Crew in Flight*.

During all other phases of flight each Flight Crew Member required to be on flight deck duty shall remain at his station unless his absence is necessary for the performance of his duties in connection with the operation, or for physiological needs provided at least one flight crew member remains at the controls of the aircraft at all times.

8.3.12.1 Controlled Rest on the Flight Deck

(*) Revision: 23.1 - 15 MAR 25

Controlled rest on the flight deck is an effective fatigue mitigation for flight crew. It shall not be used as a scheduling tool. It is not a substitute for proper pre-flight sleep or for normal crew augmentation, but is intended as a response to fatigue experienced during operations.

During all phases of flight, each Flight Crew Member required to be on flight deck duty shall remain alert. If unexpected fatigue is experienced, or to reduce the risk of fatigue during higher workload periods later in the flight, a controlled rest procedure, organized by the PIC, may be used:

- A short period of time should be allowed for rest preparation. This should include an operational briefing, completion of tasks in progress, and attention to any physiological needs of either crew member;
- It should be clearly established who will take rest and when it will be taken. If the PIC/Captain requires, the rest may be terminated at any time. The PIC/Captain should define criteria for when his rest should be interrupted;
- One pilot only may take controlled rest at a time in his seat. The harness should be used and the seat positioned to minimize unintentional interference with the controls;
- The autopilot and auto throttle systems shall be operational;
- The non-resting pilot shall perform the duties of the pilot flying and the pilot monitoring, shall be able to exercise control of the aircraft at all times, and shall maintain situational awareness;

- The controlled rest period should be no longer than 40 minutes;
- Controlled rest may be used only during the cruise period from the top of climb to 20 minutes before the planned top of descent. It should not be used when extra crew vigilance is required, such as:
  - Non-normal situations;
  - Areas of high terrain;
  - High workload situations.
- Cabin Crew shall be advised of the rest procedure. Unless a Flight Crew Member from the flight deck contacts the Cabin, one Cabin Crew Member is to contact the flight deck every 20 minutes, either by a visit to the flight deck or via interphone;
- The non-resting pilot shall not leave his seat for any reason, including physiological breaks;
- Aids such as eye shades, neck supports, ear plugs, etc., are permitted for the resting pilot.

Flight crew members should report via EFOS/EFF when the procedure has been used. This is in order to enable monitoring the use of controlled rest on the flight deck to evaluate whether existing fatigue mitigation strategies are adequate.

8.3.12.2 Sterile Flight Deck

Revision: 19 - 14 MAR 21

No flight crew member shall perform, any duties during a critical phase of flight except those duties required for the safe operation of the aircraft (see definition of ***Critical Phases of Flight***).

No flight crew member may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crew member from the performance of his duties or which could interfere in any way with the proper conduct of those duties. Duties such as company required calls made for non-safety related purposes, announcements made to passengers pointing out sights of interest, engaging in non-essential conversations within the cockpit and filling out company related records not required for the safe operation of the aircraft are forbidden.

All crew members are trained on sterile flight deck procedures as appropriate to their duties. Cabin crew shall not contact the flight deck for any matter (including safety critical information) from the beginning of the take off run until 2 minutes after take-off.

8.3.13 Use of Safety Belts for Crew and Passengers

8.3.13.1 Crew Members and Occupants of the Flight Deck

Revision: 19 - 14 MAR 21

During all phases of flight, each flight crew member on the flight deck shall keep his safety belt fastened while at his station.

During take-off and landing the PIC shall verify that each flight crew member is properly secured by all safety belts and harnesses. A flight crew member not at the controls, may release the harnesses if these interfere with his duty on the flight deck.

During take-off and landing, and whenever deemed necessary and directed verbally by the PIC in the interest of safety, each cabin crew member shall be properly secured by all safety belts and harnesses provided. If the PIC considers it necessary for Cabin Crew to return to their seats and secure their seat belts quickly he should consider using the PA to relay this information.

All provisions above apply to any other occupant of the flight deck not being a flight crew member.

8.3.13.2 Passengers

Revision: 19 - 14 MAR 21

The PIC shall have the passengers instructed/briefed, see Chapter ***8.3.18 Passenger Briefing Procedures*** that each passenger on board

- During taxiing;
- Before and during take-off or landing;
- Whenever the seat belt sign is on;

shall occupy a seat with his safety belt, restraining belt or, where provided, harness properly secured.

NOTE	It shall be recommended to passengers to keep, when occupying their seats, their safety/restraining belts/harnesses secured during the entire flight.

Handling Staff, Cabin Crew and the PIC shall ensure that multiple occupancy of aircraft seats may only be allowed on specified seats and does not occur other than by one adult and one infant who is held by a seated adult, see also Chapter ***8.2.3.3 Allocation of Seats for Adults, Children and Infants***.

8.3.13.3 “Fasten Seat Belt” Signs

Revision: 19 - 14 MAR 21

The “Fasten Seat Belt” sign shall be on as follows:

- After fueling is completed or the preflight procedure has been completed, the later of the two;
- At all times on the ground with the engines running;
- During Take-Off and Landing;
- In-Flight below 10,000 ft;
- When moderate or severe turbulence is experienced or anticipated;
- Whenever deemed necessary by the PIC.

When a passenger continues to disobey a fasten seat belt sign in the above instances or other safety information sign or placard, the PIC should be notified.

8.3.14 Flight Deck Related Items

8.3.14.1 Admission to the Flight Deck

Revision: 23 - 29 AUG 24

At no time during the flight shall unauthorized persons be permitted to be on the flight deck, and passengers shall not be permitted to be on the flight deck when the flight crew is not present.

A person shall only be allowed on the flight deck if a seat with safety belt/safety harness is available and that the requirements concerning supplemental oxygen are met.

A CAAI inspector who is checking or observing flight deck operations shall always be admitted to the flight deck by the PIC and may be assigned a seat on the flight deck, unless the PIC determines that the inspector's presence adversely affects flight safety. However, he is considered a supernumerary for all intents and purposes and shall not perform any safety related tasks.

In addition:

In Canadian Airspace:

No person shall be admitted to the flight deck other than:

- A flight crew member;
- A crew member performing their duties; or
- A person who has expertise related to the airplane, its equipment or its crew members and who is required to be on the flight deck to provide a service to the Company.

In UK Airspace:

Only the following are allowed to travel on the flight deck:

1. Operating crew (this includes flight inspectors and mechanics if they are observing the flight or required for the flight);
2. Positioning crew, only if no seat is available for them in the cabin. These staff shall be wearing their ID.

In all other Airspace:

The PIC may allow the following passengers to visit the flight deck during flight:

- A person who is personally known by an EL AL flight crew member;
- A celebrity recognized as such by an EL AL flight crew member;
- An EL AL cabin crew member's next of kin;
- A child under the age of 14 (see note 2 below);
- An Israeli EL AL employee as identified by his Company ID card;
- A non-Israeli EL AL employee, after coordination with the EL AL Station Security Manager or Security Headquarters;
- Non-revenue passengers on duty, with approval from the EL AL Station Security Manager (except for USA airspace, where employees of other airlines are not permitted on the flight deck);
- Any other person who has received authorization in advance from EL AL Security.

All passengers require a seat for their use in the cabin. However, when included in the above list, the following passengers do not require a seat for their use in the cabin, and may be assigned a seat on the flight deck:

- EL AL employees and their next-of-kin (spouse and offspring);
- Non-revenue passengers.

The PIC shall ensure that passengers seated on the flight deck are briefed according to the Observer Briefing in the QRH – Ops Info.

NOTE	Passengers in the above list who are non-Israeli citizens/minorities may visit the flight deck only after prior approval from the Station Security Manager.

NOTE	Children aged 6 or below shall not be permitted on the flight deck unless accompanied by a person aged 12 or above. Children above the age of 6 shall not be permitted on the flight deck unless they are able to use the oxygen mask without assistance.

NOTE	See also Chapter ***10.3.7 Flight Deck Door Procedures*** and Chapter ***10.3.8 Visitors to the Flight Deck During Flight***.

None of the above overrides the emergency authority of the PIC to exclude any person from the flight deck in the interests of safety. The final decision regarding the admission to the flight deck of persons of the above categories rests with the PIC. Admission to the flight deck shall not cause distraction and/or interfere with the flight's operation.

In case a security agent or police officer who is assigned duty aboard an aircraft considers it necessary in the performance of his duty to ride on the flight deck, he shall, upon request, presentation of his credentials to the PIC and the PIC's approval, be admitted to the flight deck and permitted to occupy an observer seat thereon.

8.3.14.2 Flight Deck Door Principles

Revision: 19 - 14 MAR 21

Regulations regarding opening and closing of the flight deck doors appears in the Security section.

Access to the flight deck will only be granted after positive identification of such a person. See additional details in Chapter ***10.3.7 Flight Deck Door Procedures***.

8.3.14.3 Drinks on the Flight Deck

Revision: 19 - 14 MAR 21

All drinks served on the flight deck shall be served in a closed can or in a paper cup with a cover.

8.3.14.4 Reading on the Flight Deck

Revision: 19 - 14 MAR 21

Reading or writing while at a crew station is permitted subject to compliance with the following rules:

- Reading of any material other than that which is required in the execution of a crew function, is prohibited during any phase of the flight except cruise;
- Reading of books, except material related to the operation of the flight, is strictly prohibited at any stage of the flight;
- At NO time during flight are both pilots permitted to read simultaneously, regardless of the material being read;
- No reading material, regardless of its nature (including charts) shall ever be placed or held in such a manner as to obscure vital aircraft instruments or warning panels.

8.3.14.5 Eating on the Flight Deck

Revision: 20.2 - 14 DEC 22

Both pilots may eat at the same time while at their pilot station, provided that only one of them is using a tray. If there is only one pilot at the pilot station and he is eating, he shall do so without a tray.

8.3.14.6 Using WIFI on the Flight Deck

Revision: 22 - 20 FEB 24

When available, the use of WIFI on the flight deck is permitted for operational needs **ONLY**.

It is **NOT** allowed to use WIFI during the critical phases of flight.

8.3.15 Use of Vacant Crew Seats

Revision: 19 - 14 MAR 21

Chapter ***8.3.14 Flight Deck Related Items*** and Chapter ***8.3.15.1 Vacant Crew Seat on the Flight Deck*** contain the relevant provisions as to the use of vacant crew seats on the flight deck. The final decision as to the use of other vacant crew seats, is according to company procedures. Normally, such permission will only be granted to persons, holding reduced-fare transportation.

Crew seats (e.g., crew rest seats on a non-passenger carrying deck) which are not certificated for occupation by Crew Members during take-off/landing or specified other phases of flight (e.g., because of emergency - evacuation problems), shall, of course, not be occupied by other persons during such phases of flight. Vacant crew seats (except those on the flight deck), in order to be occupied by other persons, shall at least meet the emergency relevant requirements for passenger seats (oxygen, seat belt/harness, instruction card, accessibility to all verbal or other instructions given to passengers by cabin or Flight Crew at all times, visibility of exit signs). The PIC shall not grant permission for occupation of a vacant crew seat located at an emergency exit to any person who must be denied seating at such exit in accordance with Chapter ***8.2.3.3 Allocation of Seats for Adults, Children and Infants***, or to any other person lacking sufficient strength or dexterity to operate and open the emergency exit, to exit expeditiously, and to assist others in getting off an escape slide (if any).

The Crew Member responsible for safety in the cabin shall brief a person who has been granted permission to occupy a vacant crew seat on all safety relevant aspects connected with that seat and, if it is at an emergency exit that is unattended by a Cabin Crew Member, on how to operate and open the door in an emergency (stressing, however, that the door shall be opened only after the appropriate command has been given).

8.3.15.1 Vacant Crew Seat on the Flight Deck

Revision: 19 - 14 MAR 21

The final decision on the assignment of vacant crew seats on the flight deck for persons holding reduced-fare transportation rests solely with the PIC.

8.3.16 Incapacitation of Crew Members

8.3.16.1 Definition

Revision: 19 - 14 MAR 21

Incapacitation of a crew member is defined as any condition which affects the health of a crew member during the performance of duties – associated with the duty/position assigned to him – which renders him incapable of performing the assigned duties.

The definition includes either total or partial incapacitation which does not allow the fulfillment of duties in the "normal" way.

8.3.16.2 General

Revision: 19 - 14 MAR 21

Incapacities have occurred more frequently than other emergencies which are the subject of extensive training (such as engine failure, cabin fire, etc). Aviation history and statistics indicate that incapacities may occur in all age groups and during all phases of the flight. There are many forms of incapacitation ranging from obvious sudden death to a lingering and difficult to detect partial loss of functions.

8.3.16.3 Types of Incapacitation

Revision: 19 - 14 MAR 21

Obvious incapacitation

Means total functional failure and loss of capabilities. This generally will be easily detectable and will be a prolonged condition. Among the possible causes are heart disorders, severe brain disorders, severe internal bleeding, etc.

Subtle incapacitation

This may be considered a more significant operational hazard, because it is difficult to detect and the effects can range from partial loss of functions to complete unconsciousness. Possible causes might be minor brain seizures, hypoglycemia (low blood sugar), other medical disorders or preoccupation with personal problems. Since the Crew Member concerned may not be aware of, or capable of rationally evaluating his situation, this type of incapacitation is very dangerous!

8.3.16.4 Causes and Effects

Revision: 19 - 14 MAR 21

As explained before, incapacitation may range from minor cases of **physiological upsets** associated with intercurrent mild **disease** or **mental stress** which may result in **reduced levels of judgement or physical coordination** up to a complete **collapse**.

The causes for a mild incapacitation include:

- Body pains such as toothache, headache, gastroenteritis, the delayed effects of alcohol, drugs or medication, common disorders such as a cold, etc;
- Heart troubles, an acute infection, thrombosis, epilepsy, hypoglycemia (extremely low sugar level) and others belong to the more serious causes of a sudden collapse.

It is obvious that a more healthy lifestyle may reduce the number of occurrences of Crew Member incapacitation.

This includes avoidance of drugs, moderate consumption of alcohol, adequate rest time - and its proper use for recreation - adequate sleep and nutrition but also the avoidance of stress in your business and private life.

Chapter *6.1 Crew and Other Operational Personnel Health Regulations and Precautions* covers the subject of health precautions.

8.3.16.5 Recognition of an Incapacity

Revision: 19 - 14 MAR 21

An early recognition of incapacity is of utmost importance. A silent collapse will hardly be detected during normal activities (for instance during the cruise phase of a flight), as communications may sometimes be reduced to a minimum. This requires that all crew members monitor each other very closely.

“Closely” means observing the other crew members for any “abnormal” reaction/action or behavior. One good method is to use the so called “TWO WAY COMMUNICATION RULE”. This simply means, that one crew member’s comment must be answered by the other crew member(s).

If – for instance – the PM reports the aeroplane being left of course, it is essential, that the PF not only corrects this problem but also **confirms this verbally**. If a crew member does not answer any question or checklist item in the normal way, there is reason to believe that there might be the beginning of a subtle incapacitation.

At the worst he may simply have fallen asleep.

Other symptoms of the beginning of an incapacitation are:

- Incoherent speech;
- Strange behavior;
- Irregular breathing;
- Pale fixed facial expression;
- Jerky motions that are either delayed or too rapid.

If any of these are present, incapacitation must be suspected and action taken to check the state of the crew member.

8.3.16.6 Actions

Revision: 19 - 14 MAR 21

Actions to be taken when flight crew incapacity is recognized are detailed in the QRH - Ops Info.

If it has been necessary to remove an incapacitated pilot from the flight deck, the pilot shall not be permitted to return to normal duty - even if it appears that the pilot has recovered. However, after a specific and calculated request by the remaining pilot, a fully recovered crew member may assist the remaining pilot in performing a safe landing.

Command

Regardless of which pilot was assigned as PIC at the beginning of the flight, after the PIC has experienced incapacitation, the command shall be transferred to a remaining pilot as detailed in Chapter *4.3 Flight Crew Incapacitation*. Once transfered, the command shall not return to the original PIC, even if he recovers from his incapacitation.

8.3.16.7 Summary

Revision: 19 - 14 MAR 21

The problems involved with incapacitation of Crew Members may be summarized as follows:

1. If you do not feel well, say "NO" before the flight;
2. Remember, that the best medical examination as well as a **healthy lifestyle** still do not guarantee that an incapacitation during flight will not happen to you or to your other Crew Members;
3. The "TWO WAY COMMUNICATION RULE" must be used in order to have a chance of detecting any incapacitation in time. Take notice of any **abnormal** or **unusual action** of another Crew Member, as this might also be an indication of the onset of incapacitation;
4. Once an incapacitation of a pilot at the controls is identified, remember the three basic steps:
   - **Step 1**:

     Take over the aircraft and bring it under YOUR control.
   - **Step 2**:

     Take care of the incapacitated pilot (either have him removed from his seat or secured so that he will not interfere with the controls).
   - **Step 3**:

     Prepare for landing

Finally, it is emphasized that incapacitation requires special actions using the good judgment of the Flight Crew Member left in command of the aircraft.

8.3.17 Cabin Safety Requirements

Revision: 19 - 14 MAR 21

The provisions of Chapter *8.2.3.3 Allocation of Seats for Adults, Children and Infants*, Chapter *8.2.3.5 Sick Passengers and Persons with Reduced Mobility (PRMs)*, Chapter *8.2.3.6 Transportation of Inadmissible Passengers, Deportees or Persons in Custody*, Chapter *8.2.3.7 Permissible Size and Weight of Hand Baggage*, Chapter *8.2.3.8.3 Securing of Loads in the Cabin*, Chapter *8.2.3.9.4 Live Animals*, Chapter *8.2.4 Procedures for the Refusal of Embarkation*, Chapter *8.3.13.2 Passengers*, Chapter *8.3.15 Use of Vacant Crew Seats* and Chapter *8.3.18 Passenger Briefing Procedures*relate, more or less directly, to cabin safety.

The procedures to be followed during passenger embarkation and disembarkation are outlined in Chapter *8.2.3.2 Embarkation/Disembarkation*, and the operation of aircraft doors in Chapter *8.2.3.14 Operation of Aircraft Doors*.

The procedures in the event of fueling with passengers embarking or disembarking or on board have been described in Chapter *8.2.2.5 Fueling with Passengers on Board and during Embarkation/Disembarkation*.

Of cabin safety relevance, in the wider sense, are Chapter *8.8 Oxygen Requirements*, Chapter *9 Dangerous Goods and Weapons*, Chapter *10 Security*, OM Part B Abnormal and Emergency Procedures: provisions relating to fire and smoke drill response, unpressurised/partly pressurized flight and OM Part B Emergency Evacuation Procedures.

The OM Part A contains all the cabin safety and legal material for normal operation. The CFSM contains aircraft specific equipment, emergency procedures and checklists for normal and emergency operation. The normal operation checklists in the CFSM complement the information contained in the OM Part A.

Use and charging of Portable Electronic Devices during flight is permitted as per the procedures and limitations in Chapter *8.3.17.12 Use of Portable Electronic Devices and Electrical Outlets*.

Regardless of the permissions in Chapter *8.3.17.12 Use of Portable Electronic Devices and Electrical Outlets*, the PIC has the right to forbid the switching on, or the operation of any device at any time, inside the aircraft, if in his opinion this may interfere with the operation of the aircraft.

NOTE	In the following provisions, the term “cabin crew” shall be substituted by “appropriate Crew Member” as far as the operation of aircraft, not requiring the carriage of cabin crew, is concerned.

8.3.17.1 General

Revision: 23 - 29 AUG 24

Legal provisions require all Crew Members not to perform any activities during critical phases of the flight other than those required for the safe operation of the aircraft.

This means that all cabin crew shall, in the critical phases concentrate on their designated task of securing the cabin and shall, if necessary, firmly and politely refuse service requests by the passengers.

On the other hand, cabin crew shall in these flight phases refrain from distracting the Flight Crew Members from concentration on their duties (unless safety requires such detraction, see Chapter *8.3.12.2 Sterile Flight Deck*), and shall assist the Flight Crew by providing, in due time, the “CABIN READY” or the “CABIN NOT READY” report.

For general safety instructions in the cabin/galley refer to CFSM, Chapter 2.14 הוראות בטיחות לעבודה במטבחים.

All breakdowns or malfunctions of electrical equipment in the cabin shall be immediately reported to the flight crew. Cabin crew members shall never reset circuit breakers without prior approval from the flight crew.

For the safety aspect of serving alcoholic beverages to passengers, see Chapter *8.2.3 Aircraft, Passengers and Cargo Handling Procedures Related to Safety*.

All occurrences which may affect the safety of the operation and the well-being of the passengers shall be immediately reported to the flight crew and to the ISM, e.g., illness on board, unusual noise, odor, smoke fumes, fire and other observations.

8.3.17.2 Cabin Crew Briefing

Revision: 23 - 29 AUG 24

Two cabin crew briefings shall be conducted prior to each flight or series of flights (if operated on the same day by the same flight deck crew/cabin crew) - one by the ISM and the other by the PIC.

ISM Briefing:

Refer to CFSM, Chapter 2.1.2 תדרוך מש"ב.

PIC Briefing:

If time or conditions do not permit a full cabin crew briefing, the PIC shall brief the ISM who in turn will brief the cabin crew.

Recommended items to be briefed:

- Flight time;
- CTOT;
- Weather;
- Timing for PA/PIC introduction announcement;
- Aircraft specific safety/security items;
- Cabin MEL/NEF items/cabin log book;
- Update on special passengers;
- Other traveling crew members;
- Service passengers requiring crew seats;
- CAAI inspectors;
- Who is serving as PIC for each leg (in augmented crews).

Whenever a tour of duty for the whole crew begins at home base (duty after crew rest), the ISM will check that the cabin crew is proficient in and familiar with the relevant laws and regulations, and emergency items and procedures.

8.3.17.3 Prior to Boarding of Passengers

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapters 2.2 הכנת המטוס and 2.3 עליית נוסעים ואחסון כבודה.

The ISM shall inform the PIC if the water quantity differs from the required quantity. The PIC shall decide whether to operate the flight with water quantity that is different from those listed in the OM Part B, or whether any further action is required.

8.3.17.4 Prior to Closing Aircraft Doors

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 2.5 סיום עליית נוסעים וסגירת דלתות.

1. The ISM shall verify that at least one air marshal is on board. In case no air marshal is on board, the ISM shall notify the PIC;
2. The period of time from receiving approval from the PIC to close the aircraft doors until the cabin safety demonstration starts is considered an Area of Vulnerability (AOV) for the Cabin Crew, as defined in ***8.3.20.1.7. Areas of Vulnerability (AOV) – Cabin Crew***.

8.3.17.5 Prior to Taxi

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 2.7.3 לפני הסעה.

Once doors are closed for departure they may only be re-opened by the ISM with the PIC's permission.

NOTE	Taxi may commence while CCMs are not in their seats for safety reasons such as preparing the cabin for take-off, manual safety demonstration, or turning off the video safety briefing.

The ISM shall notify the flight crew immediately that the cabin is not ready for taxi in the following circumstances:

1. In case of any unusual delay between receiving permission from the PIC to close doors and completing all of the items listed above; or
2. When an unsafe condition exists (i.e. passengers not seated).

Any activity which could distract any flight crew member from his duties is not authorized.

Cabin Crew are not to enter or call the cockpit except in the event of an emergency or for an unresolved safety related problem.

NOTE	On positioning flights where only one CCM is assigned to the flight, the door arming/disarming cross-check shall be performed by a flight crew member.

8.3.17.6 Prior to Take-off

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 2.7.4 לפני המראה and 2.8 המראה.

The ISM, having received the appropriate cabin reports from the assigned CCMs that all of the above items are complete, shall report **"CABIN READY"** to the flight crew as per the procedure outlined in the "Before take-off" stage of Chapter ***8.3.17.10 Summary of Flight Crew and ISM / Cabin Crew Communication***.

Before take-off, the Pilot Monitoring (PM) shall notify the cabin crew prior to lining up on the runway by using two chimes (see summary of flight crew and cabin crew communication) in order to alert the cabin crew to be seated and secure themselves for take-off.

If the passenger briefing is not completed, or the cabin is no longer ready, the flight crew shall immediately be notified that the cabin is not ready as follows:

- Before the two chimes signal: CCMs shall notify the ISM who in turn shall notify the flight crew;
- After the two chimes signal until the start of the take-off run: CCMs shall notify the flight crew directly.

Take-off shall not be commenced unless the cabin is ready.

Sterile flight deck compartment rules as per Chapter ***8.3.12.2 Sterile Flight Deck*** shall be strictly adhered to.

8.3.17.7 In Flight

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 2.8 המראה and 2.9 "מהלך טיסה ושלט הידוק חגורות".

When encountering turbulence in flight and the "FASTEN SEAT BELT" sign has been switched on, cabin crew shall instruct standing passengers to return to their seats and fasten their seat belts and the ISM will make a PA if s/he deems it necessary.

Cabin crew members may continue service unless instructed differently by the Captain.

When the Captain has prior information on turbulence that will require the cabin crew to be seated, he shall notify the ISM via the interphone system to discontinue service and to be seated with their seat belts fastened. When such turbulence is sudden, the flight crew shall instruct the cabin crew members to fasten seat belts, by using the public address system. In this case if a passenger continues not to obey the ISM instruction, the PIC should be notified. When or after encountering moderate to severe turbulence, it is good practice for the Captain to update the passengers regarding the expected duration and other details.

Normal service shall be resumed only after coordination between the ISM and the Captain.

8.3.17.8 Prior to Landing

(*) Revision: 23.1 - 15 MAR 25

Approximately 45 minutes prior to landing:

Refer to CFSM, Chapter 2.10 לקראת נחיתה.

The flight crew shall update the front galley CCM with the planned start of descent time, the landing time and the destination weather. The CCM shall forward the information to the ISM. At this time the CCM responsible for the flight deck shall clear all service items from the flight deck.

Approximately 30 minutes prior to landing (usually at the start of final descent):

The flight crew shall notify the cabin (see summary of flight crew and cabin crew communication).

Approximately 10 min. prior to landing (usually when descending through 10,000 ft):

The flight crew shall make an announcement (see summary of flight crew and cabin crew communication). In case the cabin ceases from being secure for landing, each CCM that observes this, shall notify the ISM immediately. The ISM shall notify the flight crew. The PIC shall decide whether to abort the landing or continue to land. The notification to the flight crew shall be short and include the reason for "cabin not secure".

2 minutes prior to landing:

The flight crew shall notify the cabin (see summary of flight crew and cabin crew communication). At this stage and until the airplane has cleared the runway after landing, CCM shall not call the flight crew unless in case of an emergency situation.

For landing, cabin crew members shall assume the brace position described in Chapter ***8.3.17.6 Prior to Take-off***.

8.3.17.9 After Landing

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 2.11 לאחר נחיתה.

No PA announcements shall be made before the aircraft has vacated the runway. After all engines are shut down and the fasten seat belt sign has been turned off, the flight deck crew will make an announcement to disarm the doors.

For cabin CTL entries refer to CFSM, Chapter 2.11.2 לאחר ירידת נוסעים. The PIC shall be notified of all entries made and of any safety reports.

NOTE	On positioning flights where only one CCM is assigned to the flight, the door arming/disarming cross-check shall be performed by a flight crew member.

8.3.17.10 Summary of Flight Crew and ISM / Cabin Crew Communication

Revision: 21 - 5 MAY 23

Company policy is to use standardized terminology whenever feasible. Where standard terminology has been defined in the table below, it shall be used.

This table summarizes the normal communication and wording to be used between the Flight Crew and the ISM/Cabin Crew at the different stages while on board the aircraft. The item marked in bold represents the initiator of the communication. If no item is marked in bold, the communication may be initiated by either one.

Stage	Condition	Method	Flight Crew	Cabin Crew
Boarding has begun	See Chapter *8.2.3.2 Embarkation/Disembarkation*	Interphone	-	נוסעים עולים
When the last passengers are on their way	See Chapter *8.2.3.2 Embarkation/Disembarkation*	Interphone	-	צוות נא להכין קבינה לקראת המראה
All passengers are on board	See Chapter *8.3.17.4 Prior to Closing Aircraft Doors*	Interphone	רשאי לסגור דלתות ולהעביר למצב אוטומטי/לחבר 7מגלשות)	- בדיקות ISM בטיחות הקבינה וציוד החירום הושלמו. רשות לסגור דלתות
Before take-off 737	See Chapter *8.3.17.6 Prior to Take-off*	Interphone	האם הקבינה מוכנה?	- קבינה ISM מוכנה\קבינה לא מוכנה + סיבה
Before take-off 777/787	See Chapter *8.3.17.6 Prior to Take-off*	Interphone code – "Cabin Ready"	-	**ISM** **777/787 – 6***
Prior to lining up on the runway	Line up clearance received.	Cabin chime	**Two chimes**	-
10,000 ft	Climbing past 10,000 ft	Cabin chime or Interphone	Turn off the seatbelt sign; or if seatbelts are still required, indicate to the cabin crew that the sterile flight deck is no longer in effect: • Do two chimes if the cabin crew must remain seated; or	

Stage	Condition	Method	Flight Crew	Cabin Crew
			• Notify the ISM by interphone if the cabin crew may go about their duties.	
Cruise	At least every 40 minutes	Interphone	Acknowledge	**Establish communication with flight crew.**
Before descent	Approximately 45 minutes prior to landing.	Interphone	**Provide the expected time of descent, time of landing, destination weather and any other relevant information**	-
Top of descent	Usually at the beginning of descent for landing	Cabin chime	**Two chimes and seat belt sign to ON.**	-
10,000 ft	Approximately 10 minutes to landing (usually when descending through 10,000 ft)	PA	"צוות גובה10"	-
Descent 777/787	Cabin ready see Chapter ***8.3.17.8 Prior to Landing***	Interphone code – "Cabin Ready"	-	**ISM** **777/787 – 6***
Descent 737	Cabin ready see Chapter ***8.3.17.8 Prior to Landing***	Interphone	Acknowledge	קבינה מוכנה\קבינה לא מוכנה + סיבה.
Final approach	Landing Procedure	Cabin chime	**Two Chimes** and: When it may be necessary to evacuate due to a non-normal situation, the flight crew shall also announce via the PA: "צוות נא לסיים הכנות ולשבת לנחיתה"	-
Final stop	See Chapter ***8.3.17.9 After Landing***	PA	צוות - דלתו ת למצב manual במטוס 737 : צוות – נא לנתק מגלשו ת	-
Opening doors	See Chapter ***8.3.17.9 After Landing***	Interphone	רשאי לפתו ח דלתו ת **NOTE:** For aircraft with an indication in the cockpit, the flight crew shall verify the door status before giving approval to open the doors.	כל הדלתות במצב manual – רשות לפתוח דל ת כל : 737 המגלשות מנותקו ת - רשות לפתוח דל ת

8.3.17.11 Smoking on Board

Revision: 19 - 14 MAR 21

Smoking (including electronic cigarettes) or the use of open means of ignition such as matches or lighters in the aircraft or in its vicinity is prohibited.

Smoking (including electronic cigarettes) is prohibited in the passenger cabin, cargo deck and flight deck on all EL AL flights.

On all flights the NO SMOKING signs shall be ON during the entire flight.

Exception: The no smoking prohibition during flight may not be applied to personal charter flights (not flying to or from the USA) where when applicable, special directions will be provided separately.

A passenger who does not abide to the smoking regulations shall be considered to be posing a safety threat to the flight. The PIC shall be informed and shall act in accordance with Chapter ***10.4 Disruptive/Unruly Passengers***.

8.3.17.12 Use of Portable Electronic Devices and Electrical Outlets

Revision: 23 - 29 AUG 24

Use of Electrical Service Outlets (all outlets that are not passenger seat outlets or cockpit outlets) is allowed only for devices approved by engineering and for cleaning equipment on the ground.

On B777 only, the use of the seat electric outlet is allowed above 10,000 ft.

On B787 the use of passenger seat electric outlet is always allowed.

The following policy is defined for use of portable electronic equipment:

- Electronic devices may be used during all phases of flight as long as they are in flight mode.
- Annunciation is made in the Safety video before each flight commences. Flight attendants are not obligated to enforce this visually.
- Bluetooth and WiFi functions are allowed at all times, as long as the device is in flight mode;
- Wireless accessories such as headphones or computer mice are allowed;
- Large electronic devices (i.e. laptop computers) shall be stowed for take-off and landing;
- Remote controlled devices (Drones, RC cars (toys), etc.) are prohibited from being used during all flight stages.

In case the flight crew suspects electronic magnetic interference:

- The PM shall make a PA announcement instructing passengers to switch off all electronic devices;
- The ISM shall make a PA announcement stating:

  "The Captain has detected potential interference from an electronic device. Please switch off all electronic devices immediately".

Passengers shall be informed that small PEDs (e.g., cellphones, tablets, cameras, and other lithium battery powered devices) should be carried in the passenger cabin whenever possible.

Nevertheless, in case a small PED was sent in the checked-in baggage, flights shall not be delayed for removing the PED only after verifying with the passenger that the PED is completely switched off and protected from damage.

Electrical powered CPAP devices are allowed for personal use during flight using any passenger seat outlet (787, 737-800 and 777 that has been retrofitted only) and limited to one device per row.

8.3.17.12.1 Large PEDs

Revision: 23 - 29 AUG 24

Passengers shall be informed that large PEDs (e.g. computers, tablets, cameras and other lithium battery powered devices) should be carried in the passenger cabin whenever possible.

Any large PED that cannot be carried in the passenger cabin (e.g. due to its size), and therefore has to be carried in checked baggage, shall be:

- Completely switched off and effectively protected from accidental activation. To ensure the device is never powered on during its transport, any application, alarm or pre-set configuration that may activate it shall be disabled or deactivated;
- Protected from the risk of accidental damage by applying suitable packaging or casing or by being placed in a rigid bag protected by adequate cushioning (e.g. clothing);
- Not carried in the same baggage together with flammable material (e.g. perfumes, aerosols, etc.).

Furthermore, where carry-on bags are put in the hold (e.g. due to the lack of space) passengers shall be requested to remove from the bag any spare batteries or e-cigarettes.

For more information, refer to the “IATA Dangerous Goods Regulations” table in Chapter ***9.3 Provisions for Dangerous Goods Carried by Passengers or Crew***.

8.3.17.13 Safety when Serving Meals on the Ground

Revision: 23 - 29 AUG 24

Refer to CFSM chapter 2.23 דגשי בטיחות בעת הגשת ארוחה על הקרקע.

8.3.17.14 Medical Escorted/Not Escorted Passengers

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.20 נוהל הטסה רפואית.

8.3.17.15 Translators

Revision: 19 - 14 MAR 21

Translators may be employed by the Company as supernumeraries to enhance communications between cabin crew members and passengers who do not understand Hebrew or English.

Translators are not required for the safety of operations and are not permitted to perform safety-related duties; they are not crew members. For operational and security purposes they are considered to be passengers (including security screening and boarding procedures), with the following differences:

1. They wear the uniform of EL AL cabin crew members with a name tag identifying them as translators;
2. They are permitted to perform the following functions only:
    - Direct translation upon a CCM's request; and
    - Customer service activities at the ISM's request.

The ISM shall inform the PIC when translators are on the flight.

8.3.18 Passenger Briefing Procedures

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.6.1 תדריך בטיחות לנוסעים לפני טיסה.

8.3.18.1 Means for Briefing Passengers

Revision: 23 - 29 AUG 24

Refer also to CFSM, Chapter 4.20 מגפון.

Flight deck jump seat passengers, cargo attendants and supernumeraries briefing:

To ensure that flight deck jump seat passengers, cargo attendants or supernumeraries do not impede flight crew members in the performance of their duties, flight crew shall brief them before engine start, according to the briefing sheet located in the OPS Info section of the QRH, on the following items:

- The use of seat belts;
- The implication of "Sterile Cockpit";
- The use of oxygen;
- The use of life jackets or individual flotation devices (as required);
- The use of the communication system / equipment;
- Eating & drinking;
- Flight deck door security procedures;
- Evacuation in case of emergency (including the use of emergency exits, personal & collective equipment to be used);
- General behavior during all phases of the flight;
- Announcements and signals for:
  - To prepare for take-off;
  - When in the descent phase of flight;
  - To prepare for landing.

Briefing by visual means:

Each passenger shall be provided with a **safety briefing card** supplementing the verbal briefing. Each card must be in English and in Hebrew and shall contain information pertinent only to the type and model of aircraft used for that flight, including:

- Seat belts;
- Diagrams of, and methods of operating, the emergency exits, locations and escape path lighting;
- Other instructions necessary for use of emergency equipment to include flotation devices and passenger oxygen masks;
- Prohibition against smoking and tampering with smoke detectors;
- Policy on the use of portable electronic devices;

- For passengers seated at an Emergency Exit Seat, a safety briefing card or placard shall contain information to aid the passenger in performing the following actions in the event of an emergency:
  - Locating the emergency exit;
  - Identifying the emergency exit opening mechanism;
  - Operating the emergency exit;
  - Recognizing circumstances under which the emergency exit should not be opened in an emergency, since it would be unsafe to do so;
  - Stowing, removing, or securing the emergency exit door or hatch so that it does not impede the use of the exit;
  - Verifying the state of the escape slide and operating it after it deploys, in order to assist others in getting off of the slide;
  - Evacuating expeditiously via the emergency exit;
  - Evaluating, selecting, and using a safe escape route to move away from the emergency exit.

8.3.18.2 Briefing Contents and Timing

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.6 גרירת והתנעת מנועים.

8.3.18.2.1 Prior to Embarkation

Revision: 19 - 14 MAR 21

At check-in, passengers shall be briefed on which articles are prohibited to be carried on their person, in their hand baggage or even in checked baggage (see Chapter ***9.2 Hidden Dangerous Goods***). They shall be briefed on the permissible size and weight of their hand baggage (see Chapter ***8.2.3.6 Transportation of Inadmissible Passengers, Deportees or Persons in Custody***).

Prior to boarding they shall be briefed on the “NO-SMOKING” requirement, the “NO-SMOKING” signs, and on all other provisions relevant to their safety before and during their embarkation (see also ***8.2.3.1 Ground Operations with Passengers on Board***).

8.3.18.2.2 Prior to Taxi

Revision: 23 - 29 AUG 24

Briefing of Persons with a Reduced Mobility

Refer to CFSM, Chapter 2.6.4 תדרוך נוסעים בעלי ניידות מוגבלת.

Briefing of Persons Sitting in an Emergency Exit Seat

Refer to CFSM, Chapters 2.5 סיום עליית נוסעים וסגירת דלתות and 2.6.5 תדרוך נוסעים היושבים במושבי יציאות החירום.

8.3.18.2.3 Prior to Take-off

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.6.1 תדריך בטיחות לנוסעים לפני טיסה.

8.3.18.2.4 Climb and Cruise

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.9 תדריך בטיחות לנוסעים לפני טיסה.

8.3.18.2.5 Prior to Landing

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.10 לקראת נחיתה.

8.3.18.2.6 After Landing

Revision: 23 - 29 AUG 24

Refer to CFSM, Chapter 2.11 לאחר נחיתה.

8.3.18.2.7 Emergency Situations

Revision: 19 - 14 MAR 21

In an emergency, passengers shall be instructed in such emergency action as may be appropriate to the circumstances (see OM Part B - CFSM).

8.3.18.2.8 Optional Passenger Announcements

Revision: 19 - 14 MAR 21

As a matter of courtesy, a welcome announcement should be made to passengers by the PIC after embarkation. Other announcements should help to satisfy the passengers' need for information. Announcements could contain information on:

- Introduction of the flight crew;
- The expected flight time;
- Weather conditions expected en-route (smooth, turbulent, etc.);
- Other relevant information.

NOTE	The following information does not need to be included in the PIC's announcement, as it will be included in the ISM's announcement: - Requirement to fasten seatbelt; - Introduction of the cabin crew.

NOTE	Coordinate the welcome announcement with the ISM so that the announcement does not interfere with the door closing and arming procedure in the cabin.

Special announcements should be made in order to explain departure or arrival delays, a diversion or abnormal events (e.g., lightning strike), severe turbulence, a go-around. Usually, a flight crew member will be designated responsible for the passenger announcement(s), however, cockpit workload may render it necessary to delegate this task to the ISM.

A PA list is available in the OM Part B - QRH - Ops Info, listing text for various circumstances for use by flight crews.

Only essential PA's should be made during taxi out or taxi in. Stop the aircraft and set the parking brake when doing so. Do not let the PA announcements infringe on runway safety. During cruise the Captain, or at his discretion the First Officer or ISM, should make a PA advising of the expected time of arrival, weather and anything else of interest.

PA announcements shall be kept to a minimum during descent or holding. Standard calls at 10,000 ft and prior to landing shall be made at the appropriate time.

There is NO requirement to make a PA on taxi in except for essential safety PAs.

8.3.19 Cosmic Radiation

Revision: 19 - 14 MAR 21

A Crew Member - while on duty - should not be exposed to a high cosmic radiation dose due to inherent health risks. As per the applicable Ministry of Labor requirements, radiation exposure of up to 6 mSv (milliSievert) per year is acceptable, but requires a management of exposure. Any radiation dose which does not exceed 1 mSv per year is considered to be normal, and shall not be exceeded by pregnant crew members.

The exposure level for cosmic radiation depends upon:

- The altitude;
- The latitude; and
- The time spent at altitude.

The effective radiation dose is stronger at the poles but far less at the equator.

Additional information is available in Operations Directive 88-50-120.

8.3.19.1 Procedures for Aircraft Operated Whenever Required Cosmic or Solar Radiation Detection Equipment is Carried

Revision: 19 - 14 MAR 21

As flight operations are not conducted at altitudes exceeding 49,000 ft, the carriage of cosmic or solar radiation equipment is not required.

8.3.19.2 Procedures for an Aircraft Operated Whenever Required Disinfection

Revision: 21 - 5 MAY 23

Refer to GOM and/or Ground Operations Bulletin.

8.3.20 Standard Operating Procedures

8.3.20.1 General Operating Procedures

Revision: 19 - 14 MAR 21

All aircraft shall be operated according to the SOP, operating limitations and operating procedures as described in the OM Part B - Boeing documentation (FCOM, FCTM) as modified by EL AL to reflect the Company's safety policy.

General Guidelines

As safety is of paramount importance, EL AL has adopted the following “golden rules” as its policy for flying:

1. **Aviate, Navigate, Communicate**

   During normal and especially non-normal conditions, PF-PM task sharing should follow the guidelines as laid down in the OM Part B or as deemed necessary by the PIC. Tasks should be accomplished with a three-step strategy.

   - **Aviate**
     - The PF shall fly the aircraft to stabilize the aircraft’s pitch attitude, bank angle, vertical and horizontal flight path and speed. This shall always be the number one priority, and as statistical data show most accidents and incidents occur for failing to do so;
     - The PM shall support the PF by monitoring the flight path and calling out as appropriate.
   - **Navigate**
     - Know where you are, know where you should be and know where the terrain and obstacles are;
     - While using auto flight, the PF should select lateral and vertical navigation only after terrain clearance is assured. While manual flying and upon the PF's command and only after terrain clearance is assured, the PM should select or restore the desired modes for lateral and or vertical navigation.
   - **Communicate**
     - In an emergency, inform ATC of the situation and the crew’s intentions only after the aircraft is stabilized and the abnormal or emergency condition has been identified with Memory Items completed.

2. **Know Your Available Guidance at All Times**

   - The AFDS, the A/T, MCP and CDUs are the primary interfaces for the crew to communicate with the aircraft systems. The HUD, PFD, ND and FMA are the primary interfaces for the aircraft to communicate with the pilots – to confirm that aircraft systems have correctly accepted the crew's mode selections and entries;
   - Any selection on the AFDS’s MCP or on the FMC CDU should be confirmed by cross-checking the corresponding HUD or FMA annunciation or the DATA on the FMS display;
   - At all times, both pilots should be aware of the guidance modes that are selected or armed and of any mode changes;
   - Approach and landing callouts should be made according to the FCOM. Any unexpected or inappropriate FMA changes or failures shall be announced promptly.

3. **One Head Always Up**

   - This means that at least one set of eyes must always be monitoring the flight path (instruments, visual, both, etc.);
   - Changes to the FMS flight plan should normally be performed by the PM. The changes then should be cross-checked by the PF. Major changes should be crosschecked only after transfer of the controls to maintain One Head Always Up.

4. **When Things Do Not Go as Expected, Take Control**

- If the aircraft does not follow the desired horizontal or vertical flight path and time does not permit analyzing and solving the anomaly, revert without delay from FMS guidance to basic guidance (such as HDG and or LVL CHNG) or manual flight. Do not hesitate to ask for ATC guidance when crew situational awareness is in doubt.

5. **Distraction Free AOV**

    - In an AOV phase of flight (defined in Chapter ***8.3.20.1.7 Areas of Vulnerability (AOV) and Flight Crew Actions Requiring Cross Check***), there is little time to detect and correct flight path deviations. All tasks other than controlling and monitoring the flight path should be considered inappropriate and avoided, if possible, until out of the AOV.

8.3.20.1.1 Automatic and Manual Flight Policy

Revision: 19 - 14 MAR 21

Refer to Chapter ***8.0.4.4 Automatic and Manual Flight Philosophy***.

Autopilot Flight Director Systems (AFDS) and Flight Management Computer (FMC) systems are designed to reduce crew workload and increase flight precision. Pilots must be well versed in flying their aircraft using all levels of automation – from raw data (traditional navigation) manual flying through auto flight using LNAV/VNAV. Automatic systems give good results in the vast majority of situations. When the automatic systems do not perform as expected, the pilot should reduce the level of automation until proper control of path and performance is achieved.

Below 10,000 feet AGL, use of MCP operation and functions is recommended, to reduce heads down time. Flight management systems should be programmed and crosschecked before departure or arrival. Making entries to the FMC during critical phases of flight should be minimized.

EL AL adopts Boeing’s Autoflight procedures as written in the respective FCOM and FCTM.

EL AL's policy for automation is to use automation at the level that best improves situational awareness, reduces workload and provides for most efficient flight performance. The level of automation used is dynamic – change the level (up or down) if the current level employed is not supportive to the situation.

Level of Automation

I	Hand Flown	Raw Data
II	Hand Flown	Flight Director
III	Autopilot / Autothrottle	Flight Director – Basic Modes
IV	Autopilot / Autothrottle	Flight Director LNAV/VNAV

Use the optimum level of automation for the task. The optimum level is usually the one that the crew feels gives best situational awareness and airplane response, depending on their knowledge and experience with the aircraft and system. This may depend on:

1. Flight phase:
    a. En-route;
    b. Terminal area;
    c. Approach.
2. Other factors:
    a. Time available;

   b. Ground proximity.

3. ATC restrictions.

Remember the golden rule: When Things Do Not Go As Expected, Take Control.

Maintenance of Proficiency

EL AL policy is that maintaining and improving the knowledge and skills needed for manual flight operation is necessary for safe flight operations. Pilots must be aware that exclusive or persistent use of and reliance on automation levels III and IV throughout the flight regime will result in a degradation of basic flying skills. Therefore, it is a joint responsibility of EL AL and its pilots to maintain proficiency by using all levels of automation including manual flight. **Pilots should manually fly the airplane often (below 5,000 feet may be used as a non-limiting guideline).**

Manual Flight with No Flight Director

As specified above, it is company policy to maintain proficiency in manual flight without use of the flight director.

The following should be observed:

1. Practicing flight without FD is permitted only when the airport is reporting visibility of at least 5,000 m and a ceiling of at least 2,000 ft;
2. The Pilot Monitoring should normally keep his/her FD on or as recommended by the FCOM/ FCTM;
3. Prior briefing is required;
4. In case of Go-around – resume full FD operation ASAP;
5. Be alert and resume FD operation as soon as needed for any reason.

8.3.20.1.2 Common Language

Revision: 22 - 20 FEB 24

The common language to be used by the crew members for communication is Hebrew.

Hebrew shall be used:

- On the flight deck and in the cabin during line operations;
- Between the flight crew and cabin crew during line operations;
- During flight crew and cabin crew training and evaluation activities.

In all cases standard call-outs and QRH must be in English as defined in the FCOM.

The standard language to be used in all ATC communications including with Tel-Aviv/Ben-Gurion TMA & CTR, Tel-Aviv Control ACC units (Northern & Southern sectors) and within the CTRs of Jerusalem, Eilat and Ovda airports shall be English.

8.3.20.1.3 Policy on Radio Communication

Revision: 20.2 - 14 DEC 22

General

Unless otherwise authorized by ATC, or a SELCAL watch has been established, a continuous watch shall be maintained on the appropriate ATC frequency.

Use of Headsets

It is imperative that both Pilots understand and concur on all ATC Clearances. If there is any doubt or conflict in what was transmitted, the PIC shall ensure that clarity is obtained from the ATC unit as to the content of the Clearance.

Therefore it is necessary that all crew members required to be on the flight deck shall wear the headset with boom mike when engines are running on ground or when receiving the departure clearance via voice communications.

For other flight phases, headsets shall be worn in accordance with the FCTM. In addition, headsets shall be worn by both pilots when a communications facility other than the one in use for ATC radio watch is used at one of the pilot stations. When passenger announcements are made from the flight deck the other pilot shall wear a headset. In addition, headsets shall be worn whenever deemed necessary by the PIC.

The boom mike shall be in a position which permits its use for two-way radio communications.

On aircraft equipped with Active Noise Cancelling headsets, one ear shall be kept exposed during critical phases of flight.

ATC Communication

It is company policy to adhere to the ICAO standard radio phraseology or deviating state regulations as laid down in the OM Part C.

The PIC is responsible to ensure that:

- Clearances received are safe with respect to terrain clearance during climb/descent and en-route;
- Compliance with the provisions of a clearance will not violate other regulations (e.g. night curfew, approach ban).

In communications with ATC, radio call signs must always be given in full, including the company call sign. Aircraft in the Heavy category shall use the word "**HEAVY**" after the aircraft call sign on initial contact with all ATS units. The ATS flight plan contains the callsign to be used.

When obtaining initial ATC or push back clearance or significant re-clearances, both flight crew members must monitor such clearances, one of them recording the ATC clearance as it is received, and reading it back accordingly.

Any difference between the PF's understanding of a clearance and the PM's read-back of the clearance, or any doubt regarding any ATC clearance shall be resolved by a clarifying question directed by the PM to ATC.

The initial communication with ATC after take-off should be established as soon as practicable or as instructed, but not before 400 ft AGL.

Flight crew members shall report the cleared flight level on first contact with ATC, unless specifically requested not to do so by ATC.

The Emergency Frequency 121.5 must always be monitored on the second communication set unless required otherwise by local regulations (such as 126.9 for the African region), or if this radio is temporarily used for the reception of ATIS, company calls, etc. Use of the emergency frequency must be restricted in order to provide a clear channel between aircraft and a ground station, or between aircraft and/or ground search and rescue services.

If during a flight a pilot encounters an irregularity or hazards which he considers essential to the safety of the aircraft or other flights, he shall notify the appropriate ground station as soon as practicable. These hazards may include meteorological conditions (see Chapter *8.3.10.1 General*), security breaches, wildlife, ground facility or navigation aids, lasers or others.

In case of a radio communication failure, refer to the OM Part C, General, Emergency or to the airport charts.

8.3.20.1.4 Policy on the Handling of Abnormal Situations

Revision: 22 - 20 FEB 24

Circuit Breakers

For circuit breaker operation on the ground, in flight and for specific circuit breaker restrictions and procedures, refer to the respective OM Part B (QRH chapter Ops Info).

Operation of Critical Aircraft System Controls

The OM Part B (QRH Introduction) dictates when and which switches shall only be operated after verbal confirmation of a second flight crew member.

8.3.20.1.5 Policy for Operation after an Engine Failure

Revision: 19 - 14 MAR 21

Take off engine failure - the lateral route to be flown and the flap retraction acceleration height shall be according to the relevant Engine Failure Procedure in the OPT.

Whenever an airplane engine fails (ceases to function) or whenever an engine is shut down to prevent possible damage, the PIC shall land at the nearest suitable airport, in terms of flight time, at which a safe landing can be made.

Modern jet engines are highly reliable. An engine usually does not simply flame-out; when it fails the reason is rarely obvious and restart is not likely to succeed. Therefore:

- Pilots should plan to land as soon as practicable, rather than staying airborne for the sake of attempting an in-flight restart;
- An engine restart may be attempted only after the crew has considered the necessity and potential benefit of the attempt against the risk of fire or extended damage by a restart attempt;
- Under most circumstances, pilots should not stay airborne to reduce weight.

Reporting

The PIC must report an engine shut down in flight to the appropriate communication facility as soon as practicable and must keep that facility fully informed of the progress of the flight.

If the PIC lands at an airport other than the nearest suitable airport in terms of flight time, he shall (upon completing the trip) file a report according to Chapter *11.4.2 Notification and Reporting*.

8.3.20.1.5.1 Policy for Operation after an Engine Malfunction

(*) Revision: 23.1 - 15 MAR 25

Whenever engine malfunction is suspected during flight, but the engine is not shut down, the PIC may consider a landing at a suitable airport other than the nearest one. Considerations may include, but are not limited to, the following elements:

- Possible deterioration in the condition of the malfunctioned engine;
- En-route alternates should the malfunctioned engine need to be shut down;
- Fuel on board, landing weight, approach, landing and go-around performance;
- Weather en-route and at the landing airport;
- MEA and MSA;
- RFFS;
- Crew familiarity with the airport of intended landing.

Whenever a doubt exists regarding the decision whether to continue or divert, a conservative approach should be taken.

The flight may be continued to its planned destination if the crew concludes that there is no apparent damage to the engine, the engine is capable of operating to its full envelope (including go-around thrust if needed), and there is no reason to suspect that the situation will deteriorate.

Landing preparations

If the engine's ability to produce the expected Go-around thrust is in doubt, landing shall be planned and performed assuming the damaged engine is at idle thrust (regardless of its actual thrust).

Use the appropriate Engine Failure or Single Engine Landing checklists to plan and configure the aircraft for landing. Consider briefing and using the Engine Failure Procedure in the OPT for the planned landing runway if unable to perform the published go-around procedure.

If, at any time, the damaged engine is shut down, a landing at the nearest suitable airport shall be accomplished.

8.3.20.1.5.2 MDA / DA Selection for Non-Normal Conditions

Revision: 19 - 14 MAR 21

Some approach plates specify more than one minimum, with different climb gradients. The higher minimum (or only minimum if there is only one) will always provide a 2,5% climb gradient. The lower minimum and higher required climb gradient may indicate that either terrain, obstacle, or airspace clearance may not be assured if the required gradient cannot be met during a missed approach. This should be considered by the PIC when approaching to land with a non-normal condition.

For one engine inoperative, it is company policy to choose an approach minimum requiring a 2,5% missed approach climb gradient, or in the USA, a minimum not requiring a specified rate of climb. Pilots should use caution and good judgement if selecting a lower minimum that requires a higher climb gradient.

8.3.20.1.6 Simulated Abnormal Situations In-flight

Revision: 19 - 14 MAR 21

Abnormal or emergency situations requiring the application of a part or all of abnormal or emergency procedures and simulation of IMC by artificial means must not be simulated during commercial air transportation flights.

This applies also to simulated pilot incapacitation procedures.

8.3.20.1.7 Areas of Vulnerability (AOV) and Flight Crew Actions Requiring Cross Check

Revision: 22 - 20 FEB 24

AOVs exist:

- On the ground when approaching, crossing, entering or exiting active runways, and when taxiing in confined spaces or close to obstacles;
- In flight when initiating climbs/descents and within 1,000 ft of level-offs, or when turning, or when changing speed or configuration;
- In flight when close to the ground and/or below the level of surrounding terrain;
- When performing the critical flight crew actions in the list below;
- 737 only – in the beginning of the descent phase due to VNAV characteristic.

Refer to the "Distraction Free AOV" policy in Chapter ***8.3.20.1 General Operating Procedures***.

For flight safety reasons, critical flight crew actions require a cross check. Cross check in this context means inviting the other crew member to carefully observe one's actions, making sure that the actions taken and data entered are correct.

Critical flight crew actions in this respect are the following AOVs:

- Acceptance of departure clearance;
- Receipt and review of loadsheet;
- Take-off performance calculations;
- Weight and balance AFS/FMS entries;
- Weight and balance calculations performed by the flight crew (i.e. LMC);
- Configuration changes;
- Heading, altitude, altimeter and airspeed (bug) settings;
- Transfer of controls;
- During the departure or approach phase - changes to the AFS (Auto Flight System), the FMS (Flight Management System) and radio navigation aids.

8.3.20.1.7.1 Areas of Vulnerability (AOV) – Cabin Crew

Revision: 22 - 20 FEB 24

The time between the PIC's approval of closing the aircraft doors and the start of the cabin safety demonstration is considered an AOV.

For Cabin Crew, the AOV begins when the ISM announces "BOARDING COMPLETED" and continues until the cabin safety demonstration starts or as coordinated between the PIC and the ISM. It is advisable to avoid contacting Cabin Crew during this period of time (AOV).

8.3.20.1.8 Operation in High Barometric Pressure

Revision: 19 - 14 MAR 21

In the event that QNH exceeds the maximum value that can be set in the altimeters, ATC should be informed of the altimeter setting that will be used (e.g. the maximum setting) and request that separation standards be maintained by suitable adjustments to the ATC clearance. It is most likely that other aircraft will be in the same situation. Any procedural heights should be flown as published. Use Radio Decision Height (if available), otherwise use the published barometric decision altitude and accept that the aircraft will be higher than indicated.

8.3.20.1.9 Wind Policy

Revision: 19 - 14 MAR 21

For performance calculations, wind direction and velocities expressed as "light and variable" must be considered as tailwind.

The steady crosswind and gust component for take-off and landing shall not exceed the values specified in the OM Part B.

Maximum windspeed for company operations is 65 kts including gusts (actual wind report by airport authority).

8.3.20.1.10 Speed Policy

Revision: 19 - 14 MAR 21

APPROVED

A disciplined speed control is mandatory for the economy and safety of flight operations.

Speed below FL100 / 10,000 ft

Flights shall be conducted at 250 KIAS or less below FL100 unless ATC approves the crew to maintain a higher speed or if so approved by local regulations. This:

- Provides more time to detect and react to weather or closing traffic;
- Reduces turn radius, climb and descent rates in avoidance cases; and
- Reduces the risk of damage by collision with foreign objects (e.g. birdstrikes).

If higher speeds are required, the following speeds must not be exceeded:

- The higher of either 250 KIAS or Flaps Up speed below 5,000 ft AGL;
- 300 KIAS below FL100/10,000 ft.

Speed in the Terminal Control Area (TMA)

Flights shall be conducted at 200 KIAS or less when in the TMA unless instructed otherwise by ATC or local regulations. If the minimum safe speed requires a higher speed, ATC shall be notified.

8.3.20.1.11 Maximum Vertical Speed

Revision: 23 - 29 AUG 24

Unless otherwise instructed by ATC or restricted by state or area requirements, when aware that there is an aircraft at or approaching an adjacent altitude or flight level, it is recommended to reduce the vertical speed to 1,000 ft/min or less, when approaching an altitude that is 1,000 ft above or below the assigned altitude or flight level.

Presence of such an aircraft can be achieved from information provided by an air traffic controller, from an TCAS TA or by visual acquisition.

There is no intent to require a modification in vertical speed for every level-off.

Use a vertical speed of no more than 1,000 ft/min throughout a climb or descent when the vertical interval is not large, such as a change of altitude in a holding pattern.

8.3.20.1.12 Lighting Policy

Revision: 21 - 5 MAY 23

Navigation/Position Light and Logo Lights

Between 15 minutes before sunset and 15 minutes after sunrise or in low visibility conditions:

- Navigation/Position lights shall be on; and
- Logo lights should be on when on the ground and below 10,000 ft.

Anti Collision Lights

Anti collision lights shall be on at any time an aircraft is taxiing or being towed after all doors are closed and the gate/stairs have been moved from the aircraft until the engines have been shut down.

Strobe Lights

Strobe lights shall be switched on when entering a runway and switched off when leaving a runway.

Taxi-/Landing-/Turn-off Lights

Taxi-/landing-/turn-off lights shall be used as described below and when required by the OM Part B, or according to security requirements. All required aircraft exterior lights shall be switched on before taxi, but only after receiving taxi clearance and when ready to start taxiing. They may also be used for identification purposes with airport control and as urgency signals (refer to OM Part C).

Use all fixed landing and taxi lights for landing excluding cases where they interfere with the visibility or if defined otherwise due to security reasons.

For aircraft equipped with retractable landing lights:

- They are not required to be used during daylight;
- When used for take-off, they may be switched off after the Take-off Procedure is complete.

During fog, snowfall, etc. landing lights may reduce visibility and produce visual illusions. In this case they should be used appropriately. When lights are used while taxiing, care should be taken not to blind other aircraft or marshallers.

If the aircraft has been stopped during taxi and specifically when doing so to give way to other traffic on the ground, it is good practice to turn off the taxi lights as a consideration to other pilots.

After landing, all required aircraft exterior lights shall be switched on according to the prevailing lighting conditions.

NOTE	Taxi lights and turn-off lights are a minimum requirement for taxi and may be turned off once the Take-off Procedure is complete.

8.3.20.1.13 Weather Monitoring En-route

Revision: 19 - 14 MAR 21

The flight crew shall continuously monitor weather information during the en-route phase of flight, to include current weather and forecasts, as appropriate, for:

- Destination airport, destination alternate airport(s), en-route alternate airport(s), as applicable;
- En-route weather (by use of WX radar, during night flights) and when visibility is restricted for any reason.

The monitoring of en-route weather should ensure the crew maintains an awareness of the weather at surrounding airports, in case a diversion becomes necessary. Preference should be given for EL AL destinations along the route.

8.3.20.1.14 Flight Crew Briefings

Revision: 21 - 5 MAY 23

General

It is very important that flight crew briefings emphasize the relevant threats as identified by the crew, and shall focus on the ways to mitigate those threats.

Applicable charts from the OM Part C and the displays and data of the FMS shall be prepared and crosschecked by both the PM and the PF prior to starting of the briefing.

It is not necessary to brief normal or standard procedures as well as information that has already been checked and crosschecked if no non-standard procedures are involved.

The Pilot Flying should start the briefing by identifying the relevant threats. The PM should add any additional threats he identifies.

All threats shall be addressed by the crew.

The Pilot Flying may use the applicable charts of the OM Part C and the displays and data of the FMS for the briefing.

The following shall also be included in the briefings:

- Aircraft differences (such as aircraft specific configurations, 737-800/900, 777/787-8/787-9 handling or dimensions);

- Any MEL or failures;
- Non standard procedures.

Taxi Briefing

Taxi briefing should include the following items:

- Push back and expected engine start positions;
- Expected taxi routes;
- Hot Spots;
- Relevant NOTAMS;
- Taxiway surface conditions;
- Effect of weather on flap settings, anti-ice use and engine run up procedures.

Take-off Briefing

The take-off briefing shall include the Take-Off intersection which was given by ATC and any other special performance aspects, the RTO (at least for the first flight of the day) and the Engine Failure Procedure as a minimum.

Departure Briefing

The departure briefing should be conducted prior to each departure. It is a description of the departure flight path with emphasis on anticipated track and altitude restrictions.

Additional briefing items may be required when any elements of the take-off and/or departure are different from those routinely used.

These may include:

- Adverse weather and terrain;
- Adverse runway conditions;
- Unique noise abatement requirements;
- Any other situation where it is necessary to review or define crew responsibilities;
- Climb-out and departure procedures for the runway and outbound routing from the departure airport.

Emergency Briefing

The Emergency Briefing covers the eventuality of system degradations that affect aircraft performance such as an engine failure or loss of cabin pressure.

The PIC shall ensure that an emergency briefing is given on a regular basis. The emergency descent procedure for areas where local regulations or high terrain dictate special procedures, shall be briefed before approaching such an area.

The following items are particularly important:

- Emergency procedures and routings;
- Terrain clearance and emergency turn procedures.

Descent and Approach Briefing

Proper execution of the descent, approach, and landing begins with preparation.

Pilots shall make every effort to obtain updated weather and field conditions, prior to the top of descent. Miscellaneous announcements to the cabin, company communications, and physical flight deck preparation, such as meal removal, should be completed at this time. On short flight segments consider briefing the approach prior to departure.

This briefing should include the following items:

- Weather reports (destination and alternate as applicable);
- Relevant NOTAMs;
- Aircraft serviceability;
- Fuel and routing to alternate, if applicable;
- Terrain and environment surrounding the airfield;
- Airport layout; raise awareness in case of close parallel runways;
- STAR (limitations, Clearance limit, holdings, FMC);
- Type of approach and Expected Runway;
    - A review of the current Jeppesen approach chart and briefing strip including MSA, minima limitations, and missed approach;
    - For CATII/III approaches, review the briefings in the QRH - OPS Info;
    - Visibility requirements, versus reported weather;
    - Approach setup (Radio Nav settings, minima etc);
    - Airport and approach lighting system.
- Landing and performance assessment;
    - For degraded or limited runways, brief limiting conditions (i.e. RLD, crosswind and crew limitations, taxi speeds);
    - Approach flap setting;
    - Autobrake setting.
    - Use of reverse thrust;
    - Autopilot disconnect height;
    - Displaced threshold, which may give the illusion of the runway being longer than it actually is;
    - If a Revised TDZ will be used and how it will be determined.
- Taxi considerations
    - Runway exit plan;
    - Probable taxi directions;
    - “Hotspots” unique or complex intersections;
    - Engine out taxi.
- Go-around procedure.

If low visibility operations are forecast, the crew shall prepare in advance for CAT II / CAT III approaches.

If the conditions indicate a possibility of diversion, the route and arrival for the alternate landing airport should be entered in the FMC (as applicable).

Approaches without Charts

In the event of an abnormal or emergency situation, before conducting an instrument approach without an approach chart, the pilot shall obtain the following information from the FOO or the ATC controller:

- NAVAID I.D. and frequency;
- Airport elevation;
- Initial approach altitude;
- Final approach course;
- Applicable approach minima;
- Missed approach point (if applicable);
- Missed approach procedure;
- Any additional approach or airport information that applies (i.e., MSA or circling procedures).

8.3.20.1.15 Crew Coordination Concept

Revision: 19 - 14 MAR 21

Good communication and cooperation among all crew members is of importance during all phases of the flight. Both the PM and the PF shall perform cross checks during all phases of the flight. Any one of the crew shall comment in a clear and concise manner of any deviation from the required flight path, on approaching or deviating from any limitations, directives or procedures. For additional information, refer to Chapter *8.3.20.1.15. Flight Path Monitoring* below.

When the First Officer/Co-Pilot is PF, the Captain should refrain from interfering with him regarding flying the aircraft, as long as the flight is conducted according to the company SOP, is within the performance and safety limits and is flown efficiently.

When the PF is distracted from flying or navigating the aircraft, he shall handover control to the PM by reviewing the momentary status and clearance limit and thereafter saying “You have control”, The PM will respond “I have control” when he has understood the given instructions, thus ensuring one pilot is always maintaining a traffic watch, navigating and flying the aircraft.

Changes to flight modes or actions that change the status of systems shall be declared by the pilot making the change and acknowledged by the other pilot.

If the pilot performing radio communications wishes to leave listening watch for any reason, the crew member will announce “You have RT” and the other crew member will respond “I have RT”.

Before transferring controls in order to leave the pilot seat, the pilot leaving shall ensure that the remaining pilot:

- Has unobstructed access to the flight controls;
- Is aware of the flight situation and fuel status; and
- Is alert and ready to take over controls.

In case of only one pilot being at the controls, the flight management work shall be performed by this pilot. Upon return of the second pilot he will brief the other pilot of all changes which occurred during his absence.

The Cabin Crew should always bear in mind that an aircraft emergency can occur without the Flight Crew being immediately aware of the situation, e.g., APU fire, fuel truck fire, cabin fire, engine fire, smoke in the cabin, noise and vibrations. The Cabin Crew shall not disregard any observation made by the passengers regarding any irregularity and shall check if there is any cause for concern. Vigilance in detecting any unusual situations in the early stages is essential.

Cabin Crew shall report any such occurrences to the Flight Crew immediately, even if an associated passenger address announcement has already been made by the Flight Crew, excluding from the beginning of the take-off run until 2 minutes after take-off.

The Cabin Crew shall inform the PIC when emergency equipment is used or when it is inoperative.

8.3.20.1.15.1 Flight Path Monitoring

Revision: 19 - 14 MAR 21

Throughout the flight, pilots are required to monitor many functions, the state of aircraft systems, aircraft configuration, flight path and the actions of the other pilot in the cockpit. Thus, the number of opportunities for error is enormous, and many of those opportunities are associated with two safeguards themselves designed to guard against error: checklists and monitoring.

Effective monitoring helps in mitigating error risk and catching errors. Inadequate monitoring may lead to serious incidents and accidents.

Monitoring should be considered a core defense that flight crews use to enhance their threat and error management performance. Successful flight path management is a keystone to mitigating safety hazards.

Both pilots have a primary responsibility to monitor the aircraft’s flight path!

Refer to Chapter ***8.0.4.3 Pilot Flying and Pilot Monitoring Priorities***.

Guidelines for Monitoring

Guidelines for monitoring include:

- Following SOPs consistently;
- Clearly communicating deviations to other crew members;
- Aggressively rejecting distractions;
- Remaining vigilant;
- Intervening if flight guidance modes or aircraft actions don't agree with expected actions;
- Continuously comparing known pitch/power settings to current flight path performance;
- Considering that the primary flight displays and navigation displays (PFD, ND) might be “lying" and always being on the lookout for other evidence that confirms or disconfirms what the displays are saying;
- Methodically regaining flight path situational awareness (SA) after completing non-flight-related tasks;

- Alerting other crew members when monitoring is inhibited (e.g., head down).

Interruptions and distractions often contribute to or result in inadequate monitoring of aircraft flight path and flight deck automation.

Effective Flight Path Monitoring

To achieve effective monitoring:

- Maintain a silent flight deck as well as sterile flight deck during critical phases of flight;
- "Silent flight deck" means both pilots monitor flight path, and make callouts as stated in the Standard Callouts. All the appropriate responses of the aircraft systems to commands should be monitored silently;
- Verbalize immediately, clearly, and assertively any unexpected result of a mode selection or unexpected spontaneous mode changes and degradation or incorrect mode selection for the phase of flight;
- Verbalize immediately, clearly, and assertively any significant deviation from desired flight path or parameters;
- Verbalize FMC entries;
- Verbalize MCP mode selection;
- Brief any non-standard operation expected;
- Change level of automation up or down to increase Situational Awareness or to force attention to flying the aircraft as appropriate;
- Brief flight path-related plans. For the Pilot Monitoring (PM) to effectively monitor the flight path, he/she needs to know what path the Pilot Flying (PF) intends to fly. When the PF shares his/her intentions, it informs the PM what to monitor;
- During this briefing, encourage the PM to call out any deviation from the briefed plan;
- Announce deviations from the pre-briefed plans;
- Provide positive feedback for deviation callouts;
- If the PF detects his or her own deviation, he/she should make the deviation callout;
- Use techniques that help to direct and focus attention, particularly for items not repeatedly scanned;
- Manage workload to prioritize flight path monitoring. Plan (or shed) non-flight path workload to minimize the number of tasks to be performed when monitoring is particularly crucial. For example:
    - Refuse complex ATC clearances (i.e., state "Unable") or ATC clearances that compress time if not previously anticipated and prepared for by the flight crew (e.g., short approach, switch runways, clearance for immediate take-off);
    - Do not answer cabin calls during high workload phases or ATC communication.
- Alert the other pilot(s) when you will not be monitoring for any reason. For example, say: "I'm going head-down to review the approach plate";
- Be particularly attentive to the flight guidance automation;

- Ensure that the PM/PF verifies all flight management system (FMS) changes before they are executed;
- If the PF needs to address a concentration-intensive or distracting flight deck task during taxi:
  - Delay completing the task until on a long, straight taxiway and transfer aircraft control (if allowed by SOPs); or
  - Stop the aircraft and set the parking brake (advise ATC if necessary).

Use the method below for alerting crew members to the deviation:

1. Verbalize – call the deviation;
2. Verify – make sure other crew members understand and respond to your call;
3. Monitor – monitor for proper corrective actions.

Be especially vigilant in areas of vulnerability.

Refer to the “Distraction Free AOV” policy in Chapter *8.3.20.1 General Operating Procedures*.

8.3.20.1.16 Crew Resource Management (CRM) / Threat and Error Management (TEM)

Revision: 19 - 14 MAR 21

Crew resource management is the application of team management concepts and the effective use of all available resources to operate a flight safely. In addition to the crew, it includes all other groups routinely working with the crew who are involved in decisions required to operate a flight.

These groups include, but are not limited to, FOOs, cabin crew, maintenance personnel, and air traffic controllers. Throughout this manual, techniques that will help build a good CRM on the flight deck are discussed.

Effective resource management recognizes that human error is likely. The goal is to promptly detect and correct them when they are made, and to reduce the probability that serious errors will occur.

The PIC exercises the final authority in relation to the operation of the aircraft; however, it is the responsibility of all crew members to contribute to the decision-making process to help ensure that the best decisions are made.

It is important that all flight crew and cabin crew members identify and communicate any situation that appears unsafe or out of the ordinary. If any crew member has any doubt about the flight's safety, they must speak up with appropriate persistence until there is some resolution. All crew members must balance assertiveness with tact. The crew's goal must be to choose the safest or best course of action, regardless of whose idea it was.

In order to allow for effective CRM, flight crew should adhere to the following:

- Plan and brief automation modes and configurations;
- Verbalize entries and selections to automated systems;
- Both pilots should monitor the flight path at all times including awareness of automation modes.

CRM FOR-DEC for Decision Making

It should be emphasized that during decision-making, flying the aircraft always comes first!

“Aviate, Navigate, Communicate”.

It is company policy to use the FOR-DEC decision making aid to analyze and cope with non-normal situations under certain conditions. FOR-DEC can be called for by either crew member and must not be ignored.

FOR-DEC stands for:

Facts
Options
Risks/Benefits

Decision
Execution
Check/Re-Check

When should FOR-DEC be used?

FOR-DEC should be used when time pressure is not critical, and wrong decisions might have severe or even fatal consequences.

Why use FOR-DEC?

It is important to provide **structure to the decision-making process in critical situations.**

Structured and methodical consideration of all elements can prevent reckless decisions and allow for thorough coverage of the facts and consideration of aspects that might be omitted otherwise. These elements may include, for example:

- Choice among options;
- Situation assessment;
- Prior Experience;
- Risk assessment.

In addition, crew members working together can seek more information, can find more options, and are better at evaluating possible risks and benefits than a single pilot.

Bear in mind that stress can lead to mistakes and poor decisions. The decision-making process will tend to go bad when it is unstructured and not thoroughly adjusted, and when it simply “happens” rather than being conscientiously managed.

Using FOR-DEC forces the crew to name the facts. It also makes sure that copilot's voices are heard.

What does FORDEC stand for?

Facts: “What's the matter?”

- When a structured decision making process is needed, facts about the pilots, aircraft, situation, the environment, and any extra considerations and conditions must be collected to assess the situation.

Options: “What possibilities do we have?”

- After analyzing the facts, numerous possible responses can be raised. If analysis of the situation leads to an SOP or checklist - follow it.
- If any of the crew members have experienced a similar situation in the past, that experience and lessons learned should be taken into consideration.

Risks and Benefits: "What are the pros and cons?"

- Possible solutions shall be weighed for applicability, expected benefits and potential risks. Compare the options to one another.
- This phase is essentially a simplified risk assessment.

The first part of the FOR-DEC will allow the crew to bring their views, thoughts, and experience into the process. It is the PIC's responsibility to allow the crew to freely participate in the process and to hear them out before making the decision.

Decision: "What are we going to do?"

- The solution providing the least risks and most benefits should be selected. A back-up option should also be discussed in case the situation changes.
- As a good leadership practice, the PIC should hear all his crew members before selecting a course of action.

Execution: "Who does what, when, and how?"

- The selected option shall be planned, briefed, and executed in a coordinated manner using all available resources.

Check and recheck: "Is everything still okay?"

- Actions and outcomes shall be continuously be monitored and compared with expected results. Check for any unforeseen, overlooked, or new developments.
- Check whether anything essential was missed and whether all available information has been taken into consideration.
- Amend the selected course of action if deemed necessary by new circumstances or information.

CRM TEST

It is company policy to use the acronym "TEST" to communicate non-normal situations with the ISM. Time permitting, the flight crew shall use the CRM TEST procedure when providing the ISM with an emergency briefing.

The CRM TEST includes the following parts:

Type of emergency

Evacuation required

Signal to be given for evacuation

Time available

If applicable, the flight crew shall also state that "brace for impact" will be required. Brace for impact is always required for ditching. In this case the cabin crew shall expect the following announcement several moments before landing: "Brace for impact, עברו לתנוחת חירום"

If after an event where an emergency evacuation was anticipated, however it is not needed, the PIC should make a PA announcement according to the QRH - Ops Info.

In case the anticipated time available changes significantly after completing the TEST briefing, the PIC shall update the ISM accordingly.

NOTE	Cabin preparation for an emergency landing takes approximately 15 minutes.

CRM Policy in an Augmented Crew

Revision: 19 - 14 MAR 21

Only two flight crew members are required on the flight deck, regardless of the crew composition[86]. In an augmented crew, although additional flight crew member(s) on the flight deck may have advantages, there are also disadvantages that usually outweigh the advantages (see discussion below). Therefore, their presence is usually not encouraged. However, they may be present on the flight deck due to lack of cabin seats, the PIC's request, or during IOE or Line Checks, etc. Presence of additional flight crew members on the flight deck should be coordinated by the crew, and is subject to the PIC's discretion.

While on the flight deck during critical phases, the sterile flight deck shall be observed. Any additional crew member(s) shall not disturb, distract, or interfere with the operating crew. They should only comment if they notice a critical safety situation which was not observed by the pilots at the controls in due time, and is likely to lead to a serious incident or accident.

Although a third pilot on the flight deck can provide an extra “set of eyes” not preoccupied with operating the aircraft, crewmembers at the controls must be aware of the negative impact additional crew members in the cockpit might have, and should act as if they are alone in the cockpit.

Human performance research shows that extra crew members on the flight deck can cause the following:

- Distractions;
- Awareness of being watched which can actually cause worse performance on complicated tasks (“Social Facilitation”);
- Subconsciously creates a fear of speaking “before an audience” or doubting one's self (“if nobody else noticed what I'm seeing, I must be wrong”). This can lead to failure to call anomalies, state an unexpected event, or ask for clarification (“Social Inhibition”);
- Subconsciously creates a mindset of “there are so many pilots here that someone will see if something goes wrong. I can lower my guard”. (Complacency/ “Social Loafing”).

Notwithstanding the above, during FOR-DEC, additional experience may prove useful. Two-man cockpit CRM principles shall first be observed and only after they have been followed, may the additional crew member(s) be consulted.

Movement of Switches on the Flight Deck

In order to ensure crew awareness and cross-check, crew members should announce whenever adjusting a switch or control that affects the operation of the airplane (excluding personal switches such as lighting, audio, or displays).

86 Except as required by *4.1.4 Crew Composition during IOE & LQC and SOE & LC*.

8.3.20.1.16.1 The Components of TEM

Revision: 19 - 14 MAR 21

EL AL has adopted the Threat and Error Management (TEM) concept, and it shall be applied by flight crews during all phases of flight preparation and execution. TEM is a safety concept regarding aviation operations and human performance. It does not focus on how to technically fly an airplane; instead, TEM promotes a proactive approach that maximizes safety margins.

The TEM model proposes that threats (such as adverse weather), errors (such as a pilot selecting a wrong automation mode), and undesired aircraft states (such as an altitude deviation) must be managed by Flight Crews with effective use of appropriate resources in order to maintain margins of safety.

There are three basic components of TEM:

1. **Threats** are defined as events or errors that:
    - Occur beyond the influence of the flight crew (i.e. are not caused by the crew);
    - Increase operational complexity; and
    - Which must be managed to maintain the margins of safety.

    See examples in Table 1 below.
2. **Errors** are defined as flight crew actions or inactions that:
    - Lead to deviations from crew or Company operational intentions or expectations;
    - Reduce safety margins; and
    - Increase the probability of adverse operational events on the ground or during flight.

    See examples in Table 2 below.
3. **Undesired aircraft state (UAS)** is defined for TEM purposes as a position, speed, attitude, or configuration of an aircraft that:
    - Results from flight crew error, actions, or inaction; and
    - Clearly reduces safety margins.

    See examples in Table 3 below.

Put simply, threats come “at” the crew, while errors come “from” the crew. Threats, errors, and UASs are parts of daily flight operations and must be managed to maintain safety.

Threat management can be defined as how crews anticipate and/or respond to threats. A mismanaged threat is linked to or can lead to flight crew error. For example, a late runway change might lead to a procedural shortcut that results in further error, just as a gate agent interruption could distract the flight crew from completing a checklist, causing them to miss an incorrect flaps setting for take-off.

Error management involves detecting and correcting errors. A mismanaged error can reduce safety margins by leading to another error or an undesired aircraft state.

As with errors, **UASs** can be managed effectively, returning the aircraft to optimally safe flight, or mismanaged, leading to an additional error, undesired aircraft state, or worse - an incident or accident.

TEM Tools & Techniques

The TEM philosophy stresses three basic concepts: **anticipation, recognition, and recovery**.

Threat and Error Management

Anticipate	Recognize	Recover

Anticipate

Threats and errors are everyday events and no one can know exactly what threat will jeopardize safety or when an error will happen.

However, with the threats identified and the plan developed, both the PF and PM will have an enhanced ability to monitor the flight path compared against the baseline performance as agreed upon during the briefing, and recognize when there is a divergence from the plan. The key to anticipation is accepting that while something is likely to go wrong, you can't know exactly what it will be or when it will happen. Hence, a chronic unease (being "slightly paranoid") reinforces the necessary vigilance.

Recognize

Recognition is detecting and challenging error OR recognizing when the operation has shifted away from the baseline and situational awareness and/or safety margins begin to degrade.

"See it? Say it!" - Verbalize actions, intentions, new threats, errors, or changes to the plan.

An important element in an interactive briefing is that both crew members are able to monitor the flight path for baseline performance as stated in the plan, and they have the opportunity to recognize errors when planned expectations are not met. Either pilot detecting this shift shall communicate in a clear, concise, and effective manner, what they have observed. Communicating in this manner obligates the other pilot to respond for the situation or phase of flight in order to improve situational awareness and regain an adequate margin of safety. It is important that the PM ensures the degrading situation is adequately communicated and actioned by the PF.

Recover

Recovery occurs when a threat or error has led to a UAS and action is taken to restore aircraft control or situational awareness. Recovering adequate safety margins is the first line of action: recover first, analyze the causes later. Recovery will look different for each circumstance but may simply be a safety pause to regain situational awareness, a delay vector or hold to add more time. For high-risk situations, recovery may require various reactions including stopping the aircraft, aborting a take-off, or deciding to go around. If the PM detects the margin of safety is in jeopardy or seriously degraded situational awareness has occurred, he shall clearly, concisely, and effectively communicate the situation or problem or recommend an immediate course of action appropriate for the phase of flight. The PF is then obligated to react accordingly in order to restore situational awareness and regain the safety margin. As a last resort, if all other measures fail, the PM must assume aircraft control.

Anticipation builds vigilance, and vigilance is the key to **recognizing** adverse events and error. Recognition leads to **recovery**.

Status	Pilot Monitoring (PM)	Pilot Flying (PF)
Anticipate	Identify relevant threats Understand the plan Observe the execution of the plan Be Vigilant - especially in a High Risk Phase	Plan Develop Communicate Execute
Recognize	Communicate - SEE IT? SAY IT! New Threat Recognition Error detection Change to the plan	Respond
Recover	Attempt to restore Situational Awareness or Recommend/direct a course of action or Last resort - assume aircraft control	React

Many of the CRM best practices can be considered TEM countermeasures:

- **Planning countermeasures** - planning, preparation, briefings, contingency management-are essential for managing anticipated and unanticipated threats;
- **Execution countermeasures** - monitor/cross-check, taxiway/runway management, workload and automation management-are essential for error detection and error response;
- **Review/Modify countermeasures** - evaluation of plans, questioning -are essential for managing the changing conditions of a flight.

Table 1 – Threat Types with Examples

Environmental Threats	Examples
Adverse Weather	Thunderstorms, turbulence, poor visibility, wind shear, icing conditions, IMC
Airport	Poor signage, faint markings, runway/taxiway closures, INOP navigational aids, poor braking action, contaminated runways/taxiways
ATC	Tough-to-meet clearances/restrictions, reroutes, language difficulties, controller errors
Environmental Operational Pressure	Terrain, traffic, TCAS TA / RA, radio congestion
Airline Threats	**Examples**
Aircraft	Systems, engines, flight controls, or automation anomalies or malfunctions; MEL items with operational implications; other aircraft threats requiring flight crew attention
Airline Operational Pressure	On-time performance pressure, delays, late arriving aircraft or flight crew
Cabin	Cabin events, flight attendant errors, distractions, interruptions
Dispatch/Paperwork	Load sheet errors, crew scheduling events, late paperwork, changes or errors
Ground/Ramp	Aircraft loading events, fuelling errors, agent interruptions, improper ground support, de-icing
Ground Maintenance	Aircraft repairs on ground, maintenance log problems, maintenance errors
Manuals/Charts	Missing information or documentation errors

Table 2 – Error Types with Examples

Aircraft Handling Errors	Examples
Automation	Incorrect altitude, speed, heading, autothrottle settings, mode executed, or entries
Flight Control	Incorrect flaps, speed brake, autobrake, thrust reverser or power settings
Ground Navigation	Attempting to turn down wrong taxiway/runway Missed taxiway/runway/gate
Manual Flying	Hand flying vertical, lateral, or speed deviations Missed runway/taxiway failure to hold short, or taxi above speed limit
Systems/Radio/Instruments	Incorrect pack, altimeter, fuel switch or radio frequency settings
Procedural Errors	**Examples**
Briefings	Missed items in the brief, omitted departure, take-off, approach, or handover briefing
Callouts	Omitted take-off, descent, or approach callouts
Checklist	Performed checklist from memory or omitted checklist Missed items, wrong challenge and response, performed late or at wrong time
Documentation	Wrong weight and balance, fuel information, ATIS, or clearance recorded Misinterpreted items on paperwork
PF/PM Duty	PM doing PF duties, PF doing PM duties
SOP Cross-check	Intentional and unintentional failure to cross-check automation inputs
Other Procedural	Other deviations from regulations, OM requirements or SOP
Communication Errors	**Examples**
Crew to External	Missed calls, misinterpretation of instructions, or incorrect read-backs to ATC Wrong clearance, taxiway, gate or runway communicated
Pilot to Pilot	Within-crew miscommunication or misinterpretation

Table 3 – UAS Types with Examples

UAS Types	Examples
Aircraft Handling	Vertical, lateral or speed deviations Unnecessary weather penetration Unstable approach Long, floated, firm or off-centerline landings
Ground Navigation	Runway/taxiway incursions Wrong taxiway, ramp, gate, or hold spot Taxi above speed limit
Incorrect Aircraft Configuration	Automation, engine, flight control, systems, or weight/balance events

8.3.20.1.17 Declaring an Emergency (Distress or Urgency)

Revision: 19 - 14 MAR 21

The decision to declare an emergency rests with the PIC after assessment of a relevant abnormal or imminent dangerous situation. The PIC shall assess whether the emergency is a distress or urgency condition, as defined below.

8.3.20.1.17.1 Distress Call

(*) Revision: 23.1 - 15 MAR 25

Distress is a condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

Such conditions could be but are not restricted to:

- The requirement to consider an immediate landing;
- An emergency descent without prior ATC clearance;
- Any deviation from cleared route and/or flight level;
- Any uncontrollable smoke or fire situation;
- Difficulties controlling the aircraft (e.g. flight control or hydraulic malfunctions);
- Any situation that could lead to a passenger evacuation.

In addition to being preceded by the radiotelephony distress signal MAYDAY, preferably spoken three times, the distress message to be sent by an aircraft in distress shall:

1. Be on the air-ground frequency in use at the time;
2. Consist of as many as possible of the following elements spoken distinctly and, if possible, in the following order:
   a. Name of the station addressed (time and circumstances permitting);
   b. The identification of the aircraft;
   c. The nature of the distress condition;
   d. Intention of the person in command;
   e. Present position, level (i.e. flight level, altitude, etc., as appropriate) and heading.

Flight Crew should be prepared to give the following information:

- Fuel on board: endurance and quantity;
- Dangerous goods on board (if any);
- Souls on board.

Distress traffic shall normally be maintained on the frequency on which such traffic was initiated until it is considered that better assistance can be provided by transferring that traffic to another frequency.

NOTE	121.5 MHz or alternative available VHF or HF frequencies may be used as appropriate.

The Flight Crew of an aircraft in a state of emergency shall set the transponder to Mode A Code 7700 unless ATC has previously directed the Flight Crew to operate the transponder on a specified code. In the latter case, the Flight Crew shall continue to use the specified code unless otherwise advised by ATC. However, the Flight Crew may select Mode A Code 7700 whenever there is a specific reason to believe that this would be the best course of action.

Preoccupation with remedial action shall not allow the declaration of emergency to be overlooked or delayed. Airports fire and rescue services may need to be supplemented from local resources, and while such operations are usually planned in advance there is obvious advantage in giving the maximum warning time. The earliest possible notification to ATC should be given, i.e. on first contact with the appropriate area ATC unit in which the destination airfield is situated. Standing down the emergency services is a much simpler operation than arranging a full turn-out without adequate warning. When an aircraft is no longer in distress, the crew shall transmit a message cancelling the distress condition.

8.3.20.1.17.2 Urgency Call

Revision: 19 - 14 MAR 21

Urgency is a condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but which does not require immediate assistance.

In addition to being preceded by the radiotelephony urgency signal PAN PAN, preferably spoken three times and each word of the group pronounced as the French word “panne”, the urgency message to be sent by an aircraft reporting an urgency condition shall:

1. Be on the air-ground frequency in use at the time;
2. Consist of as many as required of the following elements spoken distinctly and, if possible, in the following order:
    a. The name of the station addressed;
    b. The identification of the aircraft;
    c. The nature of the urgency condition;
    d. The intention of the PIC;
    e. Present position, level (i.e. flight level, altitude, etc., as appropriate) and heading;
    f. Any other useful information.

Urgency traffic shall normally be maintained on the frequency on which such traffic was initiated until it is considered that better assistance can be provided by transferring that traffic to another frequency. When an aircraft is no longer in an urgency situation, the crew shall transmit a message cancelling the distress condition.

8.3.20.1.18 Emergency Descent

Revision: 19 - 14 MAR 21

This section describes the procedures for emergency descent.

Emergency Descent Procedures (ICAO 7030/4 paragraph 6.1):

When an aircraft experiences sudden decompression or a (similar) malfunction requiring an emergency descent, the flight crew shall, if able:

1. Initiate a turn away from the assigned route or track before commencing the emergency descent;
2. Advise the appropriate air traffic control unit as soon as possible of the emergency descent;
3. Set transponder to Code 7700 and select the Emergency Mode on the automatic dependent surveillance/controller-pilot data link communications (ADS/CPDLC) system, if applicable;
4. Turn on aircraft exterior lights;
5. Watch for conflicting traffic both visually and by reference to TCAS; and
6. Coordinate further intentions with the appropriate ATC unit.

The aircraft shall not descend below the lowest published minimum altitude which will provide a minimum vertical clearance of 1,000 ft or in designated mountainous terrain 2,000 ft above all obstacles located in the area specified.

NOTE	The OM Part C contains Route/Area specific Emergency Descent Procedures. These procedures should be briefed before entering the relevant area.

Descent Profiles if descent is due to loss of cabin pressurisation

- According to the OM Part B (FCTM);
- If the safe altitude is above 10,000' maintain V_{MO} until reaching an altitude of 10,000 ft.

After descending to or below 10,000 feet, the flight crew shall notify the cabin crew that oxygen masks may be removed.

8.3.20.1.19 Situational Awareness Recommendations

Revision: 19 - 14 MAR 21

In order to maintain positive situational awareness, all pilots should:

- Maintain an awareness of physical location of the aircraft;
- Maintain an awareness of the automation systems and modes selected by the crew or automatically initiated by the flight management computer (mode awareness) to effectively monitor flight path;
- Maintain an awareness of the capabilities available in engaged automation modes (mode confusion);
- Effectively monitor systems and selected modes to ascertain that the aircraft is on the desired flight path;
- Recognize if making automation inputs is becoming a burden to situational awareness and select a more appropriate level of automation;
- Ensure that distractions do not degrade overall crew situational awareness;
- Alert crew when added vigilance or attention may be necessary;
- Recognize and inform other crew members when individual awareness is low; and
- Maintain an awareness of other crew/team member's capabilities.

The PIC should:

- Monitor or assign duties per operational requirements;

- Divide awareness tasks to enhance effective monitoring of the flight path; and
- Brief and initiate strategies for handling distractions that degrade monitoring.

The Co-pilot should:

- Suggest attention priorities when recognizing situation awareness is low;
- Contribute information to enhance the crew and the captain's situation awareness.

8.3.20.1.20 HUD Policy

Revision: 19 - 14 MAR 21

For airplanes equipped with an operational HUD, it should be down for critical phases of flight, except that it may be up for taxi.

Operational credit (i.e. reduced minima) is not permitted.

8.3.20.2 Flight Phase Related Operating Procedures

8.3.20.2.1 Performance Calculations

Revision: 19 - 14 MAR 21

The flight crew shall use the OPT application for take-off and landing performance calculations.

The FMS and the In-flight Performance chapters in the OM Part B should be used for other performance calculations.

8.3.20.2.2 Use of Checklists

Revision: 19 - 14 MAR 21

The checklist provided in the OM Part B (FCOM) shall be used by the flight crew prior to, during and after all phases of flight operations and in abnormal and emergency situations. The checklists' sequence shall be strictly followed.

8.3.20.2.3 Pre-flight

(*) Revision: 23.1 - 15 MAR 25

Departure Clearance Procedure

When using voice communications for departure clearance, both flight crew members must be present on the flight deck. After receiving the departure clearance, the following steps shall be carefully performed:

1. Both crew members review the clearance;
2. Make any necessary entries and settings to the FMC, MCP, instruments, and radios;
3. Verify and cross-check that the FMC, MCP, instruments, and radios are programmed and set according to the clearance, especially:
   - Initial altitude;
   - Runway;
   - SID.

Take-off Calculations Fundamental Principles

1. Take-off performance calculation and FMC programming should be conducted with no distractions;
2. Take-off calculations shall only be performed using the OPT application. If the airport does not exist in OPT, contact OCC and/or refer to the OPT User Manual;
3. Maximum thrust reduction should be used subject to operational considerations as per the guidelines listed in this section;
   a. Combined Fixed Derate and Assumed Temperature Method is approved (except 4X-EKT), and should be used;
   b. 4X-EKT is approved for Assumed Temperature Method only.
4. Take-off calculation results shall be cross-checked as per the requirements listed in this section;
5. Recalculating take-off performance after completion of entering the data to the FMC is undesirable, unless there has been a degradation from the conditions used for the calculation. The PIC should exercise good judgement as to whether it is necessary to recalculate take-off data after completion of the Before Start checklist;
6. Refer to the QRH - Ops Info "Take-off and Landing Runway Condition and Crosswind Limitations" for rules governing runway condition selection and crosswind limitation.

NOTE	To avoid data entry mistakes, calculation results should be transferred from OPT and downlinked to the FMC whenever possible.

Thrust Reduction and Ambient Conditions Guidelines

When performing a reduced power take-off, as a matter of balancing the risk of pilot errors against maximum thrust reduction, the following guidelines should be used to create a performance margin that will prevent the need for recalculation:

- For reported light and variable wind, use 3 knots tail wind;
- For tailwind, use twice the value;
- For headwind, use zero wind;
- When the temperature is expected to rise, use the expected temperature;
- The take-off weight used for performance calculations should be the ramp weight;
- **If needed due to performance limitations, use actual conditions.**

OPT Settings

The policy is to use the OPT settings below for calculating take-off performance. However, if the required take-off weight cannot be achieved with these settings or if the crew considers different settings to be in the interest of safety, select different settings.

ZFW, thrust reduction and take-off speeds shall be updated only after the final Load Sheet Document data is available.

<u>FLAP:</u>

- 737 – Optimum, unless the Optimum result is 1. In that case, use Flaps 5 (Unless Flaps 5 is not applicable);

- 777/787– Optimum.

When using Optimum – after the OPT calculates the optimum flap setting, the selected flap setting shall be entered into the FLAP field in place of Optimum. This is to prevent the wrong flap setting from inadvertently being used for take-off should the OPT produce a different optimum flap setting on subsequent calculations.

NOTE	Selection of a non-standard flap setting, such as 10 for 737, is identified as an AOV (Area of Vulnerability), and requires special attention and vigilance.

RTG:

- Optimum.

Improved Climb (IMCLB):

- 737 – None;
- 777/787 – Optimum.

Alternate Forward CG (A CG) – 787 Only:

The use of alternate forward CG is only allowed in order to increase take-off weight, not to achieve additional thrust reduction.

WARNING	Limitations for use of ALT CG are detailed in the OPT User Manual and must be observed.

NOTE	The Company has established margins which are accounted for in OPT calculations. For details, refer to the OPT User Manual.

Cross-Check Requirements

1. Two **independent** OPT calculations shall be performed;
2. Each flight crew member shall **independently** compare the GW to the final Load sheet data;
3. **The runway and intersection used, GW, flaps settings and power setting are critical and shall be cross-checked with utmost care and attention;**
4. The cross-check is to be performed by one of the following manners:
   a. Comparison using Bluetooth method
      i. The PIC shall call for the "Compare Calculation" feature in the OPT application;
      ii. The PIC and the Co-Pilot shall verify "Check Complete No mismatches found" message is shown.
         - If there is any mismatch between calculations it shall be resolved.
   b. Comparison without Bluetooth
      i. The PIC shall read aloud all data entered into OPT and the resulting settings;
      ii. The Co-Pilot shall compare and inform the PIC in any case of mismatch.
5. The Co-Pilot shall program the CDU and execute (as applicable) after positive confirmation from the PIC;
6. 737 only - the OPT calculated speeds shall be compared to the FMC calculated speeds. If there is a difference of more than 2 knots between the OPT and FMC speeds (excluding V_1), the calculations shall be re-checked or explained;
7. Stabilizer trim settings:

a. 737 - The stabilizer trim settings should be compared between the FMC and the OPT, a tolerance of up to ± 0,75 trim units is acceptable. The stabilizer trim should be set according to the FMC value;

b. 777/787 – It is recommended to compare the aircraft's calculated stabilizer trim settings against the load sheet, keeping in mind possible discrepancies due to use of the Assumed Temperature method;

8. The EPR/N1/TPR settings received from the OPT and those from the FMC/TMC shall be compared. If the following limits are exceeded, the calculation shall be re-checked or the discrepancy shall be explained.

The following variations are acceptable:

1. 737 – Up to ± 0.2 N1;
2. 777 – Up to ± 0.004 EPR;
3. 787 – Up to ± 1.0 units TPR.

Requirements Prior to Closing Doors

Prior to granting approval to close the doors, the PIC shall verify all of the following and verbally announce on the flight deck that the doors are being closed.

1. All required paperwork has been completed and signed as required (ATL, load sheet, NOTOC);
2. The ISM has confirmed that all safety and emergency equipment checks have been completed (see Chapter *8.3.17.4 Prior to Closing Aircraft Doors*);
3. Any outstanding issues have been resolved.

8.3.20.2.4 Engine Start

Revision: 19 - 14 MAR 21

Engine start may be performed only by:

- Qualified Flight Crew;
- Flight Crew when operating as part of their IOE;
- Authorized ground personnel.

The order of engine start is from right to left, unless the FCOM or operational considerations dictate otherwise. Starting the next engine shall commence only when the previous engine start has been completed, except for 777/787 on which simultaneous engine start is permitted.

Except for engine start during taxi, engine start shall not commence without having received positive clearance for that engine from qualified ground personnel and that the start is monitored by those personnel.

Engine start clearance shall not be given unless:

- Passenger steps, bridges or vehicles, and any ground equipment not actually required for engine start have been moved clear of the aircraft;
- All aircraft passenger and cargo doors are closed;
- It has been assured that no person or object are present under the aircraft or in any of the danger zones in front or aft of it;

- The flight deck has confirmed that parking brakes are set (after having ascertained that the relevant brake system is appropriately pressurized), or alternately, if engine start is to be performed during towing or push-back, the aircraft is attached to an approved towing vehicle under the control of authorized ground personnel.

If, at a transit stop the maintenance functions are performed by the Flight Crew, the PIC shall be responsible to assure that a person, suitably qualified and briefed with respect to the conditions for giving engine start clearance, will be present to monitor the operation and to take appropriate action in case of a fire. A suitably qualified person should be requested from the handling agent, if no company ground personnel are present.

See also Chapter ***8.2.3.16 Start-up, Ramp, Departure and Arrival Procedures***.

Engine Out Taxi, see Chapter ***8.3.21 Engine Out Taxi (EOT)***.

8.3.20.2.5 Push Back and Taxi

Revision: 19 - 14 MAR 21

Push back shall not commence until the “Before Start Checklist” has been completed (excluding packs as applicable). During any taxi operation all flight crew members shall monitor ATC radio transmissions.

Both pilots shall have the taxi charts in a position where they can be monitored. The PM shall monitor the chart, while the PF shall follow the surface markings.

If there is any doubt about the position, the aircraft shall be stopped and ATC or Apron shall be informed.

Taxiing of an aircraft on a runway or taxiway, is not permitted unless an appropriate clearance is received from the airport control tower. When a taxi clearance contains a taxi limit beyond a runway, it shall contain an explicit clearance to cross or an instruction to hold short of that runway. Do not enter or cross a runway unless explicit clearance has been given by the airport control tower.

Before crossing or entering an active runway the runway clearance has to be confirmed by both flight crew members.

8.3.20.2.6 Take-off

Revision: 21 - 5 MAY 23

An aircraft shall not take-off unless a take-off clearance is received from the airport control tower. Immediately prior to take-off the PIC shall recheck the weather and the runway condition to ensure a safe take-off and departure.

Prior to every departure the take-off data shall be calculated in accordance with the procedures outlined in Chapter ***8.3.20.2.3 Pre-flight***, “Take-off Calculations”.

CAUTION	If during take-off roll the take-off performance is in doubt and the decision is made to continue the take-off, apply full forward thrust levers on all engines.

Throughout the execution of the departure the relevant published procedure shall be followed (unless ATC directs otherwise), and shall be displayed to each of the pilots.

The initial turn after take-off shall not be made below 400 ft AGL unless local regulations or procedures dictate otherwise, or when justified by an emergency.

No track change is permitted at a height of less than 50 ft above the end of the take-off run available or at a height equal to one half of the wing span. The bank angle shall be no more than 15 degrees until reaching 400 ft AGL.

No action shall be performed by the crew besides flying the aircraft and scanning the instruments until 400 ft AGL.

Noise Abatement Procedure

Nothing in this procedure shall prevent the PIC from exercising authority for the safe operation of the aircraft.

Where a formal runway use program has been established for an airport, when assigned a noise abatement runway by ATC, the assigned runway should be used for landing or take-off. However, consistent with the final authority of the PIC concerning the safe operation of the aircraft, a different runway may be requested by the pilot in the interest of safety.

The noise abatement departure procedures (NADPs) have been developed so as to assure that the necessary safety of flight operations is maintained whilst minimizing exposure to noise on the ground.

Therefore a departure procedure has been developed to meet the close-in noise abatement objective. And another one has been developed to meet the distance noise abatement objective. The following represents the company procedure for the standard NADPs:

1. **Noise close to the airport (NADP 1):**

   Take-off to 1,500 ft above airport elevation:

   - Take-off power;
   - Take-off flap;
   - Climb at V_2 + 10 to 20 kts.

   At 1,500 ft:

   - Set thrust to climb power;
   - Climb at V_2 + 10 to 20 kts.

   At 3,000 ft:

   - Accelerate to en-route climb speed with flap retraction on schedule.

APPROVED

2. **Distant Procedure (NADP 2):**

   Take-off to 1,000 ft above airport elevation:

   - Take-off power;
   - Take-off flap;
   - Climb at V_2 + 10 to 20 kts.

   At 1,000 ft:

   - Accelerate to flaps-up speed with flap retraction on schedule.

   At 1,500 ft:

   - Set thrust to climb power.

At 3,000 ft:

- Accelerate to en-route climb speed.

NOTE	These noise abatement procedures shall only be flown in case they do not interfere with local departure procedures.

NOTE	If no noise abatement procedure is defined for the airport or the local procedures allow selection of one of the procedures, NADP 2 shall be performed.

8.3.20.2.7 Cruise

Revision: 19 - 14 MAR 21

The cruise portion of the flight may be the most uneventful part of the flight time, especially during long-range operations.

The PIC shall exert all positive efforts to obtain clearance to fly at flight levels that can achieve a safe manoeuvre margin and an optimum fuel mileage.

Flight crew members shall check and record in the OFP the fuel status and time over waypoints at least once every 60 minutes to ensure that minimum fuel upon landing will be greater than the final reserve fuel. See also Chapter *8.1.9 Operational Flight Plan (OFP) and Flight Release*. This is normally done by the Pilot Monitoring. It shall be done either using the approved EFF application, or if using paper - in ink.

If flight crew is being replaced, refer to the In-Flight Handover Checklist in the QRH - Ops Info.

8.3.20.2.8 Descent

Revision: 23 - 29 AUG 24

Before commencing descent the crew shall assess the landing performance for the runway of intended use based on existing conditions at the ETA.

OPT landing performance calculation shall be done whenever:

- The landing performance is in doubt; or
- Conditions are significantly less favourable than those presumed at time of dispatch (see Chapter *8.1.2.5 Performance Considerations*); or
- The runway is contaminated; or
- LDA is less than 8,000 ft.

The runway performance assessment shall be revalidated before descending below 1,000 ft.

Where the weather is changing rapidly at the destination, consider determining the limit of acceptable conditions in order to continue with a landing.

The assessment shall consider:

Normal Aircraft Configuration	The landing distance according to the braking action, wind, landing flaps and means of deceleration; an additional 15% is required and is included in the OPT and in the QRH. Except under emergency conditions flight crews should not attempt to land on runways that do not meet the assessment criteria and safety margins.
Non-Normal Aircraft Configuration	The landing distance according to the braking action, wind, and non-normal aircraft configuration.

NOTE	When dispatched with MEL, the appropriate NNC should be used for landing en-route calculation (refer to OPT user manual).

NOTE	For light and variable wind, use minus 3 knots.

Refer to the QRH - Ops Info "Take-off and Landing Runway Condition and Crosswind Limitations" for rules governing landing performance calculation.

Prior to starting descent the flight crew shall check terrain and applicable minimum altitudes. The PF shall brief all flight crew members planned to be present on the flight deck for the approach and landing, on the descent, approach and landing.

Extreme high rates of descent shall be avoided.

Maximum Rate of Descent

Down to an Altitude of	Maximum Rate of Descent
10,000 ft above terrain	not specified
5,000 ft above terrain	5,000 ft/min.
4,000 ft above terrain	4,000 ft/min.
3,000 ft above terrain	3,000 ft/min.
2,000 ft above terrain	2,000 ft/min.
1,000 ft above terrain	1,500 ft/min.
below 1,000 ft above terrain	1,000 ft/min.

NOTE	Some published approach profiles may require a higher rate of descent than 1,000 ft/min below 1,000 ft AGL. In this case a rate of descent of up to 1,500 ft/min is acceptable according to the Elements of a Stabilized Approach.

8.3.20.2.9 Approach and Go-Around

(*) Revision: 23.1 - 15 MAR 25

Throughout the execution of the approach the relevant published procedure shall be displayed to each of the pilots.

Before commencing an approach to land, the PIC shall check that a landing can be made in full compliance with the RLDs according to the runway condition (Dry/Wet/Contaminated) as prescribed in the AOM chapter of this OM.

If a clearance has been given for the approach is different than the one briefed, a new briefing shall be done for the changed clearance.

Stabilization of an approach has priority over all other issues such as noise abatement, traffic flow or fuel savings.

When approaching to land and performing an instrument approach procedure with vertical guidance, the approach shall be performed at an altitude at or above the glide path between the published final approach fix and the decision altitude (DA), or decision height (DH), as applicable.

When approaching to land using a visual approach slope indicator (VASI) the pilot shall maintain an altitude at or above the VASI glide path until a lower altitude is necessary for a safe landing.

The above requirements do not prohibit normal bracketing manoeuvres above or below the glide path that are conducted for the purpose of remaining on the glide path.

Full use of available radio navigation and landing aids shall be made regardless of the weather conditions.

For all approaches the relevant minimum shall be set, see Chapter *8.4 All Weather Operations*.

Stabilized Approach

Maintaining a stable speed, descent rate, and vertical/lateral flight path in landing configuration is commonly referred to as the stabilized approach concept.

Any significant deviation from planned flight path, airspeed, or descent rate shall be announced. The decision to execute a go-around is not an indication of poor performance.

CAUTION	Do not attempt to land from an unstable approach.

Elements of a Stabilized Approach

An approach is considered stabilized when all of the following criteria are met:

- The airplane is on the correct flight path;
- Only small changes in heading and pitch are required to maintain the correct flight path;
- Airspeed is stabilized at no less than V_{REF} and no more than the final approach speed (V_{REF} plus wind corrections) plus 20 knots;
- The airplane is in the correct landing configuration;
- Sink rate is no greater than 1,000 fpm; if an approach requires a sink rate greater than 1,000 fpm, a special briefing shall be conducted;
- Thrust setting is appropriate for the airplane configuration;
- All briefings and checklists have been conducted;
- Specific types of approaches are stabilized if they also fulfil the following until the DA(H):
  - ILS and GLS approaches shall be flown within one dot of the glide slope and localizer, or within the expanded localizer scale;
  - Approaches using IAN shall be flown within one dot of the glide path and FAC;
  - RNP APCH: within RNP requirements for the approach being flown;
  - VOR/LOC within one dot;
  - All APV approaches: within +/-75 feet vertical deviation;
  - Visual Approaches shall be on the glide path and lined up with the runway centerline no later than 300 feet AFE.
- **Below the DA(H):**
  - Carry out the final approach segment below the minima by reference to all available visual guidance. Instrument guidance may still be used as reference. Do not descend below the visual descent path.

Stabilized Approach Requirements

All approaches shall be stabilized by 500 feet AGL. In order to facilitate a stabilized approach, the following “approach gates” have been established:

- Landing gear should be selected not below 1,500 feet AFE;

- Landing flaps should be selected not below 1,000 feet AFE.

Unique approach procedures or abnormal conditions requiring a deviation from the above Elements of a Stabilized Approach require a special briefing.

Except for momentary airspeed and descent rate deviations, the PM shall direct a go-around if any of the planned parameters are not met by announcing “Go-around” followed by the out-of-tolerance parameter (e.g. “Flaps”, “airspeed”, or “descent rate”).

NOTE	An approach that becomes un-stabilized below 500 feet AGL requires an immediate go-around.

These conditions shall be maintained throughout the rest of the approach for it to be considered a stabilized approach. If the above criteria cannot be established and maintained until approaching the flare, initiate a go-around.

At 100 feet HAT for all visual approaches, the airplane shall be positioned so the flight deck is within, and tracking to remain within, the lateral confines of the runway edges extended.

As the airplane crosses the runway threshold it shall be:

- Stabilized on approach airspeed to within + 10 knots until arresting descent rate at flare;
- On a stabilized flight path using normal maneuvering;
- Positioned to make a normal landing in the touchdown zone or Revised TDZ (see below).

Initiate a go-around if the above criteria cannot be maintained.

Touchdown Zone (TDZ) and Revised TDZ

The TDZ is normally defined by the TDZ markings/lights when available.

Otherwise, the TDZ is generally the first 3,000 feet or first third of the runway, whichever is less.

Under certain circumstances, a Revised TDZ may be used at the PIC’s discretion:

- If the runway is contaminated and markings may not be visible, a Revised TDZ should be used;
- If the LDA is more than twice the required landing distance, a Revised TDZ may be used.

Several options exist to determine the end of the Revised TDZ:

1. If available, runway remaining markers can be used;
2. Runway intersections may be used for reference;
3. After crossing the threshold at 50 feet, the airplane will travel approximately 1,000 feet every four seconds. Therefore:
    - 1,000 foot TDZ will be passed after 4 seconds;
    - 2,000 foot TDZ will be passed after 8 seconds;
    - 3,000 foot TDZ will be passed after 12 seconds.

In any event, use of a Revised TDZ shall be briefed in advance and the PIC shall ensure sufficient landing distance for the aircraft performance.

If the aircraft does not touch down within the Touchdown Zone (TDZ) or the Revised Touchdown Zone (Revised TDZ), a go-around must be executed.

No Fault Go-around Policy

A go-around is a normal procedure which shall be applied without hesitation, when necessary.

The stabilized approach concept describes the different criteria to be met, and that an immediate go-around shall be executed if one or more of these criteria are not met.

All go-arounds shall be carried out promptly to ensure a minimum loss of height.

Go-arounds shall not involve pride, pressure, jeopardy or fault. The flight crew shall discuss and prepare for a go-around before each approach. At any time during the approach if the flight crew feels conditions are not satisfactory to continue, the approach shall be discontinued.

Considerations for Go-Arounds

Notwithstanding the above, go-around is the most complicated "normal" maneuver. Flight crews shall be aware that the go-around maneuver itself, and subsequent flight management, will introduce new risks which need to be managed. For example:

- For most pilots the go-around maneuver is rarely performed, involves extremely high workload, and is often accompanied by the "startle" factor;
- There is a risk that one or both pilots can become fixated on a single issue, especially airspeed, at the expense of aircraft pitch attitude. Such a "tunnel vision" effect is often a consequence of somatogravic illusion. If this happens, a number of effects may follow which in effect result in a CRM breakdown:
  - Attention may narrow and instrument scanning may cease;
  - Overall situational awareness may decrease;
  - Effective communication between pilots may diminish and standard callouts might be omitted;
  - Insufficient power setting.
- A go-around will typically be executed when the aircraft is relatively light, so when go-around thrust is applied, performance may be much "better" than the crew is normally used to. If the crew is not careful, there is a risk that the airplane will climb with a very high vertical speed and will accelerate rapidly through all the flap placard speeds;
- Risks involving external factors:
  - Loss of separation from other aircraft;
  - Level bust;
  - Unexpected wake turbulence;
  - Adverse weather.

In order to mitigate the risks associated with go-around:

1. Thoroughly brief the vertical and lateral go around procedure;
2. Be prepared for a go-around at any time during the approach, including after passing the minima;
3. If going around above minima when time and altitude are available, **DO NOT RUSH**. Take a moment to prepare for the go-around mentally and as a crew before executing the maneuver;
4. Remain aware of how pitch trim has been used during an approach and what control remains available both in autoflight or manually if a go around is then executed.
5. It is absolutely critical to prioritize the workload: Aviate, Navigate, Communicate!

6. Focus on Pitch, Power, Performance:
   a. Establish and maintain the proper **Pitch Attitude** ensuring that essential configuration changes in landing gear status, speedbrake status and wing configuration have been made;
   b. Set and confirm the appropriate **Power/Thrust**;
   c. Confirm that the expected **Climb Performance** has been achieved
7. Maintain good CRM throughout the go-around; focus on PF/PM responsibilities and priorities;
8. Remain aware of autoflight status and flight mode selections.

When concluding the go-around, it is extremely important to avoid an altitude bust, since if no further climb clearance has been received, the altitude given is likely to be in place because of the need to avoid conflict with other aircraft flying above. The same is true of specified tracks and any radar headings, which may be due to obstacles and terrain.

Throughout any go-around, pilots need to maintain their concentration and manage the go-around flight phase with effective task-sharing and cross-monitoring.

8.3.20.2.10 Landing, After Landing and Parking

Revision: 23 - 29 AUG 24

A landing clearance "Cleared to land" shall be received from the airport control tower prior to landing.

NOTE	Land and Hold Short Operations (LAHSO) are not permitted.

When clearing the active runway flight crew have to be sure about the given parking position. Follow marshaller signals or the docking system to park the aircraft.

The flight crew shall ensure that the safety area (bordered normally by red lines on the ground) is clear of obstacles:

- In the absence of clearly visible lines, the PF shall ensure that no obstacles are present that might jeopardize the safe movement of the aircraft towards its parking position;
- If no obstacles are present, the PF shall call: "Ramp Clear" and taxi-in may be continued, or call to stop the aircraft if the parking area is not clear;
- If any obstacles are present, which the flight crew judges might jeopardize the safe maneuvering of the aircraft, taxi-in shall be halted until the obstacles have been removed;
- If there is any doubt as to the safety of the parking area, the aircraft shall be towed to the parking stand/gate;
- Avoid blinding the ground crew / marshaller and/or the automatic parking guidance lighting sensors.

During engine shut down, flight crew members shall monitor engine parameters.

Shut down the APU as soon as practical, unless prescribed otherwise in a crew/company NOTAM for the specific field (without infringing any local regulations).

If applicable, the flight plan and flight release (after these have been completed with signatures and fuel and time tracking data), shall be inserted into an envelope marked with the flight number and date, and left in a conspicuous place on the flight deck. This procedure is replaced when using the EFF application according to the EFF user manual. All data mentioned above is sent automatically to EL AL server after final submitting the journey log.

It is recommended to wait with the discarding of the other flight documents, so they will be available for a possible inspection at the destination airport.

At the end of each leg, the PIC shall initiate a short debriefing with the Co-Pilot(s) and verify that all documentation is complete. In the case of a safety, operational or customer event, a debrief should be conducted with the entire crew.

Before leaving the flight deck, the CRTs (as applicable) shall be dimmed, and the shades lowered. The flight deck shall be left in good order.

8.3.20.2.11 Prevention of Runway Incursions

Revision: 20.2 - 14 DEC 22

The fact that aircraft are highly automated and carry complex systems that allow the preparation and programming of the entire flight to be done on the ground has resulted in Flight Deck workload peaks shifting to the ground phase of aircraft operations.

As for all phases of flight, pre-planning and prioritization of tasks is mandatory. Preparations for departure and arrival at an airport can be accomplished well in advance.

Familiarization with the airport in preparation for the taxi operation is essential and should be completed at the gate prior to departure, and prior to starting descent for landing.

The following items can be used as a guideline for a taxi briefing:

- Conduct a briefing for all Flight Crew Members who are planned to be on the flight deck during taxi;
- Become familiar with the airport;
- Plan the timing and execution of checklists;
- Review NOTAMs;
- Ensure that the Flight Crew fully understands all departure OM Part C briefing items;
- Ensure that the briefing of an expected taxi route is as thorough as that of the instrument approach;
- Identify critical locations on the taxi route, (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for take-off, and approaching a runway after landing) where verbal coordination between the PIC and the Co-Pilot is important to avoid a runway incursion;
- Remind all cockpit occupants of the importance of maintaining a sterile Flight Deck, but encourage the ability to speak up if anyone sees a potential conflict or understands a clearance differently. Encourage jump seaters to monitor communications;
- During low visibility operations brief the requirements and special considerations such as: the low visibility taxi chart;
- Ensure that the airport diagram is readily available to all Flight Crew Members.

In general, the following should be considered for prevention of runway incursions:

- Perform all high workload duties (i.e. programming an FMS) before starting to taxi. Performing these duties during taxi can have safety implications;

- Application of the Sterile Flight Deck procedures;
- Strict adherence to published taxi procedures and respective guidance material is required;
- Use of standard ICAO radio communication phraseology;
- Ensure that Flight Crews follow the clearances or instructions that are actually received and not those they expect to receive;
- Ensure good planning of ground operations in order to decrease the workload during taxi. The flight and its associated risks starts during the preparation;
- Ensure that good situational awareness is the top priority during taxi, and involve all Crew Members;
- Make "Crew Resource Management" principles during taxi as important as during the other phases of flight;
- Any read-back of an ATC clearance which is related to a runway shall be followed by an additional read-back by the PF: after the PM completes the read-back to ATC, the PF - shall repeat the clearance given and the PM will concur or contradict;
- Be defensive and let the built-in safety nets do their work so that a single mistake does not lead to a serious incident or accident;
- Use the exterior aircraft lights to make the aircraft more conspicuous according to the standard lighting policy;
- Appropriate use of TCAS when on the runway and holding in the take-off position (e.g. center mode on Navigation Display to display traffic on final approach);
- Monitor clearances given to other aircraft;
- Question clearances when lined up in position for take-off on the runway, and take-off clearance has not been received within the expected time.

8.3.21 Engine Out Taxi (EOT)

Revision: 19 - 14 MAR 21

EOT operations have the potential to conserve fuel and to reduce an airplane's carbon emissions. When approved, a maximum of 50% of the engines may be shut down during taxi operations. When shutting down or starting an engine during taxi, it shall performed by the PM upon request by the PF.

Be aware of the dangers of Jet Blast in the ramp area and other ground areas. Use engine power accordingly and expect slow aircraft response.

Due to the different rationale in deciding on EOT for taxi in (fuel conservation for economical reasons only) versus taxi out (fuel conservation for economical or operational reasons), the conditions and procedures may differ between the two situations.

EOT is approved only when a checklist exists in the QRH – Ops Info, and shall be performed according to the conditions and restrictions detailed in the checklist.

Starting An Engine During Taxi

When starting an engine away from a parking position, there here is no need for ground personnel to be present or for ground start clearance.

Shutting Down Both Engines

It is approved to shut down both engines during prolonged delays. For shutdown and starting the engines refer to the FCOM procedures.

8.3.22 Overweight Landing

Revision: 19 - 14 MAR 21

Commercial considerations shall not be a factor in deciding on whether to land above the maximum landing weight.

8.3.23 Use of Personal Wireless Communication Devices on the Flight Deck

Revision: 20.2 - 14 DEC 22

Flight Crew Members are prohibited from using a personal wireless communications device or laptop computer for personal use while at their duty station on the flight deck during critical phases of flight and whenever procedures, checklists, calculations, or communications are being performed.

This prohibition is intended to ensure that non-essential activities do not affect flight deck task management or cause a loss of situational awareness during aircraft operation. Cell phones may be used on the ground for operational purposes with the brakes set.

8.3.24 Passenger Illness / Injury / Death During Flight

(*) Revision: 23.1 - 15 MAR 25

This chapter augments Company Procedure 10-506 and CFSM 5.3.

In the event a person on board is in medical distress or has died during a flight, all staff involved shall act with utmost sensitivity, respect, and discretion, taking care to preserve the right of privacy and/or respect for the deceased.

In the event of death, crew members shall take extreme care to maintain confidentiality concerning the deceased. They shall not disclose any information whatsoever regarding the deceased or the circumstances of the incident to any of the passengers (except for the deceased's relatives or companions).

After landing at the destination/alternate, the flight crew shall follow the local police requirements.

If an unplanned landing is performed due to a passenger in medical distress:

- The sick passenger may receive medical treatment onboard the aircraft or outside the aircraft, to be decided by the medical team responding;
- The sick passenger shall not be permitted to return to the aircraft, nor to remain on the aircraft for the remainder of the flight.

If a passenger is identified as being in medical distress during a flight:

1. The ISM shall immediately report the passenger's condition to the PIC;
2. The ISM shall try to locate a paramedic or doctor onboard the aircraft;
3. The PIC shall report the event to OCC, who shall in turn report to the Director of Flight Operations, to the Company Medical Adviser and to the Vice President Customers & Service.

Medical Emergency

A Medical Emergency is defined as an event or chain of events that require coordinated efforts amongst various parties to treat a passenger in need of immediate medical assistance.

In such an event, the ISM should clearly verbalize to the PIC that a Medical Emergency exists.

8.3.24.1 Symptomatic/Sick Passengers

Revision: 21 - 5 MAY 23

- Before take-off:

  If a passenger develops possible symptoms of suspected contagious/infectious disease before take-off, he/she shall be removed from the flight. Before the doors are closed, inform the station and the PIC; after doors are closed, inform the PIC;

- After take-off:

  Passengers showing possible symptoms of suspected contagious/infectious disease shall be separated from the other passengers by minimum of 1 meter (usually about two seats left empty in all directions, depending on the cabin design);

- The symptomatic passenger should wear a face mask. If he/she is unable to wear a face mask, the crew shall avoid contact with the passenger as much as possible;
- The ISM should appoint one CCM to tend to the symptomatic passenger. The designated CCM shall use the protection equipment included in the Universal Precaution Kit, and should avoid contact with other crew members and passengers;
- The PIC shall report the incident as per Chapter ***8.3.24 Passenger Illness / Injury / Death During Flight***, and should include the following:
  - The passenger's full name;
  - The passenger's contact information;
  - Names of passengers sitting in the same row as the passenger and the rows in front of and behind him/her;
  - Names of crew members who came into contact with the passenger.
- The symptomatic passengers and those traveling with him/her shall disembark last, only after all of the other passengers have disembarked;
- If required, the Station Manager or Ground Handling representative at the destination is responsible to provide relevant information to local authorities regarding passengers and staff who may have been exposed.

8.3.24.1.1 In-flight Medical Treatment

Revision: 23 - 29 AUG 24

If there is a paramedic or doctor on board, the ISM shall verify his credentials by asking for his certificate or license number. If time is critical, the ISM may allow the doctor to administer treatment immediately and obtain the doctor's credentials afterwards.

The crew shall make the airplane's Intense Medical Care Case available to the paramedic or doctor. After using the kit, make sure that the "REPORT OF MEDICAL CASE OPENING" form was filled and left inside the kit. The ISM shall return it to its place, seal it with a red seal, and if equipment or medication is missing - write it up in the CTL as per Chapter ***8.3.17.9 After Landing***. The Intense Medical Care Case will be replaced or replenished upon the aircraft's return to home base.

If no doctor is found on board, the PIC shall attempt to establish contact with the Company Medical Advisor on duty via OCC. If the Company Medical Advisor cannot be reached, OCC shall attempt to contact a doctor. In critical situations, contact shall be made with the Coronary Intensive Care Unit at Assaf Harofeh Medical Centre.

The crew, headed by the ISM, shall use the First Aid Kit or Standard First Aid Kit to administer First Aid to the passenger as per the instructions of the Company Medical Advisor and/or first aid instructions.

Another passenger may be called upon to assist only if all of the following conditions are met:

1. First Aid was not effective; and
2. Guidance from a doctor or paramedic is unavailable; and
3. The passenger has provided relevant documentation indicating that he has received some medical training (i.e. nurse, medic).

Assistance and/or advice may not be accepted from passengers who are not professionally qualified.

Medical attention or treatment must not be forced upon a passenger who refuses to receive such attention or treatment. In such a case, the ISM Report shall record the fact that the passenger refused medical attention. If possible, the passenger will sign the Report, as well as the doctor on board and/or other passenger who witnessed the sick passenger refuse medical assistance.

Refer also to CFSM, Chapter 5.3 עקרונות הפעולה במתן עזרה ראשונה ובאירוע פטירת נוסע.

8.3.24.2 Passenger Illness / Injury / Death Report

Revision: 23 - 29 AUG 24

The ISM shall document all details as carefully and completely as possible, in the ISM Report and the Passenger Illness/Injury/Death Report, see Chapter ***8.13 Passenger Injury / Illness / Death Report***.

The Passenger Illness/Injury/Death Report shall be sent to the recipients indicated on the report, as soon as possible after landing.

The report shall specify all details of the incident, from the beginning, and shall detail all forms of treatment administered to the passenger.

The report should include the following details of the doctor(s) or other passenger(s) with medical training who treated the passenger:

- Full name;
- I.D./passport number;
- Medical license number;
- EL AL Frequent Flyer membership number, if relevant;
- Mailing address;
- Telephone number.

Wherever possible, the details of eyewitnesses to the event, and their perceived version of the event, should be recorded as well in the ISM Report.

The "Declaration Of A Sick Passenger" section in the manual GENDEC shall be completed and signed in case of a Symptomatic/Sick Passengers was found during flight.

A manual (not digital) GENDEC shall be presented upon airport/state request.

Refer also to CFSM, Chapter 5.3 עקרונות הפעולה במתן עזרה ראשונה ובאירוע פטירת נוסע.

8.3.24.3 Diversion

Revision: 19 - 14 MAR 21

The PIC may decide to continue to the destination, deviate from the planned flight route and/or to land, as a result of a Medical Emergency.

Time permitting, the PIC should consult with the Company Medical Advisor when deciding whether to deviate.

In the event of a diversion, the Captain shall report the passenger's condition to OCC. OCC shall inform the appropriate persons within the Company and at the destination where the landing is to be performed, to ensure that proper arrangements are made there.

Upon landing, the passenger will be evacuated from the aircraft by ambulance. If the passenger is traveling alone, an EL AL representative shall accompany him. The representative shall be appointed by the local EL AL Station Manager, Handling Agent, or General Sales Agent, as the case may be.

Once the PIC has decided to land, he shall act in accordance with Chapter ***8.3.24.5 Notification***, below.

8.3.24.4 Deceased Passenger

Revision: 23 - 29 AUG 24

Resuscitation procedures must be continued until it is clear that the passenger is no longer alive, and a doctor has instructed that the resuscitation be halted. Such instruction may be issued by a doctor on board; the Company Medical Advisor; or a local doctor, as the circumstances dictate. Once the resuscitation procedures have been ceased as per the doctor's instructions, the following steps shall be taken:

1. The ISM together with the doctor handling the incident shall inform the passenger's relatives or traveling companions of the death;
2. The deceased shall be covered with a blanket, and discretely laid down on a row of seats as far away as possible from sight and contact of other passengers (i.e. last row of seats in Economy Class). Other passengers may be reseated if necessary;
3. Out of respect for the deceased, the body must not be placed in the lavatory;
4. Stow all personal items and documents belonging to the deceased near the body;
5. Remove all emergency equipment from the body;
6. The ISM shall assign a crew member to distance passengers from the body if necessary, and to see to the needs of the deceased's family or traveling companions.

Refer also to CFSM, Chapter 5.3 עקרונות הפעולה במתן עזרה ראשונה ובאירוע פטירת נוסע.

8.3.24.5 Notification

Revision: 22.1 - 1 JUN 24

Shortly before landing, the PIC shall update OCC who shall inform the destination Station Manager regarding the passenger's condition.

This PIC's report should include the following details:

1. Passenger's name;
2. Symptoms and whether the passenger is conscious;
3. First aid administered;
4. First responder (doctor/cabin crew/other);
5. Whether the passenger is flying alone or escorted;
6. Whether the passenger will be able to disembark on his own.

The Station Manager shall inform the relevant local authorities and arrange for medical personnel to meet the aircraft (i.e. doctor, ambulance).

OCC shall inform the Accountable Manager, the Director of Flight Operations, the Vice President Customers & Service, the Company Medical Advisor and the Customer Relations Manager, who shall in turn inform to the Manager of Insurance and Claims.

If the event involves an EL AL employee, OCC shall also inform the Human Resources Director.

8.3.24.6 Post-Landing Procedures

Revision: 19 - 14 MAR 21

The ISM shall complete the Passenger Injury/Illness/Death Report (see Chapter ***8.13 Passenger Injury / Illness / Death Report***). If the defibrillator was used, the ISM shall:

1. Make an entry in the Cabin Technical Log indicating that the defibrillator was used; and
2. If at least one set of electrodes (Quick-Combo pads) is available, seal the defibrillator with a red seal.

The doctor who assisted and/or examined a deceased passenger and declared his death, shall confirm and sign the report. If the passenger's death was not established during the flight, a local doctor will meet the flight pursuant to the various laws, regulations and formal procedures of the country of landing.

In the event of a passenger death, the Israel Station Manager shall inform the Israel Police. If the deceased passenger is not an Israeli citizen, the Station Manager shall also inform the appropriate authorities in the country of the passenger's citizenship and/or in the country of destination, pursuant to the legal requirements of those countries.

The EL AL Station Manager, Representative, or Handling Agent (as authorized by the Regional Director), or PIC, as relevant, shall, if necessary, offer the Sick Passenger assistance with the initial arrangements after the landing. The Regional Representative is responsible for collecting any necessary payments from the passenger, or in the case of death - from his family.

Should a passenger in medical distress be hospitalized, the Station Manager shall inform the passenger's family that the passenger has been admitted to the hospital after feeling ill. If the passenger has requested that his family not be informed, his wishes must be respected, and the ISM shall make a notation as such in the ISM Report.

Disembarkation of a sick or deceased passenger and his family members shall be coordinated with the Station Manager and shall be done in accordance with local procedures.

In the event a sick or deceased passenger is unaccompanied, the passenger must not be left alone until the local authorities have taken responsibility for him.

The In-flight Service Manager shall note in the ISM Report the identifying details (full name, I.D. number, license number, address, telephone) of the local doctor who took over treatment of the passenger after landing.

As soon as possible after the incident and if conditions allow, the Customer Relations Manager shall contact the passenger who received medical treatment during the flight, and enquire as to his well-being.

8.3.25 Simultaneous Close Parallel PRM Approaches

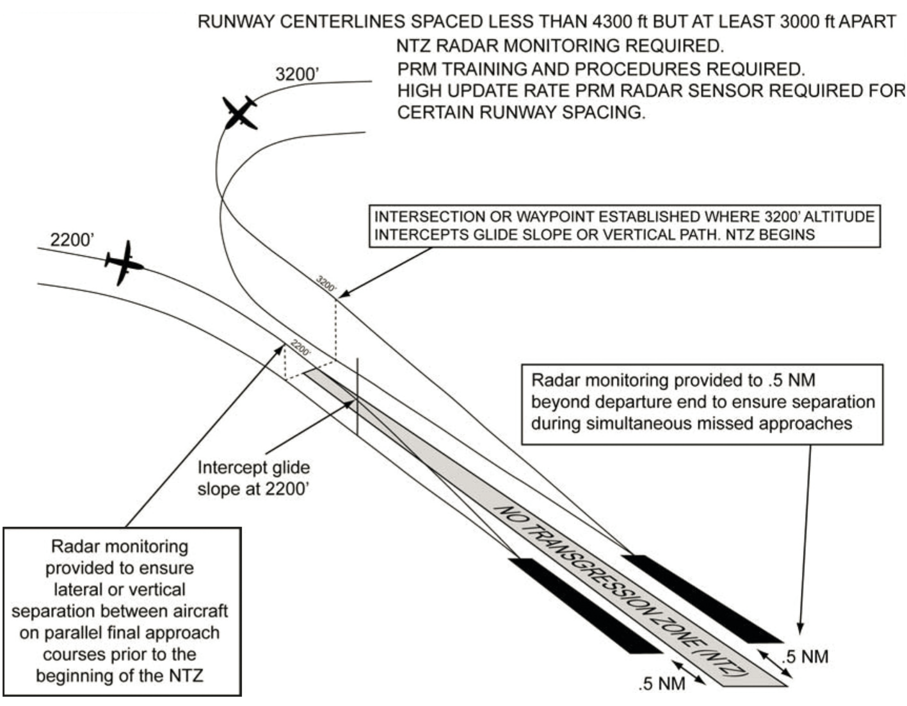
8.3.25.1 Introduction

Revision: 19 - 14 MAR 21

PRM is an acronym for the high update rate Precision Runway Monitor surveillance system which is required to monitor the No Transgression Zone (NTZ) for specific parallel runway separations used to conduct simultaneous close parallel approaches.

PRM approaches are depicted on the approach plate as follows:

“(Procedure type) PRM Rwy XXX”, for example: ILS PRM Rwy 28L.



8.3.25.2 Qualification

Revision: 19 - 14 MAR 21

Flight Crew Members shall complete training, as outlined in the OM Part D, before accepting a clearance for a simultaneous close parallel PRM approach.

8.3.25.3 Procedures

Revision: 19 - 14 MAR 21

PRM procedures are prescribed in the QRH-Ops Info for fleets operating to airports where PRM is in use. The following are differences between widely spaced simultaneous approaches (at least 4,300 feet between the runway centerlines) and Simultaneous PRM close parallel approaches which are of importance to the pilot:

1. **Runway Spacing:** Prior to PRM simultaneous close parallel approaches, most ATC-directed breakouts were the result of two aircraft in-trail on the same final approach course getting too close together. Two aircraft going in the same direction did not mandate quick reaction times. With PRM closely spaced approaches, two aircraft could be alongside each other, navigating on courses that are separated by less than 4,300 feet and as close as 3,000 feet. In the unlikely event that an aircraft "blunders" off its course and makes a worst case turn of 30 degrees toward the adjacent final approach course, closing speeds of 135 feet per second could occur that constitute the need for quick reaction. A blunder has to be recognized by the monitor controller, and breakout instructions issued to the endangered aircraft. The pilot will not have any warning that a breakout is imminent because the blundering aircraft will be on another frequency. It is important that, when a pilot receives breakout instructions, the assumption is made that a blundering aircraft is about to (or has penetrated the NTZ) and is heading toward his/her approach course. The pilot must initiate a breakout as soon as safety allows. While conducting PRM approaches, pilots must maintain an increased sense of awareness in order to immediately react to an ATC (breakout) instruction and maneuver (as instructed by ATC) away from a blundering aircraft;
2. **Communications:** Dual VHF communications procedures should be carefully followed. One of the assumptions made that permits the safe conduct of PRM approaches is that there will be no blocked communications;
3. **Hand-flown Breakouts:** The use of the autopilot is encouraged while flying a PRM approach, but the autopilot must be disengaged in the rare event that a breakout is issued. Simulation studies of breakouts have shown that a hand-flown breakout can be initiated consistently faster than a breakout performed using the autopilot;
4. **TCAS:** The ATC breakout instruction is the primary means of conflict resolution. TCAS, if installed, provides another form of conflict resolution in the unlikely event other separation standards would fail. TCAS is not required to conduct a closely spaced approach;

   The TCAS provides only vertical resolution of aircraft conflicts, while the ATC breakout instruction provides both vertical and horizontal guidance for conflict resolutions. Pilots should always immediately follow the TCAS Resolution Advisory (RA), whenever it is received. Should a TCAS RA be received before, during, or after an ATC breakout instruction is issued, the pilot should follow the RA, even if it conflicts with the climb/descent portion of the breakout maneuver. If following an RA requires deviating from an ATC clearance, the pilot must advise ATC as soon as practical. While following an RA, it is extremely important that the pilot also comply with the turn portion of the ATC breakout instruction unless the pilot determines safety to be factor. Adhering to these procedures assures the pilot that acceptable “breakout” separation margins will always be provided, even in the face of a normal procedural or system failure.

Additional information is available in the FAA Aeronautical Information Manual (AIM), Chap. 5, Sec. 4.

8.4 ALL WEATHER OPERATIONS

Revision: 19 - 14 MAR 21

See Chapter *8.1.5 Airport Operating Minima - Presentation and Application*.

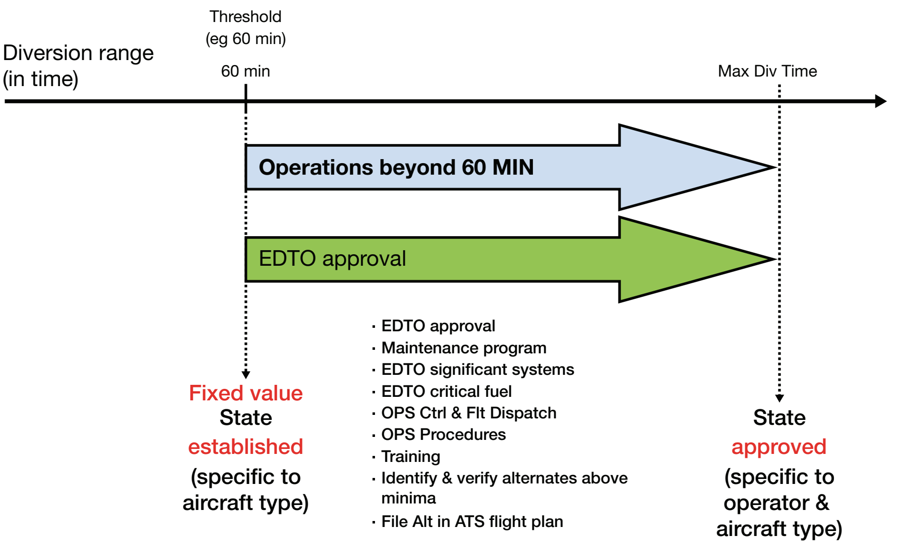
8.5 EXTENDED DIVERSION TIME OPERATION (EDTO)

Revision: 19 - 14 MAR 21

EDTO describes operations approved by the CAAI for aircraft with two engines on a route where the diversion time from any point on the route, calculated in ISA and still air conditions at the one-engine inoperative cruise speed to an en-route alternate airport exceeds a threshold time of 60 minutes.

NOTE	Boeing documentation uses the term ETOPS for EDTO operations of two engine aircraft. All other OM references to ETOPS should be considered to be identical to the use of EDTO in the OM Part A.

Generic EDTO graphical representation



8.5.1 EDTO Operation

(*) Revision: 23.1 - 15 MAR 25

EL AL is authorized to perform EDTO operations as specified in the company's operational specifications approved by the CAAI.

The maximum diversion time for each aircraft is specified on the company's Operations Specifications.

8.5.2 The EDTO Capability

(*) Revision: 23.1 - 15 MAR 25

The EDTO capability for each aircraft is described in the company's Operations Specifications authorized by the CAAI and located in the EFOS/EFF library, and in the MEL manual.

Normally, a maximum EDTO of 180 minutes is used for the 787 fleet.

Maximum diversion time of 240 minutes is approved by the CAAI under special circumstances, where the en-route alternate airport is not available within 180 minutes due to a Political or military concerns or activities, volcanic activities, temporary restrictions at the alternate airport, temporary weather conditions below the operational limitations specified in the company's ops specs and OM A or other weather related restrictions and limitations.

Using the 240 minutes option for EDTO is granted and approved by the CAAI when the following conditions are met:

1. The aircraft is approved in the company's Operations Specifications as EDTO 240;
2. Permission to conduct EDTO flights in a twin-engine aircraft for a maximum diversion time of up to 180 minutes in the same engine aircraft combination, and has at least one year of experience;
3. Established criteria for deciding on weather conditions that prevent the use of a secondary airport along the route, acceptable to the authority, and included them in the OM A for the use of the pilots and dispatchers;
4. The approved type design of the airplane-engine combination for EDTO is for more than 180 minutes;
5. The aircraft's minimum equipment list (MEL) includes instructions for an EDTO flight for a diversion time of 180 minutes.The FOO has briefed the flight crew and explained the reasons an EDTO of 240 minutes was used;
6. All the critical systems (as defined in the OM's) are fully operational;
7. The following systems shall be operational during dispatch, in addition to the equipment required on the minimum equipment list (MEL):
    a. Fuel quantity indication system;
    b. Auxiliary Power Unit (APU), including its electrical and pneumatic systems, complying with its design requirements;
    c. Auto Throttle system;
    d. Autopilot system allowing automatic landing with one engine inoperative, if this system was considered in the flight planning.
8. EL AL will track and keep records of each EDTO 240 for 36 months;
9. CAAI POI shall be updated each time after the EDTO 240 permit was used.

8.5.3 Equitime Point (ETP)

Revision: 19 - 14 MAR 21

An Equitime Point (ETP) is a point on the route which is located at the same flying time (considering the day wind and temperatures conditions) from the two associated EDTO en-route alternate airports that meet the EDTO weather planning minima.

The location of the ETP's appear on the OFP.

8.5.4 EDTO Segment

Revision: 19 - 14 MAR 21

An EDTO segment is a portion of a route located further than 60 minutes flying time (at the selected one-engine-out diversion speed, in still air) from an en-route alternate airport. The EDTO segment extends between the EDTO Entry Point (EEP) and the EDTO Exit Point (EXP). An EDTO route may contain more than one EDTO segment.

8.5.4.1 Monitoring Weather

Revision: 23 - 29 AUG 24

Refer to Chapter ***8.3.20.1.13 Weather Monitoring En-route***.

8.5.5 EDTO Entry Point (EEP) and Exit Point (EXP)

Revision: 19 - 14 MAR 21

The EDTO Entry Point (EEP) is the first point on the route, located at 60 minutes flying time for 2 engine aircraft (at the selected one engine-out diversion speed, in still air) from an en-route alternate airport (i.e. the last en-route alternate airport prior to entering the EDTO segment).

The EDTO Exit Point (EXP) is the first point on the route following the EEP that is within 60 minutes flying time for 2 engine aircraft (at the selected one engine-out diversion speed, in still air) from an en-route alternate airport (i.e. the first en-route alternate airport after exiting the EDTO segment).

The EEP and EXP mark the beginning and end of the EDTO segment.

8.5.6 EDTO Significant Systems

Revision: 20.2 - 14 DEC 22

- A system that may affect the proper functioning of the engines to the extent that it could result in an in-flight shutdown or uncommanded loss of thrust (e.g., fuel system, engine control or indicating system, or engine fire detection system);
- A system which contributes significantly to the safety of an engine inoperative EDTO diversion and is intended to provide additional redundancy to accommodate the system(s) lost by the inoperative engine;
- A system such as the anti-icing system, essential for prolonged operation at single-engine altitudes;
- A system for which certain failure conditions would reduce the capability of the aircraft or the ability of the crew to cope with an EDTO diversion (e.g., navigation, communication and equipment cooling);
- Time-limited systems including such items as cargo fire suppression and oxygen if the EDTO diversion is oxygen system dependent;
- Systems whose failure would result in excessive crew workload for an EDTO diversion (e.g., flight control forces that would be exhausting for a maximum EDTO diversion, or system failures that would require continuous fuel balancing to ensure proper CG).

8.5.6.1 Verification Flight Procedures

(*) Revision: 23.1 - 15 MAR 25

Refer to EDTO Manual Chapter 12-5 “Verification Flight Procedures” (available on the Company Intranet and EFOS/EFF).

8.5.7 Granted EDTO Area of Operations

8.5.7.1 Maximum Diversion Time

Revision: 23 - 29 AUG 24

The Maximum Diversion time from an en-route alternate airport appears in the aircraft OPS Spec which appear in the EFOS/EFF library.

8.5.7.2 Diversion Speeds One Engine Inoperative (OEI)

Revision: 19 - 14 MAR 21

The diversion speeds can be any speed within the aircraft operating limits. i.e. between minimum drag speed and M_{MO} / V_{MO}. The selected diversion speed is used for the following purposes:

- Establishing the area of operation (maximum diversion distance);
- Establishing the diversion fuel requirements;
- Establishing the net level-off altitude to safely clear any en-route obstacle by the appropriate margin (unless a lower speed or the drift-down speed is required to clear the en-route obstacles);
- Conducting the diversion following an engine failure.

The One Engine Inoperative diversion speed is Engine Inoperative Long Range Cruise speed, however, the PIC has the authority to deviate from this planned speed after completing the assessment of the actual situation.

8.5.7.3 Maximum Diversion Distance

Revision: 19 - 14 MAR 21

The Maximum Diversion Distance is the distance covered, in still air and ISA conditions within the Maximum Diversion Time the Engine Inoperative Long Range Cruise and reference gross weight and at the associated optimum diversion altitude.

This distance starts from the descent point, considered to be at the Critical Point (CP), and takes into account the descent profile from the initial cruise altitude down to the diversion cruise altitude.

The Maximum Diversion Distance is used to define the Area of Operation (and correspondingly, as applicable, the area or areas of unauthorized operation, also referred to as exclusion zones) by drawing circles centered on each EDTO en-route alternate airport with a radius equal to the Maximum Diversion Distance.

8.5.7.4 Area of Operations

Revision: 19 - 14 MAR 21

The EDTO Area of Operation is the area in which it is permitted to conduct a flight under the EDTO regulations. It is defined by the declared maximum diversion distance from an alternate airport - or set of alternate airports - and is represented by the area enclosed within the circles centered on the selected EDTO en-route alternate airports, the radius of which is the declared maximum diversion distance.

8.5.8 EDTO Critical Fuel

Revision: 19 - 14 MAR 21

EDTO critical fuel corresponds to the Additional Critical Fuel that is described in Chapter ***8.1.6.2 Standard Procedure***and shall be enough to satisfy each of the following requirements:

1. Fuel to fly to an EDTO Alternate Airport.
    a. Fuel to account for rapid decompression and engine failure. The aircraft must carry the greater of the following amounts of fuel:
        i. Fuel sufficient to fly to an EDTO Alternate Airport (at Long Range Cruise speed), assuming a rapid decompression at the most critical point followed by descent to a safe altitude in compliance with the oxygen supply requirements of Chapter ***8.8 Oxygen Requirements***";
        ii. Fuel sufficient to fly to an EDTO Alternate Airport (at Engine Inoperative Long Range Cruise speed) assuming a rapid decompression and a simultaneous engine failure at the most critical point followed by descent to a safe altitude in compliance with the oxygen requirements of Chapter ***8.8 Oxygen Requirements***;
        iii. Fuel sufficient to fly to an EDTO Alternate Airport (at Engine Inoperative Long Range Cruise speed) assuming an engine failure at the most critical point followed by descent to the one engine inoperative cruise altitude.
    b. Fuel to account for errors in wind forecasting. Carry additional fuel equal to 5% of the fuel required for paragraph (1)(a) of this section, as reserve fuel to allow for errors in wind data;
    c. Fuel to account for icing. In calculating the amount of fuel required by paragraph (1)(a) of this section, ensure that the aircraft carries the greater of the following amounts of fuel in anticipation of possible icing during the diversion:
        i. Fuel that would be burned as a result of airframe icing during 10 percent of the time icing is forecast (including the fuel used by engine and wing anti-ice during this period);
        ii. Fuel that would be used for engine anti-ice, and if appropriate wing anti-ice, for the entire time during which icing is forecast.
    d. Fuel to account for engine deterioration. In calculating the amount of fuel required by paragraph(1)(a) of this section account for deterioration in cruise fuel burn performance according to the program monitoring aircraft in-service deterioration to cruise fuel burn performance.
2. Fuel to account for holding, approach, and landing. In addition to the fuel required by paragraph (1) of this section, the aircraft must carry fuel sufficient to hold at 1,500 feet above field elevation for 15 minutes upon reaching an EDTO Alternate Airport and then conduct an instrument approach and land;

3. Fuel to account for APU use. If an APU is a required power source, account for its fuel consumption during the appropriate phases of flight.

8.5.9 Maintenance Release of an Aircraft for an EDTO Sector

Revision: 19 - 14 MAR 21

An EDTO departure check performed by an approved EDTO maintenance person shall be carried out at each station where the aircraft is to operate an EDTO flight.

All EL AL 737 and 777/787 aircraft are released for all flights after EDTO required checks have been performed. Maintenance release for flight provides the flight crew assurance that:

- The aircraft condition has been checked and confirmed to comply with the EDTO dispatch requirements set forth in the MEL;
- The EDTO Service Check has been accomplished.

Defects which affect the “EDTO Serviceability” of the aircraft shall be rectified before the next EDTO flight, or the aircraft shall be regraded to NON-EDTO. The malfunctions observed during EDTO and NON-EDTO flights shall be reported by the Flight Crew using the Technical Log to enable verification and rectification by a relevant ground or function test. A verification flight may be required by Technical Operations Control whereas Flight Operations and OCC shall be notified. The verification may be performed on an EDTO flight as long as the flight is not operated beyond the EEP unless the verification has been satisfactorily completed.

8.5.9.1 Re-grading to “NON-EDTO” Status

Revision: 22.1 - 1 JUN 24

If the MEL cannot be complied with for EDTO, it shall be placarded as 'NON-EDTO” on the outside cover of the Technical Log. The defect should be entered as a deferred defect and the 'NON-EDTO” status will be carried over to the log. This shall be carried out by the approved EDTO engineer responsible for the aircraft.

A re-grading of the aircraft to “NON-EDTO” shall be advised to the Chief Pilot Division and to OCC.

8.5.10 EDTO Flight Dispatch

Revision: 19 - 14 MAR 21

Before each EDTO flight, in addition to the normal preparation of any flight the FOO shall identify en-route EDTO alternate airports that meet the following requirements:

1. The airports are not beyond the maximum diversion time approved in the Operations Specification;
2. The maximum diversion time should not exceed the EDTO significant system time limitation, for extended diversion time operations reduced with an operational safety margin of 15 minutes:
    a. Systems excluding the cargo fire suppression system, according to the FCOM One-Engine Inoperative cruise speed, standard atmosphere, considering the wind and temperature along the diversion route;
    b. For the cargo fire suppression system, according to the FCOM All Engine Operative cruise speed, standard atmosphere, considering the wind and temperature along the diversion route.
3. There is a serviceable instrument approach equipment for the intended runway in use;

4. The airport meets the en-route EDTO alternate planning weather minima and other alternate airport requirements, including RFFS (see Chapter ***8.1.2.3 Minimum Acceptable Airport RFFS Category***).

An en-route EDTO alternate airport, for dispatch purposes, is an alternate airport which satisfies the EDTO Planning Weather Minima in terms of ceiling and visibility within the required validity period.

For EDTO flights, the FOO shall ensure EDTO alternate airports are specified on the OFP and on the ATS flight plan.

8.5.10.1 EDTO Alternate Planning Weather Minima

Revision: 23 - 29 AUG 24

An airport shall only be selected as an EDTO en-route alternate airport when the appropriate weather reports or forecasts for intended runway in use, or any combination thereof, indicate that conditions calculated by adding the additional limits of Table "EDTO Planning Minima" will exist.

EDTO Planning Minima

Approach Facilities	Alternate Airport Ceiling	VIS/RVR
CAT I or CAT II, or CAT III	DA/DH + 200 ft	VIS/RVR + 800 m
All other	DH/MDH + 400 ft	VIS/RVR + 1,500 m

8.5.10.2 Validity Period

Revision: 19 - 14 MAR 21

To declare an en-route alternate airport as suitable for EDTO flight planning, the ceiling and visibility forecast shall be checked to meet the EDTO dispatch weather minima during a required period of validity.

The required period of validity starts one hour before the earliest estimated time of arrival at the considered en-route alternate airport and ends one hour after the latest estimated time of arrival at this airport.

The period of time required for EDTO alternates is computed as follows:

For the first EDTO Alternate	Earliest estimated time of arrival based on flying along the route until the ENTRY Point + flying from the ENTRY Point to the first EDTO Alternate (based on the shortest flying time of all scenarios) - (minus) 1 hr.
	Latest estimated time of arrival based on flying along the route until the ETP Point + flying from ETP to the EDTO Alternate (based on the longest flying time of all scenarios) + 1 hr.
For the last EDTO Alternate	Earliest estimated time of arrival based on flying along the route until the ETP Point + flying from ETP to the EDTO Alternate (based on the shortest flying time of all scenarios) - (minus) 1 hr.
	Latest estimated time of arrival based on flying along the route until the EXIT Point + flying from the EXIT Point to the last EDTO Alternate (based on the longest flying time of all scenarios) + 1hr.
In case there are more than 2 EDTO Alternates the period of time computed for them is:	Earliest estimated time of arrival based on flying along the route until the ETP Point + flying from ETP to the EDTO Alternate (based on the shortest flying time of all scenarios) - (minus) 1hr.

Latest estimated time of arrival based on flying along the route until the ETP Point + flying from ETP to the EDTO Alternate (based on the longest flying time of all scenarios) + 1hr.

The time window between the earliest and latest possible use of the alternates is normally indicated in the computerized flight plan. For delays where a new OFP is not required, a new time window shall be defined manually by adding the duration of the delay to the originally calculated time window.

8.5.11 EDTO In-Flight

8.5.11.1 Before Passing the EEP

Revision: 23 - 29 AUG 24

Weather Requirements

An EDTO flight shall not continue beyond the EDTO Entry Point unless:

1. The weather conditions at each EDTO En-route Alternate airport are forecast to be at or above the landing minima for that airport (any limitation related to one engine inoperative operations shall be taken into account - 737 CAT I; 777/787 CAT III) from the earliest to the latest possible landing time; and
2. All EDTO En-route Alternate airports within the authorized EDTO maximum diversion time are reviewed by OCC and the flight crew are advised of any changes in conditions that have occurred since dispatch.

If for a specific airport, the weather conditions at an EDTO En-route Alternate airport are below the landing minima as in item 1 above, the flight release shall be amended to add an EDTO En-route Alternate airport within the maximum EDTO diversion time that meets the required landing minima. A FOO/PIC who amends a flight release en-route shall communicate the information to each other and record the amendment.

Significant Systems

An EDTO flight should not continue beyond the EDTO Entry Point with a failure of one or more EDTO significant systems (see Chapter ***8.5.6 EDTO Significant Systems***) unless the PIC makes a reasonable decision based on the considerations listed in Chapter ***8.5.11.4 Diversion*** that proceeding to the destination airport is as safe as an en-route landing.

8.5.11.2 After Passing the EEP

Revision: 20.2 - 14 DEC 22

If an en-route alternate airport deteriorates below the landing minima, the flight can be continued as planned.

Flight information updates including the weather and operational conditions at the EDTO En-route Alternate airports will periodically be obtained by the FOO on duty and communicated to the flight crew.

8.5.11.3 Fuel Monitoring

Revision: 19 - 14 MAR 21

During an EDTO flight the fuel monitoring procedure is the same as for a NON-EDTO flight. The fuel on board shall be enough to apply the fuel policy at destination and at the alternate destination (as applicable). There are no special fuel requirements for en-route alternate airports.

8.5.11.4 Diversion

Revision: 22.1 - 1 JUN 24

In case of a diversion, the PIC has the authority to deviate from the planned one engine out operating speed after completion of assessment of the actual situation. The most important consideration is to safely conduct the flight to the diversion destination.

Whenever one or more EDTO significant systems fails (see Chapter ***8.5.6 EDTO Significant Systems***), the PIC shall land the aircraft at the nearest suitable airport, in terms of flight time, at which a safe landing can be made. The PIC may proceed to the destination airport if, after considering the following, the pilot makes a reasonable decision that proceeding to that airport is as safe as landing at the nearest suitable airport:

1. The nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued;
2. The aircraft configuration, weight, serviceability of systems and useable fuel;
3. The weather conditions en-route at the diversion altitude, the MEA and the fuel consumption;
4. The airport traffic information including weather information and availability of RFFS and services for crew and passengers;
5. His familiarity with the airport to be used.

If the PIC decides not to land at the nearest suitable airport, he shall file a report according to Chapter ***11.4.2 Notification and Reporting***.

The crew should establish contact with the Chief Pilot Division OCC in case of re-routing, diversion or in-flight incident for in-flight assistance.

8.6 USE OF THE MINIMUM EQUIPMENT LIST(S) AND THE CONFIGURATION DEVIATION LIST(S)

8.6.1 Minimum Equipment List (MEL)

Revision: 22.1 - 1 JUN 24

The MEL is approved by the CAAI and permits the operation with specific inoperative items of equipment for a period of time or a number of flights until repairs can be accomplished. It is important that repairs are accomplished at the earliest opportunity but in any case within the time frame specified in the MEL for the particular equipment.

The basis for establishing and approving the MEL is the MMEL - the manufacturer's Master Minimum Equipment List. The MEL also considers operational regulations and increased safety standards applicable to commercial operations. The MEL for the type concerned is contained in the OM Part B and provides for release of the aircraft for flight(s) with inoperative equipment. Whenever a flight - or series of flights - is released for dispatch with inoperative item(s), entries shall be made in the technical log containing a detailed description of the inoperative item(s) using the appropriate system and sequence number found in the MEL and special advice to the crew and information regarding corrective action(s) taken. The MEL is not intended to provide for continued operation of the aircraft for an indefinite period with inoperative items. The basic purpose of the MEL is to permit the operation of an aircraft within the framework of a controlled and sound maintenance and repair program.

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, if the PIC feels that the items in question will be detrimental to flight safety. 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 MEL minimum.

Non-passenger revenue 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 approval of such a flight shall be requested from the technical department, Chief Pilot Division and the CAAI. Equipment obviously basic to the aircraft's airworthiness (such as wings, rudders, etc.) is not listed in the MEL and shall be operative for all flights.

On the other hand, equipment obviously not required for a safe operation of the aircraft - such as ashtrays, passenger convenience items, etc. - may be unserviceable. Most of these are listed in Appendix A for the MEL - Non Essential Furnishings (NEF). Aircraft release procedures for this type of equipment appear in the introduction to the NEF. For all further details check the MEL(s) for the type(s) concerned (OM Part B).

For release of aircraft under circumstances not covered by the MEL, refer to the AIPM.

8.6.1.1 MEL Procedures

(*) Revision: 23.1 - 15 MAR 25

Flight Operations and Maintenance Procedures

Maintenance shall do their utmost to release flights without MEL items.

Before release of an aircraft with an MEL Operations (O) item, OCC may consult with the Chief Pilot Division.

Dispatch Procedures

The FOO shall evaluate and determine whether the DDG Operation restricts the planned flight or series of flights. If the DDG requirements allow legal dispatch, the aircraft may be dispatched subject to implementing the DDG to the flight plan as required and subject to the PIC's approval.

Whenever an aircraft is dispatched with an MEL, the MEL item number shall be entered in all copies of the Flight Release.

If the MEL (or CDL) operating procedures affect the flight plan (such as additional fuel or increased drag), and this has been included in the flight plan, the FOO shall state the addition in the flight release comments.

Considerations Guidelines

The MEL, being a dispatch document, applies until the aircraft moves under its own power for the purpose of commencing a flight.

Pilots must use good judgment and airmanship when deciding whether to take off or return to the ramp and should consider the following:

- Take-off performance adjustments;
- Fuel consumption;
- Landing minimums;
- Route or airspace requirements (PBCS, RNP, etc.);
- The ability to dispatch the airplane for the next flight sector.

If there is any doubt, consult the MEL, OCC, or MCC.

Pilots should advise OCC of any such decision.

The final authority as to whether to return for repairs or to continue the flight rests with the PIC.

The Company has a "no-fault return-to-ramp policy" and will not question a PIC's decision to return to the ramp.

Procedures according to Ground and Flight Phases:

Phase	Action
Prior to closing the aircraft doors	Make an entry in the ATL. Refer to MEL and consult OCC/ MCC.
After closing the aircraft doors for departure and prior to taxi	1. Perform the relevant non-normal checklist (as applicable). **737 ONLY** – Flight crew cycling (pulling and resetting) of circuit breakers may be performed only after consulting with maintenance or as instructed in the QRH Ops Info chapter. **The PIC may choose to self-dispatch under MEL according to the procedure below:** 1. All MEL Operational and/or Maintenance items shall be applied; 2. Use the 'Considerations Guidelines' as written in the paragraph above this table; 3. Flight crew may **ONLY** perform the following maintenance procedures: switching off a system, pulling/collaring a circuit breaker, and placarding; 4. Any other maintenance procedures may only be performed by maintenance personnel; 5. The FOO shall be notified, and he shall check for any operational restrictions; 6. Enter a failure and defer it accordingly in the ATL/OFP before continuing the flight; 7. **737 ONLY** – When Performing the Recall check during the Before Taxi Procedure, if a light illuminates and then extinguishes (when the MASTER CAUTION is pressed): a. It is not necessary to perform self-MEL; b. The crew may elect to continue with the flight (according to the procedure above); c. A fault should be written at the end of the flight. **NOTE** If the requirements above cannot be met, return to the gate.
After starting taxi and prior to take-off	Perform the relevant non-normal checklist (as applicable) and use the 'Considerations Guidelines' as written in the paragraph above this table. **737 ONLY** – Flight crew cycling (pulling and resetting) of circuit breakers may be performed only after consulting with maintenance or as instructed in the QRH Ops Info chapter.

For instructions on filling out the ATL, refer to MCM Part 3-6.3 (J) in the EFOS/EFF-company information-company manuals & procedures-manuals, "Filing of self-MEL".

8.6.2 Configuration Deviation List (CDL)

Revision: 19 - 14 MAR 21

An aircraft may be operated with **secondary airframe and engine part** deficiencies if so allowed in the approved CDL. Other than in the MEL, CDL items very often do not have a time limit or a limit on the number of landings. However the CDL will specify "changes" to the approved OM Part B procedures or its performance.

As an example, a missing landing gear door may not cause a safety risk, however it may cause performance penalties which need to be considered. It may also imply speed limits but it would not be unsafe to operate that particular type of aircraft with a missing landing gear door provided the operation is performed within the framework of the instructions, limits and performance penalties as specified in the CDL.

Weight penalties - if there are any - shall be considered and subtracted from the allowed mass for take-off, climb en-route or landing. When first making use of the CDL for a specific item, the appropriate item shall be described and entered in the technical log and the “deferred items list”. For any subsequent flight(s) this particular item will be carried on in the deferred item list until this part is replaced or repaired. All further details may be found in the CDL for the respective type presented in the OM Part B.

8.7 NON-PASSENGER-REVENUE-FLIGHTS – PROCEDURES AND LIMITATIONS

8.7.1 General

Revision: 19 - 14 MAR 21

Flights which do not carry revenue passengers such as cargo, ferry and positioning flights, shall be given the collective name "NON PASSENGER-REVENUE FLIGHTS". All non-passenger revenue flights shall be performed in accordance with the company regulations for route flights excluding the waivers and changes that appear in this chapter.

8.7.1.1 Waivers and Additional Requirements

Revision: 22 - 20 FEB 24

The following limitations, requirements, restrictions and prohibitions are waivered for non passenger revenue flights:

- The requirement for megaphones;
- The requirement for markings and aids for emergency evacuation;
- The requirement for Seat Belt / No Smoking signs (without which, the PIC must ensure that passengers are verbally notified each time seatbelts must be fastened or smoking is prohibited);
- The requirement for a flight deck door;
- The limitations pertaining to EDTO;
- The pre-flight emergency demonstration to passengers;
- The requirement for cabin crew members, which shall be as follows:
  - For cargo flights, see Chapter ***8.7.2 All Cargo Flights***;
  - For other non passenger-revenue flights with 0 to 50 passengers on board, one cabin crew member is required. For each additional increment of 50 passengers (or part thereof), one additional cabin crew member is required.
- The restriction to enter flight deck during flight;
- The restriction of closing and locking the flight deck door;
- The passenger briefing;
- The prohibition to carry dangerous goods classified as "cargo aircraft only";
- The limitations on passengers who may not sit in Emergency Exit Seats;
- Flight Time Limitations as indicated below for each type of non passenger-revenue flights. Where FTL does not apply, the contractual/union limits apply.

The following additional requirements apply:

- A working flashlight shall be carried by each flight crew member;
- Life rafts shall be carried for flights operated at a distance from the shore of more than 100 NM or further than 30 minutes from the shore (the closer of the above). If using portable rafts to meet this requirement, the cabin crew shall undergo specific training in their use.

8.7.1.2 Crew

Revision: 19 - 14 MAR 21

D/H crew members may be assigned to non-passenger revenue flights as necessary.

If the need arises, and if no passengers are carried, D/H crew members may be counted as a third flight deck crew, only for the purpose of performing safety related tasks normally performed by the cabin crew.

8.7.1.3 Passengers

Revision: 19 - 14 MAR 21

The persons listed below may be accepted as passengers on non-revenue passenger flights, subject to traffic rights:

1. Crew members;
2. Company employees, their spouse and children;
3. CAAI Inspectors, in the course of duty;
4. Persons needed for: security or safety of the flight, the handling of radio-active material, the safety of valuable or secret cargo, the usage of fragile or expendable cargo, the handling or testing of containers or equipment associated with cargo, the loading and unloading of overload cargo, or when accompanying livestock;
5. Persons in para 4, when flying to or from the place of duty;
6. Persons accompanying government or IDF cargo.

NOTE	Every person shall have unobstructed access to a regular or an emergency exit.

NOTE	The PIC shall brief every person according to Chapter *8.7.1.7 Passenger/Supernumeraries Briefing*.

NOTE	An approved seat with a safety belt shall be available for each person on board the aircraft, located so that the occupant is not in a position to interfere with crew members performing their duties. Notwithstanding this, OM Part B limitations on the maximum number of persons on board a cargo aircraft shall be observed.

NOTE	The PIC may permit access to the flight deck to all passengers.

NOTE	Cold catering and beverages, appropriate to the length of the flight shall be supplied for each passenger.

8.7.1.4 Flight Conduct

Revision: 19 - 14 MAR 21

On non-passenger revenue flights carrying passengers, the PIC shall be responsible to ensure that the tasks outlined below are accomplished and that good order is maintained in the aircraft. Throughout the flight, the PIC shall be aware of passenger related factors which may affect safety, particularly if no cabin crew is on board. The PIC shall designate a crew member to perform the following tasks:

1. Assure that cleanliness and good order is maintained in the aircraft, and that before take-off and landing all equipment is stowed and secured with special emphasis on all galley equipment;

2. Periodically visit the passenger cabin during the flight with the aim of ensuring that nothing which could be potentially hazardous is developing;
3. Handling of administrative items, such as acceptance of documents, catering and bars.

8.7.1.5 Acceptance and Seating

Revision: 19 - 14 MAR 21

The Station Manager has been granted the discretion to not accept passengers. Acceptance of passengers shall be on the condition that the PIC approves that their presence on board will not restrict the planned operation of the flight and that the countries of departure and destination allow the flight of passengers aboard such flights.

Priority for boarding shall be as follows:

- Operating and D/H Crew including trainees;
- Required cargo attendants (supernumeraries);
- Required technical representatives;
- Company employees and/or crew members families.

During the critical phases of the flight, passengers shall not be seated near armed doors.

See specific limitations for each type of non-passenger revenue flight.

8.7.1.6 Aircraft Door Operation

Revision: 19 - 14 MAR 21

The number of aircraft doors to be utilized shall be no less than one door per each 50 passengers or part thereof. Those aircraft doors being utilized shall be operated according to standard door operation procedures (including cross check of arming and disarming) only by authorized crew members, except in an emergency, when the doors may be opened by persons who have been assigned and specifically briefed for this task by the PIC.

8.7.1.7 Passenger/Supernumeraries Briefing

Revision: 19 - 14 MAR 21

Before take-off, all passengers/supernumeraries shall be briefed using the checklist in the QRH - Ops Info. The briefing shall include the following items:

- The use of seat belts;
- The fact that smoking is prohibited throughout the duration of the flight;
- Action to be taken in the event of an emergency evacuation, including the location and operation of emergency exits;
- That, except in an emergency, no person other than an authorized crew members is permitted to operate any aircraft door;
- The use of emergency oxygen equipment;
- Communication with the flight deck;
- Emergency equipment for collective use;

- For flights operated at a distance from the shore of more than 100 NM or further than 30 minutes from the shore (the closer of the two), the location and operation of life rafts and life vests, including a demonstration of donning and inflating the life vest;
- That passengers are not permitted to operate aircraft galleys;
- Actions in case of significant turbulence, non-normal situations.

A cabin attendant or a suitable person shall be appointed and made responsible to assure that cleanliness and good order is maintained in the aircraft, and that before take-off and landing all baggage and all loose equipment is stowed and secured with special emphasis on all galley equipment.

8.7.2 All Cargo Flights

8.7.2.1 Definitions

Revision: 22.1 - 1 JUN 24

All Cargo Flight	A flight commenced in a dedicated freighter airplane.
Cargo Aircraft Only (CAO)	Refers to a type of shipment containing an article or a substance that is not allowed to be carried on a passenger aircraft. This type of cargo shall be carried in a cargo aircraft ONLY.
Supernumerary	Supernumeraries are those who are assigned to fly on duty and are not part of the operating flight crew. Supernumeraries do not hold any safety duties or responsibilities.

8.7.2.1.1 Supernumeraries and Passengers Restrictions and Requirements

Revision: 23 - 29 AUG 24

Only persons with written authorization from the Chief Pilot and Director of Standards may be accepted on all cargo flights.

On the 737BCF, when the flight is dispatched with EDTO 120, the maximum number of occupants including the flight crew shall not be above 5 due to oxygen limitations.

All requirements, limitations, rules and policies related to occupying an emergency exit seat or a crew seat or a flight deck observer seat apply, as shown in Chapters *8.2.3.3 Allocation of Seats for Adults, Children and Infants*, *8.3.15 Use of Vacant Crew Seats*, *8.3.15.1 Vacant Crew Seat on the Flight Deck* and *8.3.14 Flight Deck Related Items* apply.

On flights carrying dangerous goods classified as Cargo Aircraft Only (CAO), only the following persons shall be allowed on board:

- A crew member;
- An EL AL employee on duty;
- A CAAI inspector;
- A person accompanying a consignment or other cargo.

Below are the procedures for obtaining authorization from the Chief Pilot and Director of Standards:

- Whenever possible, non-revenue passengers shall travel on regular passenger flights. Travel on a cargo flight may be authorized if:
    - Reservations indicate a very low probability of being accepted on a regular passenger flight;
    - The route is not served by Company passenger flights;
    - The non-revenue passenger is accompanying a member of the crew;
- Prior to granting authorization, the Chief Pilot and Director of Standards shall consider the following:
    - The restrictions and requirements in this section;
    - The availability of customs and passport control at the destination airport;
    - Limitations on the movement of passengers at any of the planned stops of the flight.

Authorization shall be requested directly from the Chief Pilot and Director of Standards and not less than 24 hours (workday) before the intended flight. In exceptional circumstances, during off work hours, authorization may be requested via OCC. Requests from out base Stations shall be communicated to TLVOZLY copy TLVZZLY. The name of every authorized passenger shall be stated. If feasible, a copy shall be handed to each passenger. The authorization shall be in writing (Email) and shall be addressed to the originating, transit and terminating Stations, to the originating Freight Station and to OCC.

8.7.2.2 Dangerous Goods

Revision: 22.1 - 1 JUN 24

No passengers are allowed whenever a CAO shipment is loaded on board.

Dangerous Goods classified as CAO shall be loaded in a manner that will enable flight crew access in case of an emergency.

8.7.2.3 Safety Requirements – Supernumerary Area

Revision: 22.1 - 1 JUN 24

All the requirements shall be strictly complied with.

Supernumeraries shall not be assigned with any safety duty.

Careful attention shall be used when occupying the jump seats to ensure:

1. All supernumeraries shall read, understand and comply with the safety requirements stated in the OM Part A, OM Part B and OM Part C and follow all instructions given by the flight crew;
2. Personal items shall be properly restrained and loaded as follows:
    a. Its location does not restrict access to or use of any required emergency equipment or any of the exit doors;
    b. Items must be positioned so that if they break loose they will be unlikely to cause direct injury to other occupants or damage equipment.
3. The flight crews are responsible to:
    a. Ensure all emergency equipment is available, serviceable and accessible;
    b. Ensure all supernumeraries have been briefed, have read and understood the safety card;

   c. Ensure all supernumeraries are aware of the location of emergency equipment and will know how to operate the emergency equipment in case needed;
   d. Flight crew shall verify cabin is fully ready prior commencing taxi, takeoff, descent and landing.

Chapter Ops-Info in the QRH contains information regarding Occupying the Observer Seat in the cockpit.

All personal occupying the jump seat shall:

1. Read and understand the safety card instructions located under each seat on board and;
2. Briefed by the flight crew in the following subjects:
   a. The use of seat belts and identifying "SEAT BELTS" illuminated sign;
   b. The implication of "Sterile Cockpit";
   c. The use of oxygen;
   d. The use of life jackets or individual flotation devices;
   e. The use of communication systems and the common phraseology in case of an emergency;
   f. Eating and Drinking during flight;
   g. Flight Deck door;
   h. Evacuation in case of an emergency;
   i. General behavior during the flight;
   j. The use and location of Emergency equipment;
   k. The flight crew shall make announcements regarding safety to the supernumeraries when applicable (before taxi, before take-off, encountering turbulence, before landing, abnormal situations etc.);
   l. Notification to the supernumeraries shall be made before first aircraft movement.
   m. The knowledge to act in case of emergency when no instructions were made.

8.7.2.4 Cabin and Main Deck Cargo Doors Operations

Revision: 22.1 - 1 JUN 24

Prior to departure the flight crew shall close the cabin entry doors and connect the emergency slides.

After landing and prior to opening the cabin entry doors, the flight crew shall disconnect the emergency slides and then open the cabin entry doors.

Door 1R should be the door used for entering and exiting the cabin.

Door 1L should be used for maintenance reasons by maintenance personnel.

Main deck cargo door shall be operated only by a qualified person, instructions and limitations of operating the main deck cargo door is in the GOM and in a placard located in the cabin.

8.7.2.5 Aircraft Fueling

Revision: 22.1 - 1 JUN 24

Refer to Chapter *8.2.2 Fueling*.

8.7.2.6 Smoking On Board

Revision: 22.1 - 1 JUN 24

Smoking (including electronic cigarettes) is **prohibited** in the supernumeraries area, cargo deck and flight deck on all flights. "NO-SMOKING" signs are located in the supernumeraries area.

8.7.3 Delivery Flights

Revision: 19 - 14 MAR 21

Delivery flights are flights where - after a purchasing or lease agreement - an aircraft is flown from the manufacturer's, seller's or lessor's facility to the airline or vice versa.

Flight Time Limitations do not apply to delivery flights. Provided all normal requirements - such as crew complement, equipment requirements are met, non-revenue passengers may be carried if this is not excluded on the certificate of airworthiness and certificate of registration. Full insurance coverage shall be assured. For some delivery flights the Authority might only issue a “ferry permit” in lieu of the certificate of airworthiness and the certificate of registration. This ferry permit may exclude the carriage of persons other than flight crew and engineers. For those flights with minimum crew and the permitted persons - other than flight crew and passengers - the Chief Pilot and Director of Standards may specify acceptable deviations from the procedures required under the Company operations manual(s), in accordance with national and international regulations for non-commercial operations (IANR Chapter 8, ICAO Annex 2, Annex 6. II etc).

On those delivery flights, where all requirements as per the CAAI regulations and the company operations manual(s) are met (including all insurance coverages for commercial operations) passengers - even commercial passengers - may be carried, if the aircraft's registration is removed from the AOC only after the arrival at the final (delivery) destination.

The following limitations and additions shall be observed for all delivery flights not carrying commercial passengers:

1. Minimum Operations Manuals on board - AFM, QRH and MEL;
2. Landing airports may be Ad Hoc airports not approved for commercial operations. OCC, Ground Operations and Maintenance are responsible to coordinate the operation with the airport operators;
3. Final reserve fuel shall be 45 minutes (an additional 15 minutes);
4. Alternate airport minima shall be the minima published “for filing as alternate”. If no such minima is published, the following minima shall be used:
    - For a Precision Approach - cloud base 600 ft, visibility 3,000 meters;
    - For a Non-Precision Approach - cloud base 800 ft, visibility 3,000 meters.
5. The approved CAT II and CAT III FCOM shall be on board in order to perform CAT II and CAT III operations;
6. The flight shall be dispatched as a General flight (G instead of S in the ATC flight plan);
7. All extended over-water operations shall be conducted with life rafts or slide rafts;
8. The flight should be dispatched according to EDTO provisions.

8.7.4 Positioning Flights

Revision: 19 - 14 MAR 21

A positioning flight is a flight to position an aircraft to an airport for commercial operation.

Flight Time Limitations do not apply to positioning flights, unless:

1. The positioning flight is part of a series of flights which includes a commercial flight; or
2. Revenue cargo is being carried.

Passengers shall be allocated seats in the forward rows of the main cabin.

Unless specifically prohibited by local regulations or agreements, revenue cargo may be carried on positioning flights.

8.7.5 Demonstration Flights

Revision: 19 - 14 MAR 21

A demonstration flight may be for a sales/advertising/Independence Day flights, flights with journalists and customers to introduce a new type of aircraft, or flights to demonstrate operational capabilities for regulatory purposes.

Flight Time Limitations do not apply to demonstration flights.

8.7.6 Ferry Flights

Revision: 19 - 14 MAR 21

Ferry flights are flights to position aircraft for maintenance. They may be conducted with minimum crew and reduced airworthiness as permitted by the AFM or its supplements. It may need authorization from the CAAI and the Aviation Authorities of the countries overflown during the flight (refer to MCM Part 4-12 “Special Flight Permit” for further details).

Flight Time Limitations do not apply to ferry flights.

Authorization of Ferry Flights

The authority for the operation of a Ferry Flight rests jointly with:

1. The Chief Pilot and Director of Standards;
2. The Operations Control Manager;
3. The Quality Assurance and Control Manager.

The final authorization shall be issued by the Director of Flight Operations. In his absence the authorization may be issued by the Chief Pilot and Director of Standards personally.

However, no ferry flight may be authorized, unless it has been established, after consultation with Quality Assurance and Control, the relevant Fleet Manager and the PIC, that the ferry flight is the optimal course of action under the prevailing circumstances.

Prior to authorizing the ferry flight, OCC shall obtain from the duty supervisors of Quality Assurance and Control and Chief Pilot Department, any conditions or limitations which are applicable to the conduct of the flight. These shall be mutually agreed upon by both supervisors and shall apply in addition to all conditions and limitations specified in the AFM and/or the FCOM / FPPM. They shall be specified as “additional information” in the Flight Release together with the names of the supervisors.

Before initiating the flight, the PIC shall ensure with OCC that all pertinent authorizations have been received.

Ferry flights shall be operated in accordance with IANR Chapter 8, and any requirements or limitations laid down by CAAI and the countries being overflown.

8.8 OXYGEN REQUIREMENTS

Revision: 22.1 - 1 JUN 24

First Aid Oxygen	Means the additional oxygen provided for the use of passengers, who do not satisfactorily recover following subjection to excessive cabin altitudes, during which they had been provided with supplemental oxygen.
Supplemental Oxygen	A supply of oxygen to the required number of occupants for the required flight time at the appropriate altitude(s), following a cabin depressurization.
Crew Protective Breathing Equipment (PBE)	An equipment to protect the eyes, nose and mouth of flight crew and cabin crew. The PBE shall allow the crew members to continue to perform their duties even under smoke or toxic air conditions in the cabin or on the flight deck, the portable PBE equipment shall allow active fire fighting. All company aircraft are equipped with PBE that protects the eyes, nose and mouth of each required crew member while on flight duty and provides oxygen for a period of not less than 15 minutes. PBE intended for flight crew use is located on the flight deck and is easily accessible for immediate use by each flight crew member at his station. The equipment shall allow the crew to communicate using the aircraft radio equipment and to communicate by interphone with each other while at their assigned stations. PBE intended for cabin crew use is installed adjacent to each required cabin crew duty station. **NOTE** The oxygen supply for PBE may be provided by the supplemental oxygen on board. **NOTE** The available and minimum number of PBEs for dispatch appears in the MEL.

8.8.1 First Aid Oxygen

Revision: 19 - 14 MAR 21

The amount of oxygen shall be sufficient for the remainder of the flight after depressurization when the cabin altitude exceeds 8,000 ft but does not exceed 15,000 ft for at least 2% of the passengers carried (but in no case for less than one person). There are 2 dispensing units on board of every company aircraft intending to operate above 25,000 ft. The amount of first aid oxygen required for a particular operation shall be determined on the basis of cabin pressure altitudes and flight duration, consistent with the operating procedures established for each operation and route and appears in the OM Part B - MEL.

The oxygen equipment provided shall be capable of generating a mass flow to each person, STPD. Means may be provided to decrease the flow to not less than two liters per minute, STPD, at any altitude.

8.8.2 Supplemental Oxygen

Revision: 19 - 14 MAR 21

The amount of supplemental oxygen required shall be determined on the basis of cabin pressure altitude, flight duration and the assumption that a cabin pressurization failure will occur at the altitude or point of flight that is most critical from the standpoint of oxygen need, and that, after the failure, the aircraft will descend in accordance with emergency procedures specified in Chapter *8.3.20.1.14 Flight Crew Briefings* and in the FCOM to a safe altitude for the route to be flown that will allow continued safe flight and landing.

8.8.2.1 Oxygen Equipment and Supply Requirements

Revision: 20.2 - 14 DEC 22

1. **Flight Crew Members**
    a. Each member of the flight crew on flight deck duty shall be supplied with supplemental oxygen as specified in the table below. If all occupants of flight deck seats are supplied from the flight crew source of oxygen supply then they shall be considered as flight crew members on flight deck duty for the purpose of oxygen supply. Flight deck seat occupants, not supplied by the flight crew source, are considered to be passengers for the purpose of oxygen supply;
    b. Flight crew members, not covered by (a.) above are for the purpose of oxygen supply, to be considered as:
        i. **Cabin crew members**, if they are on call or are definitely going to have flight deck duty before completing the flight;
        ii. **Passengers**, if they are not on call and will not be on flight deck duty during the remainder of the flight.
    c. Oxygen masks shall be located so as to be within the immediate reach of flight crew members whilst at their assigned duty stations;
    d. Oxygen masks for use by flight crew members in pressurised aeroplanes operating above 25,000 ft shall be a quick donning type of mask.
2. **Cabin Crew Members and Passengers**
    a. Cabin crew members and passengers shall be supplied with supplemental oxygen in accordance with the table below. Cabin crew members carried above the minimum number of cabin crew members required shall be considered as passengers for the purpose of oxygen supply;
    b. When operating above 25,000 ft there shall be provided sufficient spare outlets and masks and/or sufficient portable oxygen units with masks for use by all required cabin crew members. The spare outlets and/or units are to be distributed evenly throughout the cabin to ensure immediate availability of oxygen to each required cabin crew member regardless of his or her location at the time of cabin pressurisation failure;
    c. When operating above 25,000 ft there shall be provided an oxygen dispensing unit connected to oxygen supply terminals shall be made immediately available to each occupant, wherever seated. The total number of dispensing units and outlets shall exceed the number of seats by at least 10%. The extra units are to be evenly distributed throughout the cabin;

d. When operating above 25,000 ft or, if operating below, and unable to descent safely within 4 minutes to 13,000 ft, the aeroplane shall be provided with automatically deployable oxygen equipment immediately available to each occupant. The total number of dispensing units shall exceed the number of seats by at least 10%. The extra units are to be evenly distributed throughout the cabin.

NOTE	Only applicable, when the individual certificate of airworthiness was first issued on or after 9 November 1998.

NOTE	When flying over high terrain where a descent to 12,000 ft may not be possible (e.g. MEA/MORA above 12,000 ft), oxygen shall be provided to all passengers and cabin crew for the entire flight above 12,000 ft.

Oxygen - Minimum Requirements for Supplemental Oxygen for Pressurised Aeroplanes

Supply for:	Duration and Cabin Pressure Altitude
1. All occupants of flight deck seats on flight deck duty	The greater of either: 1. Two hours (Note 3); or 2. Entire flight time when the cabin pressure altitude exceeds 12,000 ft, and entire flight time when the cabin pressure altitude exceeds 10,000 ft but does not exceed 12,000 ft after the first 30 minutes at those altitudes.
2. All required cabin crew members	The greater of either: 1. 30 minutes (Note 2); or 2. Entire flight time when the cabin pressure altitude exceeds 12,000 ft, and entire flight time when the cabin pressure altitude exceeds 10,000 ft but does not exceed 12,000 ft after the first 30 minutes at those altitudes.
3. 100% of passengers (Note 5)	The entire flight time when the cabin pressure altitude exceeds 15,000 ft (Note 4)
4. 30% of passengers (Note 5)	Entire flight time when the cabin pressure altitude exceeds 14,000 ft but does not exceed 15,000 ft.
5. 10% of passengers (Note 5)	Entire flight time when the cabin pressure altitude exceeds 10,000 ft but does not exceed 14,000 ft after the first 30 minutes at these altitudes.

NOTES:

1. The supply provided shall take account of the cabin pressure altitude descent profile for the routes concerned.
2. The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane's maximum certificated operating altitude to 10,000 ft in 10 minutes and followed by 20 minutes at 10,000 ft.
3. The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane’s maximum certificated operating altitude to 10,000 ft in 10 minutes and followed by 110 minutes at 10,000 ft.

4. The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane's maximum certificated operating altitude to 15,000 ft in 10 minutes.
5. For the purpose of this table "passengers" means passengers actually carried and includes infants.

8.8.3 Use of Oxygen Masks by Flight Crew Members

Revision: 19 - 14 MAR 21

When operating at flight altitudes above FL410, one pilot at the controls of the aircraft shall at all times wear and use an oxygen mask secured, sealed, and supplying oxygen.

At all times when the cabin altitude is above 10,000 ft, both pilots at the controls of the aircraft shall wear and use an oxygen mask secured, sealed and supplying oxygen.

8.8.4 Detailed Description of the Different Systems and the PBE

Revision: 19 - 14 MAR 21

Detailed descriptions of the oxygen system, PBE, first aid and therapeutic equipment are contained in the respective OM Part B (FCOM and CFSM).

8.9 FLIGHT MONITORING

8.9.1 Definitions

Revision: 22.1 - 1 JUN 24

Abnormal Flight Behaviour	An event affecting a flight: 1. Which is outside of the parameters defined below for normal operation or which in the FOO's opinion indicates an obvious deviation from normal operation; and 2. For which the FOO has determined that it poses a risk for the safe continuation of the flight or for any third party persons or property. <u>Parameters for Normal Operation:</u> • Position information has been received within the previous 30 minutes; • The reported position is within 50 NM of the Flight Plan (except in an area with severe weather); • The reported fuel is no more than 1,000 kg (737) or 2,000 kg (777/787) below estimated over a given point; • The reported altitude is within +/- 5,000 ft of the Flight Plan.
Aircraft Tracking	A process that maintains and updates, at standardized intervals, a ground-based record of the four-dimensional position (latitude, longitude, altitude, time) of individual aircraft in flight. The terms associated with Aircraft Tracking are: • 4D/15 Service - In the provision of air traffic services, an ATS unit receives four-dimensional aircraft position information at 15-minute intervals or less from suitably equipped aircraft; • 4D/15 Tracking - The operator obtains four-dimensional aircraft position information at 15-minute intervals or less.
Aircraft Tracking System	Means a system that relies on aircraft tracking in order to identify abnormal flight behaviour and provide alert.
Automated Flight Monitoring System	A system that incorporates automation to ensure operational data of a flight in progress is provided to FOOs and OCC management when certain operational parameters are exceeded. Data may include items such as departure and arrival delays, route and/or altitude deviations, lost communications, destination/alternate minimum reports/forecasts, weather/winds changes, aircraft fuel status, air traffic delays or choke points, airport status or delay information, navaid facility changes, volcanic ash advisories, wind shear alerts, hazardous weather advisories and security alerts.

Flight Covered by ATC Surveillance	A flight whose planned route and the planned diversion routes are included in airspace blocks where 4D/15 Service is normally provided. **NOTE** EL AL has provided necessary contact information to all air navigation service providers.
Flight Following	The recording in real time of departure and arrival messages by operational personnel to ensure that a flight is operating and has arrived at the destination airport.
Flight Monitoring	Means, in addition to the requirements defined for Flight Following, Flight Monitoring: 1. Operational monitoring of flights by suitably qualified operational-control personnel from departure throughout all phases of the flight; 2. Communication of all available and relevant safety information between the operational-control personnel on the ground and the flight crew; and 3. Critical assistance to the flight crew in the event of an in-flight emergency or security issue, or at the request of the flight crew.
Flight Watch	In addition to all of the elements defined for flight following and flight monitoring, flight watch includes the active tracking of a flight by a FOO throughout all phases of the flight to ensure that the flight is following its prescribed route, without unplanned deviation, diversion or delay.

8.9.2 Authority and Responsibility

Revision: 19 - 14 MAR 21

Flight monitoring together with pre-flight planning are two key FOO activities associated with the exercising of Operational Control that are subject to the responsibility and the authority of the Director OCC.

The geographical area of responsibility covers all routes operated by company aircraft, whether on scheduled or unscheduled / ad-hoc operations.

It shall be based on the principle of “Assumed Normal Progress”. This means that, unless information is received to the contrary, the prevailing operational conditions are assumed to be as forecasted and the flight’s progress is as planned.

EL AL has established a daily shift time for a FOO that begins at a time that allows him to become thoroughly familiar with existing and anticipated weather conditions before he dispatches any aircraft. The FOO shall remain on duty until each aircraft dispatched by him has completed its flight or until he is relieved by another qualified FOO. The turnover briefing will not start any sooner than 15 minutes prior to the end of the shift.

8.9.3 Tasks

Revision: 19 - 14 MAR 21

- To monitor flight progress of all Company flights and over operational conditions, en-route and at the flight's destination and alternate airports;
- To communicate to the aircraft relevant information whenever changes in operational conditions may have a significant effect on the flight's planned progress, or when it is deemed necessary to assure safe operation;
- To be informed of any significant deviations from the planned progress of each flight, or when changes in operational conditions may affect a flight's planned progress.

8.9.4 Dispatch Operations

Revision: 19 - 14 MAR 21

Flight monitoring is conducted for the purposes of providing real-time operational support for aircraft en-route and continually validating pre-flight planning assumptions. It is the Company's expectation that OCC duty manager will prioritize workload responsibilities of each FOO in such a manner as to guarantee that the performance of Flight Monitoring always takes priority over pre departure preparation and planning activities.

In the event that Operational Control activities should escalate to a point where pre departure preparation activities may begin to adversely affect the FOO’s ability to perform adequate Flight Monitoring, the OCC Duty manager shall initiate the following procedure:

- Reduction in pre-departure activity in order to maintain safe Flight Monitoring;
- Reschedule normal pre-departure activities.

Flight monitoring procedure for OCC personnel is detailed in OCC Manual 3-03-103.

8.9.5 Reliable Meteorological and Airport Information

Revision: 19 - 14 MAR 21

Obtaining accurate meteorological information as well the ability to monitor en-route meteorological conditions, destination meteorological and airport conditions is essential in order for pilots and FOO’s to dynamically reevaluate, reanalyze and revalidate pre-flight planning assumptions. This capability augments what is typically available to the PIC in less robust systems and closes gaps in coverage where such information may not be readily attainable by the flight crew en-route. Additionally, the FOO’s involved in the monitoring and analysis of such information effectively expand the team of people dedicated to the safe completion of a flight.

Monitoring activities typically include, but are not limited to the monitoring of:

- Destination and alternate airport meteorological and airport conditions;
- Tropical cyclone advisories;
- PIREPs;
- Airport Automatic Weather Stations (AWS);
- Volcanic Ash Advisories, earthquake events and tsunamis;
- Gridded Data turbulence, icing and CB;
- SIGMET, METAR / SPECI, TAF;

- NOTAMs and runway contaminations (e.g. snow/ice/standing water);
- Blowing dust or other advisories related to limited visibility;
- Other foreseeable meteorological phenomena or airport condition(s) that may pose a hazard.

All information shall be retrieved from official vendors, contract (e.g. LIDO, WSI, FliteDeck Pro weather function [the NOTAM function in FliteDeck Pro is not approved for operational use]), or public state meteorology authorities (e.g. World Area Forecast centers, Meteorological Watch Offices, State NOTAM Offices, Volcanic Ash Advisory Centers), and shall be transmitted to the aircraft in the original ICAO message format.

Adverse Weather forecasts are provided by WSI in the form of FPGs (Flight Plan Guidance) and SIGMETs (Significant Meteorological advisories). The FOO and PIC may use WSI Flight Plan Guidance for pre-flight planning as superseding any other weather forecast products produced by approved government sources of the same type. If the WSI information is used, the WSI weather information shall be attached to the flight briefing folder.

Any other sources of meteorological information may be used as advisory information and shall not be used for route planning purposes.

8.9.6 Communication Systems

Revision: 19 - 14 MAR 21

The demonstrable ability of an operator to rapidly and reliably contact an aircraft en-route forms the foundation of modern operational control systems. EL AL have access to multiple and redundant means of communication to ensure gaps in coverage are minimized or eliminated. Such redundancies when used in conjunction with other operational control processes can lessen the severity of potential hazards or mitigate safety risks associated with operational variations. Available means to contact with EL AL’s aircraft typically include, but are not limited to the use of:

- SATCOM/IRIDIUM VOICE;
- VHF company frequencies;
- Phone patch through Stockholm Radio;
- Message relay through ATC;
- ACARS;
- SATELLITE Data-link.

8.9.7 Aircraft Tracking

Revision: 23 - 29 AUG 24

EL AL maintains an Aircraft Tracking System as described in this chapter. The Aircraft Tracking System has the capability to track aircraft throughout all Approved Operating Areas, and ensures 4D/15 Service and/or 4D/15 Tracking for the entire duration of every flight unless otherwise specified in this chapter.

Aircraft Tracking System Description

EL AL uses WSI Fusion, a decision support tool and global flight tracker, which includes Continuous Global Tracking meeting 4D/15 reporting requirements. WSI Fusion is fed by various data sources including Air Traffic Control data, ADS-B data, ADS-C data, and Company Position Reports to ensure that, as a minimum, the aircraft's 4D position (latitude, longitude, altitude, time) is accurately updated at least every fifteen (15) minutes throughout the entire flight.

FOOs can also use their own initiative to locate an aircraft if/when required.

WSI Fusion will alert the FOO in various cases of route deviation, missed position reports, fuel state, etc. These alerts shall be validated and actioned as required by the FOO.

In case of Abnormal Flight Behaviour or if the FOO suspects Abnormal Flight Behaviour, the FOO shall follow the procedure defined in the OCC Manual, and if necessary - the Corporate Emergency Response Manual (CERM).

8.9.7.1 4D/15 Tracking Requirements

Revision: 19 - 14 MAR 21

APPROVED

4D/15 Tracking is required whenever an Air Traffic Services Unit (ATSU) obtains aircraft position information at greater than 15-minute intervals. If 4D/15 Service is not provided and Automated Position Reports (ADS-B, ADS-C, or ACARS reports) are not available, flights nevertheless are permitted to operate when any of the following circumstances exist (further to EL AL's risk assessment and resulting mitigation actions):

1. Aircraft equipment failure prior to commencement of flight rendering 4D/15 Tracking unserviceable;
2. Systemic (non-aircraft dependent) failure rendering 4D/15 Tracking unachievable;
3. Regular short exposure to lack of 4D/15 coverage (e.g. short A to B flights);
4. Temporary airspace closures that may force unequipped aircraft onto routes that would typically require 4D/15 tracking.

8.9.7.2 Temporary Lack of Aircraft Tracking Data

Revision: 19 - 14 MAR 21

Aircraft tracking data may be incomplete due to a temporary or unexpected issue prior to or during the flight.

The Chief Dispatcher coordinates with departments within the Company and external entities to identify non-temporary issues which may affect aircraft tracking data (for example: scheduled system maintenance), and is responsible to update the relevant FOOs accordingly.

Any systematic lack of aircraft tracking data affecting a given airplane or a given route shall be addressed by OCC in a timely manner, in consultation with other relevant departments.

8.10 APPROVED AIRPORTS, USA SPECIAL PIC AIRPORTS, CATEGORY B, C AND Q AIRPORTS

(*) Revision: 23.1 - 15 MAR 25

The OM Part A library in EFOS/EFF contains a list of airports which have been approved for planning purposes.

The list shall specify each airport's location, designation (destination/alternate), and type of aircraft approved. It is not meant to restrict the PIC's authority to use any other airport in case of an in-flight emergency.

8.11 8.33 KHZ CHANNEL SPACING

8.11.1 General

Revision: 19 - 14 MAR 21

Due to a shortage of VHF radio telephony frequencies in the European airspace a decision has been made to reduce the current spacing from 25 kHz to 8.33 kHz. This will result in an increase in available frequencies which permits the creation of new control sectors, thereby contributing to an increase in ATM capacity in the ECAC area.

8.11.2 Mandatory Carriage

Revision: 19 - 14 MAR 21

The mandatory carriage and operation of 8.33 kHz channel spacing capable radio equipment is mandatory throughout the ICAO EUR Region for aircraft operating above FL195. Non-equipped aircraft which are flight planned to enter any FIR/UIR in the EUR Region where no exemptions has been published, except for UHF equipped State aircraft shall flight plan to operate below FL195 throughout the entire EUR Region.

8.11.3 Aircraft Equipment

Revision: 19 - 14 MAR 21

Aircraft shall be equipped with two independent sets of 8.33 kHz radios.

The PIC is ultimately responsible that 8.33 kHz channel spacing capable radio communication equipment is available, and operational on board the aircraft.

8.11.4 Exemptions

Revision: 19 - 14 MAR 21

Non-8.33 kHz equipped flights are:

- Not permitted unless exempted by States overflown;
- Subject to Initial Flight Plan Processing System (IFPS) flight plan rejection or warning notification, if planned to enter the airspace of 8.33 kHz Mandatory Carriage without exemption.

States, in the area of 8.33 kHz Mandatory Carriage, may publish exemptions to the carriage requirement within their area of responsibility. An exemption allows non-8.33 kHz equipped aircraft to fly within that portion of the airspace of Mandatory Carriage, where the exemption applies.

8.11.5 Flight Plan

8.11.5.1 General Procedures

Revision: 19 - 14 MAR 21

Do not plan a flight in the ICAO EUR Region above FL195 if the aircraft is not equipped with 8.33 kHz capable radios, unless the flight is subject to exemption.

If the aircraft is equipped with 8.33 kHz capable radios, then regardless of the requested flight level insert the letter “Y” in field 10 of the Standard Flight Plan.

If the aircraft is not equipped with 8.33 kHz capable radios, but the flight is exempted from the 8.33kHz carriage requirement, then insert the indicator STS/EXM833 in the field 18 of the Standard Flight Plan.

8.11.6 Communication Failure

Revision: 19 - 14 MAR 21

In this case, the standard procedure in the airspace concerned has to be applied.

8.11.7 Indication of VHF Communication Channels

Revision: 19 - 14 MAR 21

Amendment 80 to ICAO Annex 10, Volume II - Aeronautical Telecommunications - introduced a procedure requiring all VHF voice communication channels to be indicated by the use of 6 digits (4 digits for channels ending in two zeros), irrespective of whether 25 or 8.33 kHz spacing is used.

Important: The use of the term “CHANNEL” for 8.33 kHz channels is discontinued. It is essential that flight crews readback the channel number exactly as given by the controller and that controllers verify that the pilot has correctly understood.

8.12 RVSM – OPERATIONAL PROCEDURES

Revision: 19 - 14 MAR 21

Glossary

AAD	Assigned Altitude Deviation
AOM	Aircraft Operating Manual
ð	Atmospheric Pressure Ratio
FIR	Flight Information Region
Pa	Hecto-Pascal
M	Mach number
MEL	Minimum Equipment List
MMO	Maximum Operating Limit Mach
QNH	Altimeter sub-scale setting to obtain elevation when on ground
SSEC	Static Source Error Correction
SSR	Secondary Surveillance Radar
UACC	Upper Area Control Center
w	Weight
ACC	Area Control Center
ASE	Altimetry System Error
CFL	Cleared Flight Level
GAT	General Air Traffic
In.Hg	Inches of Mercury
MASPS	Minimum Aircraft System Performance Specifications
MMEL	Master Minimum Equipment List
QFE	Atmospheric pressure at airport elevation (or at runway threshold)
RVSM	Reduced Vertical Separation Minimum
SSE	Static Source Error
TVE	Total Vertical Error
UIR	Upper flight Information Region

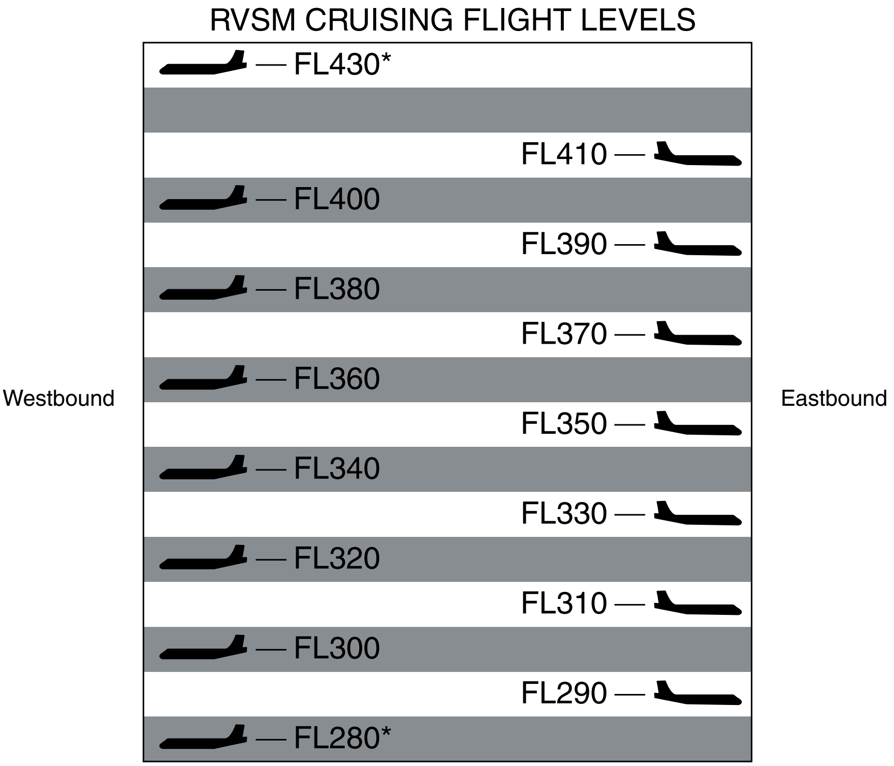
8.12.1 Area of Applicability

Revision: 19 - 14 MAR 21

RVSM shall be applied in that volume of airspace between FL 290 and FL 410 inclusive in all FIRs that have adopted RVSM (see Jeppesen ATC).

Table of EUR RVSM Cruising Levels

The table of cruising levels which will apply in the RVSM airspace:



* non-RVSM level

NOTE	China RVSM Flight Level Allocation Scheme is based on Metric Flight Level. ATC will issue the Flight Level clearance in meters. The aircraft shall be flown using the flight level in feet using the conversion table available in the OM Part C (FliteDeck Pro).

8.12.2 Definitions

Revision: 22.1 - 1 JUN 24

Aircraft Group	A group of aircraft that are of nominally identical design and build with respect to all details that could influence the accuracy of height keeping performance.
Altimetry System Error (ASE)	The difference between the barometric altitude displayed to the flight crew when referenced to ISA ground pressure setting (1013.2 hPa) and free stream pressure altitude.
Assigned Altitude Deviation (AAD)	The difference between the transmitted mode C altitude and the assigned altitude/flight level.
Avionics Error (AVE)	The error in the process of converting the sensed pressure into an electrical output, of applying any static source error correction (SSEC) as appropriate, and of displaying the corresponding altitude.

Basic RVSM Envelope	The range of Mach numbers and gross masses within the altitude ranges FL290 through FL410 (or maximum attainable altitude) where an aeroplane can reasonably expect to operate most frequently.
Full RVSM Envelope	The entire range covering all combinations of speed, altitude and weight/atmospheric pressure ratio ranges over which an aeroplane can be operated in cruising flight within the RVSM airspace.
General Air Traffic (GAT)	Flights conducted in accordance with the rules and provisions of ICAO.
Height Keeping Capability	Aeroplane height keeping performance that can be expected under nominal environmental operating conditions, with proper aeroplane operating practices and maintenance.
Height Keeping Performance	The observed performance of an aeroplane with respect to adherence to a flight level.
State Aircraft	Aircraft used in military, customs and police services shall be deemed to be state aircraft.
Static Source Error (SSE)	The difference between the pressure sensed by the static system at the static port and the undisturbed ambient pressure.
Static Source Error Correction (SSEC)	A correction for the static source error.
Total Vertical Error (TVE)	Vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level).
w/ð	The weight of the aeroplane divided by the atmospheric pressure ratio which is the ratio between the air pressure at the flight level flown by the aeroplane to the standard air pressure at sea level (in ISA conditions).

Flight Envelopes

Revision: 19 - 14 MAR 21

The RVSM operational flight envelope, as defined above, is the Mach number, w/d, and altitude ranges over which an aircraft can be operated in cruising flight within the RVSM airspace.

8.12.3 Flight Planning

Revision: 19 - 14 MAR 21

During flight planning the **FOO and the PIC** should pay particular attention to conditions, which may affect operation in RVSM airspace. These include, but may not be limited to:

1. Verifying that the aircraft is approved for RVSM operations;
2. Reported and forecast weather on the route of flight;
3. Minimum equipment requirements pertaining to height-keeping and alerting systems; and

4. Any airframe or operating restriction related to RVSM operations.

Insert the letter 'W' in field 10 of the ICAO standard flight plan in the format 'EQPT/W' whenever an aircraft to which the approval relates is to be operated within the lateral limits of the EUR RVSM airspace regardless of the requested flight level.

8.12.4 Pre-flight Procedures at the Aircraft for Each Flight

Revision: 20.2 - 14 DEC 22

The following actions should be accomplished during the pre-flight procedure:

1. Review technical logs and forms to determine the condition of equipment required for flight in the RVSM airspace. Ensure that maintenance action has been taken to correct defects to required equipment;
2. During the external inspection of aircrafts, particular attention should be paid to the condition of static sources and the condition of the fuselage skin near each static source and any other component that affects altimetry system accuracy (this check may be accomplished by a qualified and authorized person other than the pilot, e.g., a Flight Engineer or maintenance personnel);
3. Before take-off, the aircraft altimeters should be set to the QNH (atmospheric pressure at nautical height) of the airfield and should display a known altitude, within the limits specified in OM Part B. The two primary altimeters should also agree within limits specified by the OM Part B. An alternative procedure using QFE (atmospheric pressure at aerodrome elevation/runway threshold) may also be used

NOTE	The maximum value of acceptable altimeter differences for these checks should not exceed 23 m (75 ft).

   Any required functioning checks of altitude indicating systems should be performed;
4. Before take-off, equipment required for flight in RVSM airspace should be operative, and any indications of malfunction should be resolved.

8.12.5 Prior to RVSM Airspace Entry

Revision: 23 - 29 AUG 24

The following equipment should be operating normally at entry into RVSM airspace:

1. Two primary altitude measurement systems. A cross-check between the primary altimeters should be made. A minimum of two will need to agree within ±60 m (±200 ft). Failure to meet this condition will require that the altimetry system be reported as defective and air traffic control (ATC) notified;
2. One automatic altitude-control system;
3. One altitude-alerting device; and
4. Operating transponder.

In case any of the required equipment fail prior to the aircraft entering RVSM airspace, the pilot shall request a new clearance to avoid entering this airspace.

8.12.6 In-Flight Procedures

Revision: 19 - 14 MAR 21

In flight the following procedures apply:

1. Flight crew should comply with any aircraft operating restrictions, if required for the specific aircraft type, e.g. limits on indicated Mach number, given in the RVSM airworthiness approval;
2. Emphasis should be placed on promptly setting the sub-scale on all primary and standby altimeters to 29,92 in.Hg / 1013,2 (hPa) when passing the transition altitude and rechecking for proper altimeter setting when reaching the initial cleared flight level;
3. In level cruise it is essential that the aircraft is flown at the cleared flight level. This requires that particular care is taken to ensure that ATC clearances are fully understood and followed. Except in contingency or emergency situations, the aircraft should not intentionally depart from cleared flight level without a positive clearance from ATC unless the crew are conducting contingency or emergency manoeuvres;
4. When changing levels, the aircraft should not be allowed to overshoot or undershoot the cleared flight level by more than 45 m (150 ft). If installed, the level off should be accomplished using the altitude capture feature of the automatic altitude-control system;
5. An automatic altitude-control system should be operative and engaged during level cruise, except when circumstances such as the need to re-trim the aircraft or turbulence require disengagement. In any event, adherence to cruise altitude should be done by reference to one of the two primary altimeters. Following loss of the automatic height-keeping function, any consequential restrictions will need to be observed;
6. Ensure that the altitude-alerting system is operative;
7. At intervals of approximately 1 hour, cross-checks between the primary altimeters should be made. A minimum of two will need to agree within ±60 m (±200 ft). Failure to meet this condition will require that the altimetry system be reported as defective and ATC notified.

   The usual scan of flight deck instruments should suffice for altimeter cross-checking on most flights;
8. In normal operations, the altimetry system being used to control the aircraft should be selected for the input to the altitude reporting transponder transmitting information to ATC;
9. If the pilot is notified by ATC of a deviation from an assigned altitude which exceeds +90 m (+300 ft) then the pilot should take action to return to cleared flight level as quickly as possible.

Contingency procedures after entering RVSM airspace are as follows:

1. The pilot should notify ATC of situations (equipment failures, weather) that affect the ability to maintain the cleared flight level, and coordinate a plan of action appropriate to the airspace concerned. Guidance particular to specific airspace may be published in the OM Part C;
2. Examples of equipment failures that should be notified to ATC are:
   a. Failure of all automatic altitude-control systems aboard the aircraft;
   b. Loss of redundancy of altimetry systems;
   c. Loss of thrust on an engine necessitating descent; or
   d. Any other equipment failure affecting the ability to maintain cleared flight level.
3. The pilot should notify ATC when encountering greater than moderate turbulence;

4. If unable to notify ATC and obtain an ATC clearance prior to deviating from the cleared flight level, the pilot should follow any established contingency procedures for the region of operation and obtain ATC clearance as soon as possible.

8.12.7 Post Flight

Revision: 19 - 14 MAR 21

In making maintenance log book entries against malfunctions in height-keeping systems, the PIC should provide sufficient details to enable maintenance to effectively troubleshoot and repair the system. The **PIC** should detail the actual defect and the crew action taken to try to isolate and rectify the fault. The following information should be noted when appropriate:

1. Primary and standby altimeter readings;
2. Altitude selector setting;
3. Subscale setting on altimeter;
4. Autopilot used to control the aircraft and any differences when the alternate system was selected;
5. Differences in altimeter readings if alternate static ports are selected;
6. Use of air data computer selector for fault diagnosis procedure;
7. Transponder selected to provide altitude information to ATC and any difference if alternate transponder or altitude source was manually selected.

8.12.8 Special Emphasis Items

Revision: 19 - 14 MAR 21

1. Knowledge and understanding of standard ATC phraseology (see Chapter *8.12.10 Phraseology* below);
2. Crew members shall cross check each other to ensure that ATC clearances are promptly and correctly complied with;
3. Use and limitations in terms of accuracy of standby altimeters in contingencies;

NOTE	Such correction data will need to be readily available on the flight deck (refer to respective OM Part B).

4. Problems of visual perception of other aircraft at 1,000 ft planned separation during night conditions, when encountering local phenomena such as northern lights, for opposite and same direction traffic, and during turns;
5. Characteristics of aircraft attitude capture systems, which may lead to the occurrence of overshoots;
6. Relationship between the altimetry, automatic altitude control and transponder Systems in normal and abnormal situations;
7. Aircraft operating restrictions (if required for the specific aircraft group) related to RVSM airworthiness approval.

8.12.9 Contingency Procedures after Entering RVSM Airspace

8.12.9.1 General

Revision: 19 - 14 MAR 21

An in-flight contingency refers to unforeseen circumstances that may have a direct impact on the ability of one or more aircraft to operate in accordance with the RVSM performance requirements. Such situations may be equipment and/or weather related.

Examples of equipment failures which should be notified to ATC are:

- Failure of all automatic altitude-control systems aboard the aircraft;
- Loss of redundancy of altimetry systems;
- Loss of thrust on an engine necessitating descent; or
- Any other equipment failure affecting the ability to maintain cleared flight level.

The PIC shall immediately inform ATC if such a situation occurs and obtain, whenever possible, a revised clearance prior to initiating any deviation from the last clearance.

If unable to notify ATC and obtain an ATC clearance prior to deviating from the cleared flight level, the pilot should follow any established contingency procedures and obtain ATC clearance as soon as possible.

8.12.9.2 Equipment Related

Revision: 19 - 14 MAR 21

If a **Company** aircraft cannot operate anymore in accordance with the RVSM performance requirements it will be considered by ATC as non-RVSM approved. ATC will take immediate action to provide 2,000 ft vertical separation or an appropriate horizontal separation. Such an aircraft, whenever possible, shall be cleared out of the RVSM airspace.

The PIC shall inform ATC of any restoration of the proper functioning of equipment.

8.12.9.3 Severe Turbulence

Revision: 19 - 14 MAR 21

When a **Company** aircraft operating in a RVSM airspace encounters severe turbulence that is believed to impact the aircraft capability to maintain its cleared flight level, the **PIC** shall inform ATC. Air traffic control shall establish either an appropriate horizontal separation or an increased minimum vertical separation. Air traffic control shall obtain reports from other aircraft to determine whether RVSM should be suspended entirely or within a specific flight level band and/or area.

NOTE	The PIC should notify ATC when encountering greater than moderate turbulence, see Chapter *8.3.10.6 Turbulence*.

8.12.9.4 Severe Turbulence – Forecast

Revision: 19 - 14 MAR 21

1. Where a meteorological forecast is predicting severe turbulence within the EUR RVSM airspace, air traffic control shall determine whether RVSM should be suspended, and if so, the period of time, and specific flight level(s) and/or area;

2. In cases where RVSM will be suspended, the UACC UPPER Area Control Center suspending RVSM shall coordinate with adjacent Area Control Center/Upper Area Controls with regards to the flight levels appropriate for the transfer of traffic, unless a contingency flight level allocation scheme has been determined by letter of agreement. The Area Control Center/Upper area control suspending RVSM shall also coordinate applicable sector capacities with adjacent Area Control Centers/Upper Area Controls, as appropriate.

8.12.9.5 Regional Procedures

Revision: 19 - 14 MAR 21

Procedures Applicable to Individual Aircraft (Equipment Related)

In respect to RVSM operations, a contingency event refers to a set of unforeseen circumstances, which directly impact on the ability of a single aircraft or a group of aircraft to operate in accordance with the height keeping requirements of the RVSM airspace.

Where an aircraft's Mode C displayed level differs from the CFL ± 300 ft or more, the controller shall inform the pilot accordingly and the pilot shall be requested to both check the pressure setting and confirm the aircraft's level.

If after confirmation of the aircraft's level, the Mode C read out continues to differ from the CFL by 300 ft or more, ATC will follow the existing ICAO Procedures prescribed for the failure of Mode C in flight.

The allowable tolerance for Mode C readout of 300 ft remains applicable within RVSM airspace. Such 300 ft parameter relates solely to SSR transponder operation.

It does not relate to the height keeping accuracy required by the RVSM MASPS.

When informed by the pilot that the aircraft's equipment has degraded to below RVSM MASPS compliance levels while operating within the RVSM airspace, the controller shall either provide for a minimum vertical separation 2,000 ft or an appropriate horizontal separation.

Controllers shall normally clear the aircraft below FL290 (or, alternatively, above FL410 if the Destination airport is outside the lateral limits of the RVSM airspace) before the next inter-center transfer of control point, unless otherwise coordinated.

Such aircraft shall be considered as being non-RVSM approved and, as a consequence, require a minimum 2,000 ft vertical separation. ATC shall immediately upon receipt of information indicating an equipment related contingency event which causes the aircraft to become non RVSM approved take action to ensure the application of either a minimum 2,000 ft vertical separation or an appropriate horizontal separation from other aircraft operating as GAT in the RVSM airspace.

It is the ATC authority and duty to accurately coordinate the specifics related to the contingency event through the use of the appropriate associated coordination messages: "UNABLE RVSM DUE EQUIPMENT" or "UNABLE RVSM DUE TURBULENCE" (as applicable).

Procedures Applicable to Individual Aircraft (Weather Related)

For the case of an individual aircraft reporting severe turbulence preventing the aircraft from maintaining its cleared flight level, the controller shall establish either an appropriate horizontal separation or an increased minimum vertical separation.

The specific actions to be taken by ATC will be dictated by the actual weather related circumstances and the traffic situation existing at the time.

ATC is expected to use best judgment to safeguard separation between aircraft in these circumstances and to accommodate, to the extent possible, pilot requests for level changes.

ATC shall coordinate the circumstances of the weather related contingency by verbally supplementing the estimate message with: "Unable RVSM DUE TURBULENCE".

Aircraft experiencing severe turbulence need not cleared out of the RVSM airspace. Such flights continue to be RVSM approved and as such comply with the basic requirements for operation within the RVSM airspace.

8.12.10 Phraseology

Revision: 19 - 14 MAR 21

The following controller/pilot RTF phraseology shall be used for operations in the RVSM airspace (*Indicates a pilot transmission):

Phrase	Meaning
(callsign) CONFIRM RVSM Approved	For a controller to ascertain the RVSM approval status of an aircraft.
NEGATIVE RVSM* status	For a pilot to report non-RVSM approval status: 1. On the initial call on any frequency within the EUR RVSM airspace (controllers shall provide a read back with this same phrase); 2. In all requests for flight level changes pertaining to flight levels within the EUR RVSM airspace; and 3. In all read backs to flight level clearances pertaining to flight levels within the EUR-RVSM airspace. Additionally, except for State aircraft, pilots shall include this RTF phrase to read back flight level clearances involving the vertical transit through FL290 or FL410.
AFFIRM RVSM*	For a pilot to report RVSM approval status.
(callsign) UNABLE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN (or DESCEND TO, or CLIMB TO FLIGHT LEVEL (NUMBER)	Denial of air traffic control clearance into the RVSM airspace.
UNABLE RVSM DUE TURBULENCE*	For a pilot to report when severe turbulence affects the aircraft's capability to maintain the height-keeping requirements for RVSM.
UNABLE RVSM DUE EQUIPMENT	For a pilot to report that the aircraft's equipment has degraded below the MASPS required for flight within the EUR RVSM airspace. This phrase is to be used to convey both the initial indication of the non MASPS compliance, and henceforth, on initial contact on all frequencies within the lateral limits of the EUR RVSM airspace until such time as the problem ceases to exist, or the aircraft has exited RVSM airspace.
READY TO RESUME RVSM*	For a pilot to report the ability to resume operation within the EUR RVSM airspace after an equipment or weather- related contingency.
REPORT ABLE TO RESUME RVSM	For a controller to confirm that an aircraft has regained its RVSM approval status, or to confirm that the pilot is ready to resume RVSM operations.

8.12.11 References

Revision: 19 - 14 MAR 21

- ICAO Regional Supplementary Procedures Doc.7030/4;
- JAA Temporary Guidance Leaflet No. 6 (TGL 6);
- ICAO DOC.9574, Manual on the Implementation of a 300 m (1,000 ft) Vertical Minimum between FL290 - FL410 inclusive;
- RVSM Aeronautical Information Circular (AIC/3);
- ATC Manual for RVSM in Europe.

8.13 PASSENGER INJURY / ILLNESS / DEATH REPORT

Revision: 19 - 14 MAR 21

PASSENGER INJURY / ILLNESS / DEATH REPORT

Flight No. ____________ From _______ To___________
Date ______________________________ Sector _______
Passenger Name & Initials ____________________________
____
____
Male / Female Age __________________________________
Address ____
____
____

Aircraft 4X __________________________________
Time (GMT) __________________________________
Actual Alt' __________________________________
Cabin Alt' __________________________________
Seat belt Sign ON / OFF
In-Flight Service Mgr. Name ____________________
Captain's Name ______________________________
Seat No. ____________________________________
Ticket No. __________________________________

Description Of Illness

☐ Hypoxia
☐ Air Sickness
☐ Asthma
☐ Cerebral Vascular Event (CVA)
☐ Alcoholism
☐ Head, Chest Colds
☐ Heart Condition
☐ Diabetic Coma
☐ Hypoglycemia
☐ Eye Trouble
☐ Epilepsy
☐ Fainting
☐ Dehydration
☐ Hyperventilation
☐ Hysteria
☐ Indigestion
☐ Abdominal Pains
☐ Sinusitis
☐ Tooth Ache
☐ Food Poisoning
☐ Nose Bleed
☐ Pregnancy
☐ Pre-Mature Labor
☐ Unconsciousness
☐ Mental Disturbance
☐ Other ___________

Description Of Injury

☐ Puncture or stab
☐ Abrasions
☐ Lacerations
☐ Internal Injuries
☐ Foreign Object
☐ Sprain
☐ Strain
☐ Simple Fracture
☐ Compound Fracture
☐ Brain Concussion
☐ Dislocation
☐ Burns

Area Injured

☐ Skull
☐ Eye
☐ Ear
☐ Nose
☐ Neck
☐ Back
☐ Chest
☐ Abdomen
☐ Thigh
☐ Knee
☐ Leg
☐ Foot
☐ Ankle
☐ Toes
☐ Shoulder
☐ Arm
☐ Hand
☐ Finger

First Aid Treatment : Explain treatment given to passenger by Health Care Professional : MD / RN / E.M.T
____
Personal Details of Health Care Professional : ___________________________
____

Was Doctor's Kit used : YES / NO Number of new seal ___________________________
(Attach Doctor's kit contents form to In-Flight Service Mgr's copy filled out by the Doctor).

Was Doctor/Ambulance requested for aircraft arrival : YES / NO

Condition of passenger (Disembarkation) ___________________________
Name & Address of party passenger was released to : ___________________________
____

In Case of Death

Pronounced Dead by : ___________________________
____
Eye witness / crew involved, statement : ___________________________
Name & Address : ___________________________

__________________________ __________________________ __________________________
Doctor's name & address Doctor's signature & licence No. In-Flight Service Mgr. Signature

Distribution :
1. Ins. & Claims H.O. (white)
2. In-Flt. Service Mgr REPORT + CONTENTS FORM to Chief Steward and Medical Advisor – H.O. (yellow)
3. Station of landing (pink)
4. Customer Relations Dep. (with Flight Report) (blue)
5. Passenger (upon request) (green)

5625-05

8.14 LIST OF APPROVED PORTABLE OXYGEN CONCENTRATORS

Revision: 19 - 14 MAR 21

APPROVED

1. Any POC which bears a label on the exterior of the device applied in a manner that ensures the label will remain affixed for the life of the device and containing the following certification statement in red lettering: “The manufacturer of this POC has determined this device conforms to all applicable FAA acceptance criteria for POC carriage and use on board aircraft.“; or
2. Any of the following POCs:
    a. AirSep Focus;
    b. AirSep FreeStyle;
    c. AirSep FreeStyle 5;
    d. AirSep LifeStyle;
    e. Delphi RS-00400;
    f. DeVilbiss Healthcare iGo;
    g. Inogen One;
    h. Inogen One G2;
    i. Inogen One G3;
    j. Inova Labs LifeChoice;
    k. Inova Labs LifeChoice Activox;
    l. International Biophysics LifeChoice;
    m. Invacare Solo2;
    n. Invacare XPO2;
    o. Oxlife Independence Oxygen Concentrator;
    p. Oxus RS-00400;
    q. Precision Medical EasyPulse;
    r. Respironics EverGo;
    s. Respironics SimplyGo;
    t. SeQual Eclipse;
    u. SeQual eQuinox Oxygen System (model 4000);
    v. SeQual Oxywell Oxygen System (model 4000);
    w. SeQual SAROS; and
    x. VBox Trooper Oxygen Concentrator.

9 DANGEROUS GOODS AND WEAPONS

EL AL DANGEROUS GOODS POLICY

Revision: 19 - 14 MAR 21

EL AL Israel Airlines Ltd. allows the carriage of items considered as “Dangerous Goods” on board its airplanes. Items can be loaded in the cargo holds, cabin overhead bins and/or as personal items in a carry-on bag.

It is EL AL policy to allow the carriage of “Cargo Aircraft Only” (CAO) type of dangerous goods on board its All-cargo airplanes.

To ensure the safety of our customers and employees, EL AL follows the IATA Dangerous Goods rules published in the “Dangerous Goods Regulations” manual.

In establishing operational procedures EL AL’s operational personnel will be assisted by subject matter experts (SMEs).

Such procedures, manuals, or any type of written or pictured material, shall be in accordance with the IATA manual and with the following guidelines and priorities:

- Safety and safe operations of the passengers, personnel, airplanes, and other equipment;
- Passenger comfort and easy-to-follow instructions with minimum limitations;
- Procedures should be kept simple so employees can easily understand and follow them;
- On time departure of flights.

EL AL’s employees, representatives, agents, and passengers shall act in accordance with the company’s policies regarding DG. In such cases where the company policy or procedures are not available, IATA rules and regulations shall apply.

Any desired further restrictions that are not in the IATA dangerous goods manual, or stricter limitations, must be approved by the VP Flight Operations or the Chief Pilot.

9.1 DEFINITIONS AND HAZARD CLASSES

Hazard Classes

(*) Revision: 23.1 - 15 MAR 25

Class No.	Division	Name
1	1.1 - 1.6	Explosives
2	2.1	Flammable gases
	2.2	Non-flammable gas, non-toxic gas
	2.3	Toxic gas
3		Flammable liquids
4	4.1	Flammable solids, self-reactive substances and solid desensitized explosives
	4.2	Substances liable to spontaneous combustion
	4.3	Substances which, in contact with water, emit flammable gases
5	5.1	Oxidizing substances
	5.2	Organic peroxides
6	6.1	Toxic substances
	6.2	Infectious substances
7		Radioactive material
8		Corrosives
9		Miscellaneous dangerous goods

Definitions

(*) Revision: 23.1 - 15 MAR 25

Acceptance Checklist A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met with.

Cargo Any property carried on an aircraft other than mail, stores and accompanied or mishandled baggage.

Cargo Aircraft Any aircraft, other than a passenger aircraft, which is carrying goods or property.

Dangerous Goods Articles or substances which are capable of posing a significant risk to health, safety, property or the environment and which are shown in the list of dangerous goods in these Regulations or which are classified according to the Regulations.

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, not necessarily occurring on board an aircraft, which results in injury to a person, property 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 jeopardises the aircraft or its occupants is also deemed to constitute a Dangerous Goods incident.

Dangerous Goods in Limited Quantities

It is recognised that limited quantities of dangerous goods present a reduced hazard during transport and can therefore safely be carried on-board, in good quality packaging of the types specified. Limited quantities of dangerous goods may only be carried in accordance with the applicable limitations and provisions. Only dangerous goods which are permitted on passenger airplanes and which meet the criteria of certain classes, divisions and packaging groups, may be carried under these provisions for dangerous goods in limited quantities. (Doc 9284-AN/905, Chapter 4).

Dangerous Goods Transport Document

A document which is specified by the Technical Instructions. It is completed by the person who offers dangerous goods for air transport and contains information about those dangerous goods. The document bears a signed declaration indicating that the dangerous goods are fully and accurately described by their proper shipping names and UN/ID numbers (if assigned) and that they are correctly classified, packed, marked, labelled and in proper condition for transport.

Fissile Material

Uranium-233, Uranium-235, Plutonium-238, Plutonium-239, Plutonium-241 or any combination of these. Unirradiated natural and depleted uranium and natural uranium or depleted uranium which has been irradiated in thermal reactors only are not included under this definition.

Freight Container

(Radioactive Material only). An article of transport equipment designed to facilitate the carriage of goods by one or more modes of transport without intermediate reloading. Small freight containers are those, which have either any overall outer dimension less than 1,5 m (5 ft) or an internal volume of not more than 3 m^3 (106 ft^3). All other freight containers are considered to be large freight containers. Each freight container must meet the following requirements:

- Must be of a permanent enclosed character, and rigid and strong enough for repeated use; and
- Must be fitted with devices facilitating its handling, particularly in transfer from one mode of transport to another.

NOTE	See ***Unit Load Device*** where dangerous goods are not radioactive materials.

Handling Agent	An agency which performs on behalf of EL AL some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo.
ID Number	A temporary identification number (ID) in the 8000 series assigned to an article or substance for which no UN number has been assigned (The prefix 'ID' must always be used in conjunction with these numbers.).
Mass Explosion	An explosion which affects almost the entire load virtually instantaneously.
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. Dangerous goods packages contained in the overpack must be properly packed, marked, labelled and in proper condition as required by these regulations. For cooling purposes, an overpack may contain carbon dioxide, solid (dry ice).
Package	The complete product of the packing operation consisting of the packaging and its content prepared for transport.
Packaging (Radioactive Material only)	The assembly of components necessary to enclose completely the radioactive contents. It may in particular, consist of one or more receptacles, absorbent materials, spacing structures, radiation shielding, service equipment for filling, emptying, venting and pressure relief and devices integral to the package. The packaging may be a box, drum, or similar receptacle, or may also be a freight container.
Packing Groups	An indication of the relative degree of danger presented by various articles and substances within a class or division. Roman numerals I, II and III are used to represent 'high danger', 'medium danger', and 'low danger' respectively.
Serious Injury	A serious injury is defined as an injury which is sustained by a person in an Accident and which: 1. Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or 2. Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or 3. Involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or 4. Involves injury to any internal organ; or 5. Involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or 6. Involves verified exposure to infectious substances or injurious radiation.

Proper Shipping Name	The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packagings.
State of Origin	The country in the territory of which the cargo was first loaded on an aircraft.
UN Number	The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or a particular group of substances (The prefix 'UN' must always be used in conjunction with these numbers).
Unit Load Device	Any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo. **NOTE** An overpack is not included in this definition. **NOTE** A freight container for radioactive material is not included in this definition.

9.1.1 Information, Instructions and General Guidance on the Carriage of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

EL AL ensures that no person offers or accepts dangerous goods for transport by air unless the person has been trained and the goods are properly classified, documented, certificated, described, packaged, marked, labeled and in a fit condition for transport as required by the Technical Instructions.

Dangerous goods are 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 Dangerous Goods Regulations or which are classified according to these Regulations.

The transport of dangerous goods shall be performed according to the IATA-Dangerous Goods Regulations and/or the ICAO-Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284-AN/905).

At the check-in, passengers shall be briefed on which articles are prohibited to be carried on their person, in their hand baggage or even in checked baggage (see Chapter ***9.2 Hidden Dangerous Goods***).

9.1.2 Operator's Responsibility

Revision: 19 - 14 MAR 21

Dangerous goods shall not be carried without an approval by the CAAI except those items listed in Chapter ***9.3 Provisions for Dangerous Goods Carried by Passengers or Crew***.

EL AL / the handling agent is responsible for the acceptance, inspection, storage, loading, and provision of information.

Basic requirement for transportation of dangerous goods is the permanent approval by the CAAI which will be reflected on the Air Operator's Certificate. For occasional transports an approval may be issued from time to time.

To get an approval for the transport of dangerous goods the operator shall comply with the following requirements:

- All relevant documents for ground handling, aeroplane handling, and training contain information and instructions on dangerous goods;
- Procedures shall be at hand to ensure the safe handling of dangerous goods at all stages of air transport;
- Adequate training shall have been given to all staff who are either engaged in the transport of dangerous goods or who may come into contact with them during their duties.

The operator is responsible that only those dangerous goods will be transported which are labelled and marked according to the IATA/ICAO regulations.

Passengers should be informed in such a manner that they are warned as to the types of dangerous goods that shall not be taken on board an aircraft.

Warning notices and/or placards should be prominently displayed at ticket- and check-in counters, in boarding areas and baggage claim areas.

Information provided via the Internet may be in text or pictorial form but must be such that ticket purchase cannot be completed until the passenger, or a person acting on their behalf, has been presented with this information, and indicated that they have understood the restrictions on dangerous goods in baggage. Warning notices and/or placards should be prominently displayed at ticket- and check-in counters, in boarding areas and baggage claim areas.

The ticket should also contain a warning on the ticket itself, on the ticket wallet or on a leaflet.

This passenger information may include reference to those dangerous goods which may be carried on board an aircraft.

Pictographs may be used in addition or as an alternative to providing written information.

The PIC shall be provided with written information according to the Technical Instructions about the dangerous goods carried on the flight.

9.1.3 General

(*) Revision: 23.1 - 15 MAR 25

Dangerous goods, including excepted packages of radioactive material, are forbidden for carriage by passengers or crew:

- As or in checked baggage;
- As or in carry-on baggage; or
- On their person;

except as permitted in Chapters ***9.3.1 Goods Acceptable with Operator Approval as Checked Baggage Only*** to ***9.3.4 Dangerous Goods Acceptable without the Approval of EL AL Israel Airlines Ltd.***for personal use.

Notwithstanding any additional restrictions that may be implemented by States in the interests of aviation security, except for the incident reporting requirements, the provisions of these Regulations do not apply to Chapters ***9.3.1 Goods Acceptable with Operator Approval as Checked Baggage Only*** to ***9.3.4 Dangerous Goods Acceptable without the Approval of EL AL Israel Airlines Ltd.***when carried by passengers or crew members for personal use or in baggage which has been separated from its owner during transit (e.g. mishandled baggage such as lost baggage or improperly routed baggage) or in excess baggage carried as cargo.

9.1.4 Categories of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Dangerous goods are divided into three categories:

- Goods which are generally allowed to be transported by airplanes considering the respective IATA instructions for packing and transportation;
- Goods for which exceptional regulations exist;
- Goods which are excluded from air transport.

Dangerous goods are further divided into nine hazard classes. For transport they shall be marked by sticker corresponding to the respective directions laid down in the IATA Dangerous Goods Regulations.

A four-digit number (UN Number) assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods serves to identify a substance or a particular group of substances.

Substances and articles of the same hazard are combined in hazard classes (e.g. Class 1, Class 2) and may be further divided into subdivisions (e.g. Division 1.4S, Division 2.1).

9.1.5 Forbidden Goods and Company Exceptions (Marked with *)

(*) Revision: 23.1 - 15 MAR 25

Any article or substance which, as presented for transport, is liable to explode, dangerously react, produce a flame or dangerous evolution of heat or dangerous emission of toxic, corrosive or flammable gases or vapours under conditions normally encountered in transport must not be carried on an airplane under any circumstance.

Attaché Cases, Cash Boxes/Bags

Except as permitted in *9.3.1 Goods Acceptable with Operator Approval as Checked Baggage Only*, security-type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, are totally forbidden.

Disabling Devices

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.

Liquid Oxygen Devices

Personal medical oxygen devices that utilise liquid oxygen as a primary or secondary source of oxygen are prohibited on the person, in checked and carry-on baggage.

Electro Shock Weapons

Electro shock 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.

Lithium Battery-Powered Lighters

Battery-powered lighters powered by a lithium ion or lithium metal battery (e.g. laser plasma lighters, tesla coil lighters, arc lighters and double arc lighters) without a safety cap or means of protection against unintentional activation.

*Camping Stoves and Fuel Containers

Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container are **FORBIDDEN**.

*Oxygen or Air, Gaseous, Cylinders

Oxygen or air, gaseous, cylinders required for medical use: **ONLY cylinders supplied by EL AL can be used**.

*The Technical Instructions (ICAO) or IATA DGR do not apply to dangerous goods carried on an aircraft where the dangerous goods are:

- To provide, during flight, medical aid to a patient or to preserve organs intended for use in transplantation when those dangerous goods:
  1. Have been placed on board with the approval of the operator; or
  2. Form part of the permanent equipment of the aircraft when it has been adapted for specialized use; providing that:
     a. Gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;
     b. Equipment containing wet cell batteries is kept and when necessary secured, in an upright position to prevent spillage of the electrolyte;
     c. Lithium metal or lithium ion cells or batteries, when not in use, must be individually protected so as to prevent short circuits.

NOTE	For the dangerous goods passengers are permitted to carry as medical aid see Chapter *9.3 Provisions for Dangerous Goods Carried by Passengers or Crew*.

- To provide, during flight, veterinary aid or a humane killer for an animal.

Provision must be made to stow and secure these dangerous goods during take-off and landing and at all other times when deemed necessary by the PIC. These dangerous goods must be under the control of trained personnel during the time when they are in use on the aircraft.

9.1.5.1 Shipping and Transport of Spare Parts (COMAT)

(*) Revision: 23.1 - 15 MAR 25

These are parts and material used by the Company. For example, these may be replacements for airplane equipment on board or for consumer goods that are partly classified as dangerous goods.

Spare parts and replacement for aeroplane equipment have to be transported according to the Dangerous Goods Regulations, as long as they serve as a replacement or if they are to be replaced, according to the items as described in Chapter *9.3 Provisions for Dangerous Goods Carried by Passengers or Crew* and classified according to the transport restrictions for dangerous goods.

This can be exempted if the Company is the sender and the shipment takes place in a freight container specifically build for this purpose. In this case the container has to account for the requirements in respect to the transport of dangerous goods of these parts or material.

If not regulated otherwise by the state concerned, consumer goods, solid carbon dioxide (dry ice) and battery-powered electronic equipment must be transported according the Dangerous Goods Regulations, as long as they serve as replacement or spare part.

9.1.5.2 Dangerous Goods in EL AL's Property

(*) Revision: 23.1 - 15 MAR 25

The provisions contained in these regulations do not apply to the following articles and substances:

Aircraft Equipment

Articles and substances which would otherwise be classified as dangerous goods but which are required to be aboard the aircraft in accordance with pertinent airworthiness requirements and operating regulations or that are authorized by the State of the operator to meet special requirements.

Consumer Goods

Aerosols, alcoholic beverages, perfumes, colognes, safety matches and liquefied gas lighters carried aboard an aircraft by the operator for use or sale on the aircraft during the flight, or series of flights, but excluding non-refillable gas lighters and those lighters liable to leak when exposed to reduced pressure.

Carbon Dioxide, Solid (Dry Ice)

Carbon dioxide solid, (dry ice) for use in food and beverage service aboard the aircraft.

Hygiene Products

Alcohol-based hand sanitizers and alcohol-based cleaning products carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights for the purposes for passenger and crew hygiene.

Battery-powered Electronic Equipment

Electronic devices such as electronic flight bags, personal entertainment devices, credit card readers, containing lithium metal or lithium ion cells or batteries and spare lithium batteries for such devices carried aboard an aircraft by the operator for use on the aircraft during the flight or series of flights. Spare lithium batteries shall be individually protected so as to prevent short circuits when not in use. Conditions for the carriage and use of these electronic devices and for the carriage of spare batteries shall be provided in the operations manual and/or other appropriate manuals as will enable flight crew, cabin crew and other employees to carry out their responsibilities.

9.1.5.3 Passenger Awareness on the Hazards of Lithium Batteries

(*) Revision: 23.1 - 15 MAR 25

Information about Lithium Batteries made available to all passengers shall include:

- The requirement that all spare lithium batteries must be in carry-on baggage and protected against short circuit;
- That equipment with lithium batteries installed is protected against damage and unintentional activation; and
- The limitation in watt hours (Wh) for electrical powered equipment that is carried on board by passengers. The maximum rate for electrical powered devices is 100 Wh and, with the operator’s approval, 160 Wh.

In addition, all personnel must be aware that spare lithium batteries are not permitted in checked baggage. It must be ensured, that passengers remove lithium batteries from their carry-on baggage where such baggage cannot be accommodated in the cabin. In these cases where the baggage is removed from the passenger at the gate aircraft operators shall ensure that the information on the items that cannot be placed in checked baggage is provided to the passengers again at this point.

If a damaged, defective or recalled battery or device is carried on board of an aircraft, the passenger concerned is required to keep the battery or device where it can be observed, switched off (not in sleep or hibernation mode), protected from accidental activation (also disabling any features that may switch it on, e.g. alarms), and not to be charged at any time.

Cabin crew reminds the passengers of the need to immediately inform the cabin crew when a battery or device is damaged, hot, produces smoke, is lost, or falls into the seat structure.

9.1.5.4 Handling, Labelling, Stowage and Segregation of Dangerous Goods

9.1.5.4.1 Handling of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Each package contained within an overpack must be properly packed, marked, labelled and be free of any indication of damage or leakage and in all respects, be properly prepared as required in these Regulations. Packages must be secured within the overpack.

Dangerous goods shall be accompanied by a dangerous goods transport document unless otherwise specified in the Technical Instructions or in the IATA DGR.

Articles and substances or other goods that are identified in the Technical Instructions or in the IATA DGR as being forbidden for transport under any circumstances may not be transported.

Those articles and substances or other goods which are forbidden for transport in normal circumstances may be transported when they are exempted by the States concerned under the provisions of the Technical Instructions or the IATA DGR, or the Technical Instructions or the IATA DGR indicates they may be transported under an approval issued by the State of Origin.

An Acceptance Checklist for Dangerous Goods can be found in the IATA DGR manual.

All packages, overpacks and freight containers shall be inspected for evidence of leakage or damage immediately prior to loading on an aircraft or into a unit load device according to the Technical Instructions.

Leaking or damaged packages, overpacks or freight containers **SHALL** not be loaded onto an aircraft.

When a package of dangerous goods is found on an aircraft that appears to be damaged or leaking it **SHALL** be removed from the aircraft and inspected to ensure that it is in a proper condition for transport and that no damage or contamination has occurred to the aircraft or its load.

Contamination found as a result of the leakage or damage of dangerous goods shall be removed immediately, see Chapter *9.5.1 Procedures for Responding to Emergency Situations or Incidents Involving Dangerous Goods*.

An aircraft which has been contaminated by radioactive materials shall be taken out of service immediately. It should not be returned into service until the radiation level at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions.

9.1.5.4.2 Dangerous Goods Acceptable as Cargo by EL AL

(*) Revision: 23.1 - 15 MAR 25

Dangerous good are only allowed on EL AL aircraft as cargo as specified in Cargo Operations Manual, Chapter 3 “Dangerous Goods” (available on the Company Intranet and EFF).

9.1.5.4.3 Labelling of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

All packages, overpacks and freight containers must be labelled and marked as specified in the IATA DGR.

NOTE	Where the marks are applied by means of a label, the label must not be folded or applied such that it appears on different faces of the package.

9.1.5.4.4 Segregation of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Refer to IATA DGR "9.3.2.1 Segregation of Dangerous Goods" and "Table 9.3.A Segregation of Packages".

9.1.6 Dangerous Goods in Limited Quantities

(*) Revision: 23.1 - 15 MAR 25

Refer to IATA DGR "2.7 Dangerous Goods in Limited Quantities".

9.1.7 Markings

(*) Revision: 23.1 - 15 MAR 25

Refer to IATA DGR "2.6.7 Marking".

9.1.8 Loading and Stowage of Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Dangerous goods shall not be carried in an airplane cabin occupied by passengers or crew members or on the flight deck, unless otherwise specified in the Technical Instructions.

Dangerous goods shall be loaded, segregated, stowed and secured as specified in the Technical Instructions.

Packages of dangerous goods with the label "Cargo Aircraft Only" are only allowed to be transported on cargo airplanes.

General Principles:

- Damaged parcels shall not be loaded;
- The package shall agree with the loading list;
- Liquids shall be loaded in an upright position;
- The package shall be secured against movement;
- Light packages shall be protected against heavier cargo;
- Compatibility shall be checked;
- Packages bearing the CAO-label shall be loaded either accessible or in a class "c" compartment (except for those which according to the Technical Instructions are exempt from this stipulation);
- Radioactive Material of Category II and III (RRY) – packages shall be loaded on bottom of pallet or cargo compartment and Technical Instructions limitations shall be observed;
- Additional state and/or operator variations shall be adhered to.

9.1.8.1 Treatment of Dangerous Goods in the Cabin

(*) Revision: 23.1 - 15 MAR 25

When dangerous goods are discovered in the hand baggage of a passenger during flight the cabin crew should:

- Ask the passenger concerned to identify the item and explain its nature;
- Inform the flight crew who will switch the No Smoking sign on to reduce the hazard of ignition or explosion.

The cabin crew shall follow checklist provided for treatment of dangerous goods in the cabin.

The checklist should cover the following:

- Identifying the item and its location;
- Notifying flight crew (No Smoking ON);
- Checking for fire or smoke;
- Checking for spillage or leakage;
- Handling of dangerous good item;
- Informing ground personnel after landing.

A Dangerous Goods Occurrence Report shall be made by EL AL (see ***9.1.10.1 NOTOC Form***).

NOTE	For the removal of contaminations see Chapter ***11.5.1 Removal of Contamination***.

9.1.9 Dangerous Goods Security

(*) Revision: 23.1 - 15 MAR 25

All persons engaged in the transport of dangerous goods shall consider security requirements for the dangerous goods commensurate with their responsibilities. EL AL Israel Airlines Ltd.'s security plan includes procedures to be followed in case of dangerous goods involvement in a security incident.

9.1.10 Information to the PIC and to the FOO

(*) Revision: 23.1 - 15 MAR 25

Prior to departure of flights carrying dangerous goods or special loads, the PIC shall be provided with a Special Load Notification To Captain (NOTOC) which shall include accurate and legible written or printed information concerning dangerous goods or other special loads that are to be carried as cargo. A copy of this information shall be provided to the FOO upon request.

NOTE	This includes information about dangerous goods loaded at a previous departure point and which are to be carried on the subsequent flight.

This information shall include the following:

1. The Air Waybill number (when issued);
2. The proper shipping name (the technical name(s) shown on the Shipper's Declaration is not required) and UN number or ID number as listed in these Regulations. When chemical oxygen generators contained in Protective Breathing Equipment (PBE) are being transported under Special Provision A144, the proper shipping name of “Oxygen generator, chemical” must be supplemented with the statement “Air crew Protective Breathing Equipment (smoke hood) in accordance with Special Provision A144”;
3. The Class or Division, and subsidiary hazards for which labels are required, by numerals and in the case of Class I, the compatibility group;
4. The Packing Group as shown on the shippers Declaration;
5. (For non-radioactive material) the number of packages, the net quantity, or gross weight if applicable, of each package, except that this does not apply to dangerous goods where the net quantity or gross weight is not required on the Shipper's Declaration for Dangerous Goods, or, when applicable, alternative written documentation and their exact loading location.
    a. For a consignment consisting of multiple packages containing dangerous goods bearing the same proper shipping name and UN number or ID number, only the total quantity and an indication of the largest and smallest package at each loading location need to be provided. For consumer commodities, the information provided may be either the gross weight of each package or the average gross weight of the packages as shown on the Shipper's Declaration;
    b. The number of overpacks and an indication of which dangerous goods packages are contained in each overpack;
    c. The number of all packed in one packages and an indication of which dangerous goods are contained in the package(s).
6. For radioactive materials the number of packages, their category, their transport index, if applicable, and their exact loading location;
7. Whether the package shall be carried on cargo aircraft only;

8. The airport at which the package(s) is to be unloaded; and
9. An indication that the dangerous goods are being carried under a State exemption (where applicable).

NOTE	The following substances and articles are not required to be shown on the Notification to Captain: – Dangerous goods in excepted quantities (REQ); – Biological substance, Category B (RDS); – Magnetized material (MAG); – Genetically modified organisms, Genetically modified microorganisms; – Radioactive material, excepted packages (RRE); – Articles, pressurized hydraulic UN3164; – Lithium ion or lithium metal batteries in compliance with section II of appropriate packing instructions; – ELI / ELM (Batteries).

Where the operator intends to make it possible for the PIC/FOO to provide a telephone number instead of the details about the dangerous goods on board the aircraft, the telephone number from where a copy of the information to the PIC can be obtained during the flight shall be provided in addition to the information specified above.

For carbon dioxide, solid (dry ice), the information required as by the description above may be replaced by the UN number, proper shipping name, class, total quantity in each hold on the aircraft and the aerodrome at which the package(s) is to be unloaded need to be provided.

For Lithium ion batteries and lithium metal batteries, the information required by the description above may be replaced by the UN number, proper shipping name, class, total quantity at each loading location, and whether the package must be carried on a cargo aircraft only. Lithium ion batteries and lithium metal batteries carried under a State exemption must meet all of the requirements as described above.

This information to the PIC and to the FOO should be presented on a dedicated form and should not be by means of Air Waybills, “Shipper's Declaration for Dangerous Goods”, invoices, etc.

The PIC shall indicate on a copy of the information to PIC, or in some other way, that the information has been received.

The information to the PIC shall also include signed confirmation, or some other indication, from the person responsible for loading the aircraft, that there was no evidence of any damage to or leakage from the packages loaded on the aircraft, and that required segregation has been achieved.

The PIC’s signature indicates that he has received the information. He is not required to verify the accuracy of the information.

The information to the PIC shall be readily available to him during flight.

A legible copy of the information to the PIC shall be retained on the ground. This copy shall have an indication on it or with it that the PIC has received the information. The copy, or the information contained in it shall be readily accessible to the FOO, or designated ground personnel responsible for flight operations until after the arrival of the flight.

In addition to the languages, which may be required by the State of the operator, English should be used for the information to the PIC.

In the event of the information to the PIC being of such a size as to make in-flight radiotelephony transmission impracticable in an emergency situation, a summary of the information should also be provided by the operator, containing at least the quantities and class or division of dangerous goods in each cargo compartment.

9.1.10.1 NOTOC Form

(*) Revision: 23.1 - 15 MAR 25

The Dangerous Goods Notification Form appears on the following page.

Detailed information is found in the IATA “Dangerous Goods Regulations” Chapter 9.5.

EL AL CARGO

NOTOC

SPECIAL LOAD NOTIFICATION TO CAPTAIN

STATION OF LOADING: TLV   FLIGHT NUMBER: LY0315   DATE: 15Jun2016   AIRCRAFT REGISTRATION: 4X ECC

THE ARTICLES WERE LOADED ON ULD/CARTS UNDER SUPERVISION ACCORDING TO IATA AND EL AL PROCEDURES, THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE ULD/CARTS.

Prepared by (Cargo Agent)

Signed by (Cargo Agent)

DANGEROUS GOODS

STATION OF UNLOADING	AIR WAYBILL NUMBER	PROPER SHIPPING NAME	CLASS OR DIVISION (FOR CLASS 1-COMPAT.GRP.)	UN OR ID NUMBER	SUB RISK	NAMBER OF PACKAGE(S) LOADED ON ULD. TTL NET QTY.		RADIOACTIVE MATERIAL CATEGORY	TRANSPORT INDEX	UN PACKING GROUP	IMP. CODE (SEE REFERENSE)	CAO (X)	LOADED ON ULD NO.	ERG CODE	*LOADED ON A/C POSITION
													PMC4159LY		
LHR	114-96093454	DRY ICE OVERPACK USED #2-#8	9	UN1845		14	5 K				ICE			9L	
LHR	114-96093454	DRY ICE OVERPACK USED #9	9	UN1845		1	5 K				ICE			9L	
				TOTAL :		15	75K				ICE				
LHR	114-96093454	BIOLOGICAL SUBSTANCE CATEGORY B OVERPACK USED #1	6.2	UN3373		19	0.1 K				RDS			11L	
LHR	114-96093454	BIOLOGICAL SUBSTANCE CATEGORY B OVERPACK USED #2-#8	6.2	UN3373		14	0.1 K				RDS			11L	
LHR	114-96093454	BIOLOGICAL SUBSTANCE CATEGORY B OVERPACK USED #9	6.2	UN3373		1	0.1 K				RDS			11L	
				TOTAL :		34	3.4K				RDS				

OTHER SPECIAL LOAD

STATION OF UNLOADING	AIR WAYBILL NUMBER	CONTENTS AND DESCRIPTION	NUMBER OF PACKAGES	WEIGHT	SUPPLEMENTARY INFORMATION	CODE (SEE REVERSE)	LOADED ON ULD NO.	*LOADED ON A/C POSITION

* This column is to be tilled in by the ramp handling agt / loading supervisor

I CONFIRM THAT THE PACKAGES LISTED ABOVE WERE LOADED AS SHOWN AND THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT.

Loading Supervisor Name & Signature

Noted accordingly

Pic's Signature

Destribution
1. original to captain
2.Station file
3. Cargo export section (2 copies) if required
1 copy attached to ULD label
4.OCC

Page 1 of 1

9.2 HIDDEN DANGEROUS GOODS

(*) Revision: 23.1 - 15 MAR 25

IATA DGR 2.2

EL AL's acceptance staff shall be adequately trained to assist in identifying and detecting dangerous goods presented as general cargo. This cargo may contain hazardous articles that are not apparent. Such articles may also be found in baggage. With the aim of preventing undeclared dangerous goods from being loaded on an airplane and passengers from taking on board those dangerous goods which they are not permitted to have in their baggage, cargo and passenger acceptance staff shall seek confirmation from shippers and passengers about the contents of any item of cargo or baggage where there are suspicions that it may contain dangerous goods.

Typical examples of articles that may contain dangerous goods:

- Aircraft on Ground (AOG) Spares;
- Aircraft Spare Parts/aircraft Equipment;
- Automobiles, Automobile Parts/Supplies (car, motor, motorcycle);
- Battery-powered Devices/Equipment;
- Breathing Apparatus;
- Camping Equipment;
- Chemicals;
- Comat (Company Materials);
- Consolidated Consignments (Groupages);
- Cryogenic (Liquid);
- Dental Apparatus;
- Diagnostic Specimens;
- Diving Equipment;
- Drilling and Mining Equipment;
- Dry Shipper (Vapor Shipper);
- Electrical Equipment/Electronic Equipment;
- Electrically Powered Apparatus (wheel chairs, lawn mowers, golf carts, etc.);
- Expeditionary Equipment;
- Film Crew or Media Equipment;
- Frozen Embryos;
- Frozen Fruit, Vegetables, etc;
- Fuels;
- Fuel Control Units;
- Hot Air Balloon;
- Household Goods;

- Instruments;
- Laboratory/Testing Equipment;
- Machinery Parts;
- Magnets and other Items of Similar Material;
- Medical Supplies;
- Metal Construction Material, Metal Fencing, Metal Piping;
- Parts of Automobile (Car, Motor, Motorcycle);
- Passengers Baggage;
- Pharmaceuticals;
- Photographic Supplies/Equipment;
- Promotional Material;
- Racing Car or Motorcycle Team Equipment;
- Refrigerators;
- Repair Kits;
- Samples for Testing;
- Semen;
- Ships' Spares;
- Show, Motion Picture, Stage and Special Effects Equipment;
- Sporting Goods/Sports Team Equipment;
- Swimming Pool Chemicals;
- Switches In Electrical Equipment or Instruments;
- Tool Boxes;
- Torches;
- Unaccompanied Passengers Baggage / Personal Effects;
- Vaccines.

For more information refer to IATA DGR Chapter 2.2.

9.3 PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

(*) Revision: 23.1 - 15 MAR 25

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below. Dangerous goods permitted in carry-on baggage are also permitted "on one's person", except where otherwise specified.

IATA Dangerous Goods Regulations 2025, 66th Edition

	The Approval of the Operator is Required	Permitted in or as Checked Baggage	Permitted in or as Carry-on Baggage	The Pilot-in-Command must be Informed of the Location
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. **NOTE** 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
Batteries, spare/loose, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (see *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*) 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. 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 (see *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*, section "Additional requirements for lithium batteries"). Each person is limited to a maximum of 20 spare batteries. EL AL 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 (see *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*, section "Additional requirements for non-spillable wet batteries".	NO	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container.	FORBIDDEN			
Chemical Agent Monitoring Equipment, when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (see *9.3.3.4 Chemical Agent Monitoring Equipment*).	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			

	The Approval of the Operator is Required	Permitted in or as Checked Baggage	Permitted in or as Carry-on Baggage	The Pilot-in-Command must be Informed of the Location
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
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (see *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*, section "Electronic cigarettes").	NO	NO	YES	NO
Electro shock 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 (see *9.3.4.10 Fuel Cells Contained in Portable Electronic Devices*).	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices (see *9.3.4.10 Fuel Cells Contained in Portable Electronic Devices* 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 (see *9.3.3.2 Small Non-flammable Gas Cartridges*).	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
Insulated packaging 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 (see *9.3.4.14 Internal Combustion or Fuel Cell Engines*).	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, (see *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*). 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. EL AL may approve the carriage of more than 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 PMED only, lithium metal batteries with a lithium 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 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
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. **NOTE**: "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 *9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries*, section "Additional requirements for lithium batteries", item 5).	NO	ON ONE'S PERSON		NO

	The Approval of the Operator is Required	Permitted in or as Checked Baggage	Permitted in or as Carry-on Baggage	The Pilot-in-Command must be Informed of the Location
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **non spillable wet batteries, nickel-metal hydride batteries or dry batteries** (see *9.3.1.1 Wheelchairs/Mobility Aids with Non-spillable Wet Batteries, Nickel-Metal Hydride Batteries or Dry Batteries*).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **spillable batteries or with lithium batteries** (see *9.3.1.2 Wheelchairs/Mobility Aids with Spillable Batteries* and *9.3.1.3 Wheelchairs/Mobility Aids with Lithium Batteries*).	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) (see *9.3.1.3 Wheelchairs/Mobility Aids with Lithium Batteries* for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol; and **Non-flammable, non-toxic (Division 2.2) aerosols**, with no subsidiary hazard, for sporting or home use (see *9.3.4.1 Medicinal or Toiletry Articles and Aerosols in Division 2.2*). The total net quantity of all above mentioned articles 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
Oxygen or air, gaseous, cylinders required for **medical use**. The cylinder must not exceed 5 kg gross weight. Only cylinders supplied by EL AL can be used. **NOTE** Liquid oxygen systems are forbidden for transport.	YES	NO	NO	NO
Permeation devices, must meet A41 (see *9.3.4.15 Permeation Devices*).	NO	YES	NO	NO
Radioisotopic 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 (see *9.3.1.4 Security-Type Equipment* 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 *9.3.1.4 Security-Type Equipment*, are totally forbidden.	FORBIDDEN			
Specimens, non-infectious packed with small quantities of flammable liquid, must meet A180 (see *9.3.4.13 Non-Infectious Specimens Packed with Small Quantities of Flammable Liquids* 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 (see for *9.3.2.1 Mercury Barometer or Thermometer*details).	YES	NO	YES	YES

9.3.1 Goods Acceptable with Operator Approval as Checked Baggage Only

(*) Revision: 23.1 - 15 MAR 25

NOTE Camping stoves and fuel containers that have contained a flammable liquid fuel are FORBIDDEN.

9.3.1.1 Wheelchairs/Mobility Aids with Non-spillable Wet Batteries, Nickel-Metal Hydride Batteries or Dry Batteries

(*) Revision: 23.1 - 15 MAR 25

Battery-powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg), with non-spillable wet batteries which comply with Special Provision A67 or nickel-metal hydride batteries which comply with Special Provision A199 or dry batteries which comply with Special Provision A123. These batteries must meet the following requirements:

NOTE	Additional guidance on the end-to-end processes associated with the carriage of mobility aids is available in the IATA Guidance on the Transport of Mobility Aids at the following link: https://www.iata.org/en/programs/passenger/accessibility/

1. The mobility aid must be prepared for transport to prevent:
   a. Unintentional activation; and
   b. Non-spillable batteries are not permitted to contain any free or unabsorbed liquid.
2. EL AL must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed battery(ies). The mobility aid, the battery(ies), electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo;
3. EL AL must verify that:
   a. The passenger has confirmed that the battery is a non-spillable wet battery that complies with special provision A67, see 1., or a nickel-metal hydride battery or dry battery;
   b. The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container;
   c. The battery is either:
      - Securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
      - Removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions.
4. A passenger may carry a maximum of:
   a. One spare wet, non-spillable battery meeting Special Provision A67; or
   b. Two spare nickel-metal hydride batteries meeting Special Provision A199 or dry batteries meeting Special Provision A123.
5. EL AL must ensure that any battery(ies) removed from the wheelchair/mobility aid or spare batteries are carried in strong, rigid packaging which must be carried in the cargo compartment;
6. EL AL must inform the Pilot-in-Command of the location of mobility aids with installed battery(ies), removed battery(ies) and spare battery(ies);
7. It is recommended that passengers make advance arrangements with each operator.

9.3.1.2 Wheelchairs/Mobility Aids with Spillable Batteries

(*) Revision: 23.1 - 15 MAR 25

Battery-powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg), with spillable batteries. These batteries must meet the following requirements:

NOTE	Additional guidance on the end-to-end processes associated with the carriage of mobility aids is available in the IATA Guidance on the Transport of Mobility Aids at the following link: https://www.iata.org/en/programs/passenger/accessibility/

1. EL AL must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo;
2. EL AL must verify that:
   a. The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container;
   b. The battery is fitted, where feasible, with spill-resistant vent caps;
   c. The battery is either:
      - Securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
      - Removed from the mobility aid following the manufacturer's instructions when the mobility aid cannot be maintained in an upright position.
3. EL AL must load, stow, secure and unload a mobility aid with a spillable battery in an upright position. If the wheelchair or mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position or if the mobility aid does not adequately protect the battery, EL AL must remove the battery. The removed battery must be carried in strong rigid packaging as follows:
   - Packaging must be leak-tight, impervious to battery fluid and be protected against upset by securing to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders;
   - Batteries must be protected against short circuits, secured upright in these packaging and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and
   - These packaging must be marked "BATTERY, WET, WITH WHEELCHAIR" or "BATTERY, WET, WITH MOBILITY AID" and be labelled with the "Corrosive" label and with the "Package Orientation" label.
4. EL AL must inform the Pilot-in-Command of the location of mobility aids with installed batteries and removed batteries;
5. It is recommended that passengers make advance arrangements with each operator.

9.3.1.3 Wheelchairs/Mobility Aids with Lithium Batteries

(*) Revision: 23.1 - 15 MAR 25

Lithium ion battery-powered wheelchairs or other similar mobility aids for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg), subject to the following conditions:

NOTE	Additional guidance on the end-to-end processes associated with the carriage of mobility aids is available in the IATA Guidance on the Transport of Mobility Aids at the following link: https://www.iata.org/en/programs/passenger/accessibility/

1. The batteries must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3;

2. EL AL must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed battery(ies). The mobility aid, the battery(ies), electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo;
3. EL AL must verify that:
   - The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container;
   - The battery is either:
     - Securely attached to the wheelchair or mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
     - Removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions. The battery removed from the mobility aid must not exceed 300 Wh.

NOTE	When the lithium battery(ies) remain installed in the mobility aid, there is no Watt-hour limit.

4. A passenger may carry a maximum of one spare lithium ion battery not exceeding 300 Wh or two spare batteries each not exceeding 160 Wh;
5. EL AL must ensure that any battery(ies) removed from the mobility aid and any spare battery(ies) are carried in the passenger cabin. The removed or spare battery(ies) must be protected from damage (e.g. by placing each battery in a protective pouch);
6. EL AL must inform the Pilot-in-Command of the location of the mobility aid with installed battery(ies), removed battery(ies) and spare battery(ies);
7. It is recommended that passengers make advance arrangements with each operator.

9.3.1.4 Security-Type Equipment

(*) Revision: 23.1 - 15 MAR 25

Security type equipment such as attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods as part of this equipment, for example lithium batteries or pyrotechnic material, may be carried as checked baggage only if the equipment complies with the following:

1. The equipment must be equipped with an effective means of preventing accidental activation;
2. If the equipment contains an explosive or pyrotechnic substance or an explosive article, this article or substance must be excluded from Class 1 by the appropriate national Authority of the State of Manufacture;
3. If the equipment contains lithium cells or batteries, these cells or batteries must comply with the following restrictions:
   - For a lithium metal cell, the lithium content is not more than 1 g;
   - For a lithium metal battery, the aggregate lithium content is not more than 2 g;
   - For lithium ion cells, the Watt-hour rating is not more than 20 Wh;
   - For lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
   - Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, Chapter 38.3.

4. If the equipment contains gases to expel dye or ink, only gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 ml, containing no constituents subject to these Regulations other than a Division 2.2 gas, are allowed. The release of gas must not cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties. In case of accidental activation all hazardous effects must be confined within the equipment and must not produce extreme noise;
5. Security type equipment that is defective or that has been damaged is forbidden for transport.

9.3.2 Goods Acceptable with Operator Approval as Carry-on Baggage Only

9.3.2.1 Mercury Barometer or Thermometer

(*) Revision: 23.1 - 15 MAR 25

A mercurial barometer or mercurial thermometer carried by a representative of a government weather bureau or similar official agency. The barometer or thermometer must be packed in a strong outer packaging, having a sealed inner liner or a bag of strong leak-proof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position. The Pilot-in-Command must be informed of the location of the barometer or thermometer.

9.3.2.2 Spare Lithium Batteries

(*) Revision: 23.1 - 15 MAR 25

Spare lithium batteries including articles containing lithium metal or lithium ion cells or batteries, the primary purpose of which is to provide power to another device, e.g. power banks, are permitted in carry-on baggage as follows:

1. No more than 2 lithium ion batteries with a watt-hour rating exceeding 100 Wh but not exceeding 160 Wh or 2 lithium metal batteries, with a lithium content exceeding 2 g but not exceeding 8 g. Lithium metal batteries are only permitted for portable medical electronic devices (PMED), such as automated external defibrillators (AED), portable oxygen concentrators (POC) and continuous positive airway pressure (CPAP);
2. Spare batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);
3. Batteries must be of a type that meet the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3. No more than two individually protected spare batteries per person may be carried.

9.3.3 Goods Acceptable with Operator Approval as Baggage

(*) Revision: 23.1 - 15 MAR 25

NOTE	ONLY cylinders supplied by EL AL can be used.

9.3.3.1 Medical Oxygen

(*) Revision: 23.1 - 15 MAR 25

Gaseous oxygen or air cylinders required for medical use. Each cylinder must not exceed 5 kg gross weight. Cylinders, valves and regulators, where fitted, must be protected from damage that could cause inadvertent release of the contents. This provision also applies where the cylinders are being carried by medically trained persons. The Pilot-in-Command must be informed of the number of oxygen or air cylinders loaded on-board the aircraft and their loading location(s).

NOTE	Personal medical oxygen devices that utilise liquid oxygen are forbidden on the person, in checked and carry-on baggage.

9.3.3.2 Small Non-flammable Gas Cartridges

(*) Revision: 23.1 - 15 MAR 25

Small cartridges fitted into a self-inflating safety device, intended to be worn by a person, such as a life-jacket or vest:

- No more than two personal safety devices per person;
- The personal safety device(s) must be packed in such a manner that they cannot be accidentally activated;
- Limited to carbon dioxide or other suitable gas in division 2.2 without a subsidiary hazard;
- Cartridge(s) must be for inflation purposes;
- Each device must be fitted with no more than two small cartridges; and
- Not more than two spare cartridges.

Other devices:

- No more than four small cartridges of carbon dioxide or other suitable gas in division 2.2 without a subsidiary hazard, per person;
- The water capacity of each cartridge must not exceed 50 ml.

NOTE	For carbon dioxide a gas cartridge with a water capacity of 50 ml is equivalent to a 28 g cartridge.

9.3.3.3 One Avalanche Rescue Backpack

(*) Revision: 23.1 - 15 MAR 25

One avalanche rescue backpack per person containing cartridges of compressed gas in Division 2.2 without a subsidiary hazard. The avalanche rescue backpack may also be equipped with a pyrotechnic trigger mechanism containing not more than 200 mg net of explosives in Division 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The air bags within the backpacks must be fitted with pressure relief valves.

9.3.3.4 Chemical Agent Monitoring Equipment

(*) Revision: 23.1 - 15 MAR 25

Instruments containing radioactive material not exceeding the activity limits i.e. CAM and/or RAID-M, securely packed and without lithium batteries, when carried by staff members of the OPCW on official travel.

9.3.3.5 Carbon Dioxide

(*) Revision: 23.1 - 15 MAR 25

Carbon dioxide, solid (dry ice) in quantities not exceeding 2,5 kg per person when used to pack perishables that are not subject to these regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Each item of checked baggage containing dry ice must be marked:

- "Carbon Dioxide, solid" or "Dry Ice"; and
- With the net weight of dry ice or an indication that the net weight is 2,5 kg or less.

9.3.3.6 Lithium Battery-powered Electronic Devices

(*) Revision: 23.1 - 15 MAR 25

Lithium battery-powered electronic devices are permitted in checked and carry-on baggage with the approval of EL AL as follows:

- PMED, such as AED, POC and CPAP, containing lithium metal or lithium ion cells or batteries may be carried by passengers for medical use as follows:
  1. For lithium metal or lithium alloy batteries, a lithium content exceeding 2 g, but not exceeding 8 g; or
  2. For lithium ion batteries, a watt-hour rating exceeding 100 Wh, but not exceeding 160 Wh;
  3. Batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, Chapter 38.3.
- Portable electronic devices, such as power tools, video cameras and laptops containing lithium ion batteries as follows:
  1. Lithium ion batteries with a watt-hour rating exceeding 100 Wh, but not exceeding 160 Wh;
  2. Batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, Chapter 38.3.
- If devices are carried in checked baggage the passenger/crew member must take measures to prevent unintentional activation.

9.3.4 Dangerous Goods Acceptable without the Approval of EL AL Israel Airlines Ltd.

(*) Revision: 23.1 - 15 MAR 25

9.3.4.1 Medicinal or Toiletry Articles and Aerosols in Division 2.2

(*) Revision: 23.1 - 15 MAR 25

Non-radioactive medicinal or toiletry articles (including aerosols). The term "medicinal or toiletry articles" is intended to include such items as hair sprays, perfumes, colognes and medicines containing alcohols. Aerosols in Division 2.2, with no subsidiary hazard, for sporting or home use.

NOTE	The total net quantity of all such articles carried by each passenger or crew member 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.

9.3.4.2 Aerosols in Division 2.2

(*) Revision: 23.1 - 15 MAR 25

Aerosols in Division 2.2 with no subsidiary hazard, for sporting or home use, are permitted in checked baggage only.

NOTE	The total net quantity of all above mentioned articles 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.

9.3.4.3 Cylinders for Mechanical Limbs

(*) Revision: 23.1 - 15 MAR 25

Small cylinders of gas of division 2.2 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.

9.3.4.4 Cardiac Pacemakers/Radio-pharmaceuticals

(*) Revision: 23.1 - 15 MAR 25

Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person, or radio-pharmaceuticals contained within the body of a person as the result of medical treatment.

9.3.4.5 Medical/Clinical Thermometer

(*) Revision: 23.1 - 15 MAR 25

In checked baggage only, one small medical or clinical thermometer which contains mercury, for personal use, when in its protective case.

9.3.4.6 Safety Matches or Cigarette Lighter

(*) Revision: 23.1 - 15 MAR 25

One small packet of safety matches or a cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Matches and lighters are not permitted in checked or carry-on baggage. Lighter fuel and lighter refills are not permitted on one's person nor in checked or carry-on baggage.

NOTE	“Strike anywhere” matches are forbidden for air transport.

NOTE	“Blue Flame” or “Cigar” lighters are not permitted on one's person, carry-on or checked baggage.

NOTE	Cigarette lighters should have two independent actions by the user to activate ignition.

NOTE	Cigarette lighters, powered by a lithium ion or lithium metal battery without a safety cap or means of protection against unintentional activation are not permitted on one's person, carry-on or checked baggage.

9.3.4.7 Alcoholic Beverages

(*) Revision: 23.1 - 15 MAR 25

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 for such beverages.

NOTE	Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions.

9.3.4.8 Hair Styling Equipment

(*) Revision: 23.1 - 15 MAR 25

Hair styling equipment containing a hydrocarbon gas cartridge, no more than one 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.

9.3.4.9 Portable Electronic Devices (PED) (Including Medical Devices) Containing Batteries

(*) Revision: 23.1 - 15 MAR 25

For the purpose of this chapter, battery-powered electronic device means the equipment or apparatus for which the batteries will provide electrical power for its operation. These devices (PED), which may include medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets containing batteries when carried by passengers or crew for personal use, which should be carried in carry-on baggage. Batteries and heating elements must be isolated in portable electronic devices capable of generating extreme heat, by removal of the heating element, battery or other components. These provisions apply to dry batteries, nickel-metal hydride batteries, lithium batteries and wet, non-spillable batteries. Additional specific requirements for lithium batteries and wet, non-spillable batteries are also set out in this chapter. If devices are carried in checked baggage:

1. Measures must be taken to protect the device from damage and to prevent unintentional activation;
2. The device must be completely switched off (not in sleep or hibernation mode), unless the device contains only lithium batteries not exceeding:
   - For lithium metal batteries, a lithium content of 0,3 g; or
   - For lithium ion batteries, a Watt-hour rating of 2,7 Wh.

Electronic cigarettes

Electronic cigarettes including e-cigars and other personal vaporisers containing batteries must be in carry-on baggage only. Recharging of these devices and/or batteries on board the aircraft is not permitted, and measures must be taken to prevent accidental activation.

Spare batteries

Spare batteries must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch and carried in carry-on baggage only. Each person is limited to a maximum of 20 spare batteries; however, the operator may approve the carriage of more than 20 spare batteries.

Additional requirements for lithium batteries:

1. Each installed or spare battery must not exceed:
   a. For lithium metal or lithium alloy batteries, a lithium content of not more than 2 g; or
   b. For lithium ion batteries, a watt-hour rating of not more than 100 Wh.
2. Batteries must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3;
3. Each person is limited to a maximum of 15 PED; however, the operator may approve the carriage of more than 15 PED;
4. Articles containing lithium metal or lithium ion cells or batteries, the primary purpose of which is to provide power to another device, e.g. power banks, are permitted in carry-on baggage only. These articles must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch;
5. Electronic cigarette lighters powered by lithium batteries, the following conditions must also be met:
   a. Only lighters with a safety cap or means of protection against unintentional activation are permitted on one's person;
   b. Recharging of these devices and/or batteries on board the aircraft is not permitted, and measures must be taken to prevent accidental activation.
6. Baggage equipped with a lithium battery, with a lithium metal content exceeding 0,3 g or a Watt-hour rating exceeding 2,7 Wh:
   a. If the baggage is to be checked in, the lithium battery must be removed from the baggage and the lithium battery must be carried in the cabin; or
   b. The baggage must be carried in the cabin;
   c. Baggage where the lithium battery exceeds the limits in (6) and cannot be removed is forbidden for carriage.

Additional requirements for non-spillable wet batteries:

1. Batteries must meet the requirements of Special Provision A67 and must not contain any free or unabsorbed liquid;
2. The voltage of each battery must not exceed 12 V and the Watt-hour rating must not exceed 100 Wh;
3. Each person is limited to a maximum of two spare batteries in carry-on baggage only and each spare battery must be protected from short circuit by insulation of the battery terminals.

9.3.4.10 Fuel Cells Contained in Portable Electronic Devices

(*) Revision: 23.1 - 15 MAR 25

Fuel cell systems used to power portable electronic devices (for example cameras, cellular phones, laptop computers, and camcorders), and spare fuel cartridges, under the following conditions:

1. Fuel cell cartridges may only contain flammable liquids, corrosive substances, liquefied flammable gas, water-reactive substances or hydrogen in metal hydride;

2. Refuelling of fuel cells on-board an aircraft is not permitted except that the installation of a spare cartridge is allowed;
3. The maximum quantity of fuel in any fuel cell cartridge must not exceed:
   a. For liquids: 200 ml;
   b. For solids: 200 g;
   c. For liquefied gases: 120 ml for non-metallic fuel cell cartridges or 200 ml for metal fuel cell cartridges;
   d. For hydrogen in metal hydride: the fuel cell cartridges must have a water capacity of 120 ml or less.
4. Each fuel cell and each fuel cell cartridge must conform to IEC 62282-6-100 Ed. 1, including Amendment 1, and must be marked with a manufacturer's certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge;
5. Fuel cells or fuel cell systems containing fuel are permitted in carry-on baggage only;
6. Interaction between fuel cells and integrated batteries in a device must conform to IEC 62282-6-100 Ed. 1, including Amendment 1. Fuel cells whose sole function is to charge a battery in the device are not permitted;
7. Fuel cell systems must be of a type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer: 'APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY' to so indicate; and
8. In addition to the languages which may be required by the State of Origin for the markings specified above, English should be used.

9.3.4.11 Insulated Packages Containing Refrigerated Liquid Nitrogen (Dry Shipper)

(*) Revision: 23.1 - 15 MAR 25

In checked or carry-on baggage, insulated packagings containing refrigerated liquid nitrogen fully absorbed in a porous material (dry shipper). The dry shipper must meet the requirements of special provision A152.

9.3.4.12 Portable Electronic Devices Containing Non-spillable Batteries

(*) Revision: 23.1 - 15 MAR 25

In checked or carry-on baggage, portable electronic equipment containing a non-spillable battery meeting the requirements of special provision A67. A maximum of two spare non-spillable batteries meeting special provision A67 may also be carried. The following requirements apply:

1. The voltage of each battery must not exceed 12 V and the watt-hour rating must not exceed 100 Wh;
2. Portable Electronic Devices Containing Non-Spillable Batteries(b) the battery must not contain any free or unabsorbed liquid;
3. The device must either be protected from inadvertent activation, or the battery must be disconnected and the battery terminals insulated;
4. Each spare battery must be protected from short circuit by insulation of the battery terminals.

9.3.4.13 Non-Infectious Specimens Packed with Small Quantities of Flammable Liquids

(*) Revision: 23.1 - 15 MAR 25

In checked or carry-on baggage non-infectious specimens, such as specimens of mammals, birds, amphibians, reptiles, fish, insects and other invertebrates containing small quantities of flammable liquids provided that the following requirements of Special Provision A180 are complied with:

1. Specimens are:
   a. Wrapped in paper towel and/or cheesecloth moistened with alcohol or an alcohol solution and then placed in a plastic bag that is heat-sealed. Any free liquid in the bag must not exceed 30 ml; or
   b. Placed in vials or other rigid containers with no more than 30 ml of alcohol or an alcohol solution;
2. The prepared specimens are then placed in a plastic bag that is then heat–sealed;
3. The bagged specimens are then placed inside a another plastic bag with absorbent material then heat sealed;
4. The finished bag is then placed in a strong outer packaging with suitable cushioning material;
5. The total quantity of alcohol, alcohol solution or formaldehyde solution per outer packaging must not exceed 1 L; and
6. The completed package is marked "scientific research specimens, not restricted Special Provision A180 applies".

9.3.4.14 Internal Combustion or Fuel Cell Engines

(*) Revision: 23.1 - 15 MAR 25

Flammable liquid powered internal combustion or fuel cell engines being carried separately or incorporated into a machine or other apparatus, without batteries or other dangerous goods may be accepted in checked baggage only provided that the engine must comply with the following requirements of Special Provision A70:

1. The engine is powered by a fuel that does not meet the classification criteria for any class or division; or
2. The fuel tank of the vehicle, machine or other apparatus has never contained any fuel, or the fuel tank has been flushed and purged of vapours and adequate measures taken to nullify the hazard;
3. The passenger has provided the operator with written or electronic documentation stating that a flushing and purging procedure has been followed; and
4. The entire fuel system of the engine has no free liquid and all fuel lines are sealed or capped or securely connected to the machinery or apparatus.

9.3.4.15 Permeation Devices

(*) Revision: 23.1 - 15 MAR 25

In checked baggage only permeation devices for calibrating air quality monitoring equipment.

These devices must comply with the following requirements of Special Provision A41:

1. Each device must be constructed of a material compatible with the dangerous goods it contains;
2. The total quantity of dangerous goods in each device is limited to 2 ml and the device must not be liquid full at 55 °C;
3. Each permeation device must be placed in a sealed, high impact-resistant, tubular inner packaging of plastic or equivalent material. Sufficient absorbent material must be contained in the inner packaging to completely absorb the contents of the device. The closure of the inner packaging must be securely held in place with wire, tape or other positive means;
4. Each inner packaging must be contained in a secondary packaging constructed of metal, or plastic having a minimum thickness of 1,5 mm. The secondary packaging must be hermetically sealed;
5. The secondary packaging must be securely packed in strong outer packaging. The completed package must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:
   a. The following free drops onto a rigid, non-resilient, flat and horizontal surface from a height of 1,8 m:
      - One drop flat on the bottom;
      - One drop flat on the top;
      - One drop flat on the long side;
      - One drop flat on the short side;
      - One drop on a corner at the junction of three intersecting edges; and
   b. A force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the test sample).

NOTE	Each of the above tests may be performed on different but identical packages.

6. The gross weight of the completed package must not exceed 30 kg.

9.3.4.16 Classification of Articles Containing Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Articles which do not have an existing proper shipping name, and which contain only dangerous goods as a residue or as an integral element of the machinery or apparatus must be classified as per IATA DGR and by a certified personal.

9.4 TRAINING

(*) Revision: 23.1 - 15 MAR 25

Refer to company procedure 88-50-109 and to the Flight Crew CBTA Training program located in the EFOS/EFF/Company portal.

9.4.1 Training of Crew Members and Ground Staff for Handling Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Personnel shall receive training in the requirements commensurate with their responsibilities.

Training shall include:

1. **General familiarization training** – which shall be aimed at providing familiarity with the general provisions;
2. **Function specific training** – which shall provide detailed training in the requirements applicable to the function for which that person is responsible; and
3. **Safety training** – which shall cover the hazards presented by dangerous goods, safe handling and emergency response procedures.

Flight crews, cabin crew member and ground staff who may come into contact with dangerous goods during the performance of their duties shall receive a general familiarization training.

For flight crews and cabin crew member the familiarization training may be integrated in the emergency training. A test shall be completed satisfactorily.

Staff engaged in the acceptance of dangerous goods and who have to take decisions on either acceptance or refusal of dangerous goods shall receive training to ensure that an awareness is gained of the hazards associated with Dangerous Goods, how to identify them and what requirements apply to the carriage of such goods by passengers. They shall pass function specific training organized by the operator.

In any case, it shall be ensured that all staff and personnel who receive training understand their responsibilities and that recurrent training is received at intervals not exceeding 2 years.

However, if recurrent training is completed within the final 3 months of validity of previous training, the period of validity extends from the month on which the recurrent training was completed until 24 months from the expiry month of that previous training. For example, a person attends an initial course finishing on 14 April 2017; their training validity therefore expires 30 April 2019. They may attend recurrent training any time between 1 February and 30 April 2019 and their next recurrent training date will remain 30 April 2021.

If, however they complete recurrent training in January 2019, then as this is more than 3 months prior to the end of April then their training expiry date becomes 31 January 2021.

On completion of the training there shall be a written examination which covers all items of the training program.

The subjects to be covered by the training are specified in the OM Part D.

The table shows which categories of staff have to receive which kind of training. The depth to which training should be covered depends upon whether it is general familiarization or function specific training. The training subjects shall be approved by the CAAI.

9.5 DG RELATED EMERGENCIES

(*) Revision: 23.1 - 15 MAR 25

During flight: Refer to ICAO_Doc_9481 located under OM B in the EFOS/EFF library.

On ground: Contact local ATC and follow the company procedure 10-204.

An incident involving Dangerous Goods Shall be reported.

9.5.1 Procedures for Responding to Emergency Situations or Incidents Involving Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Items to be done during Flight

Follow the appropriate airplane emergency procedures for fire or smoke removal:

- Ensure the “No smoking sign” is on;
- Consider landing as soon as possible;
- Consider turning off non-essential electrical power;
- Determine source of smoke/fumes/fire - Identify the item.
- Refer to the ICAO Emergency Response Guide (Doc 9481) and act accordingly.

For Dangerous Goods Incidents in the Passenger Cabin

- Notify the PIC;
- Collect emergency response kit or other useful items;
- Put rubber gloves and smoke hood or smoke mask-portable oxygen;
- Move passengers away from area;
- Place dangerous goods item in polyethylene bags;
- Stow polyethylene bags;
- Treat affected seat cushions/covers in the same manner as dangerous goods item;
- Cover spillage on carpet/floor;
- Regularly inspect items stowed away/contaminated furnishings.

Items to be done after Landing

- Disembark passengers and crew before opening any cargo compartment doors;
- Inform ground personnel/emergency services of item and where stowed;
- Make appropriate entry in the maintenance log.

For those dangerous goods for which a Dangerous Goods Transport Document is required, the PIC of an aircraft carrying such goods shall be provided with information which can be used on board to assist in planning the response to an emergency arising in-flight involving the dangerous goods.

In case of an emergency the PIC shall inform ATC about the dangerous goods on board. The information should include the proper shipping names, class and subsidiary risks for which labels are required, the compatibility group for Class 1 and the quantity and location of the dangerous goods aboard the aircraft and UN number (if assigned).

In the event of an aircraft accident or serious incident, the operator of an aircraft carrying dangerous goods as cargo shall provide information, without delay, to emergency services responding to the accident or serious incident about the dangerous goods on board, as shown on the information to the PIC. As soon as possible, the operator shall also provide this information to the appropriate authorities of the State of the Operator and the State in which the accident or serious incident occurred.

In the event of an aircraft incident, the operator of an aircraft carrying dangerous goods as cargo shall, if requested to do so, provide information, without delay, to emergency services responding to the incident and to the appropriate authority of the State in which the incident occurred about the dangerous goods on board, as shown on the information to the PIC.

9.5.2 Dangerous Goods Occurrence Report

(*) Revision: 23.1 - 15 MAR 25

Dangerous goods incidents or accidents shall be reported to the CAAI and to the appropriate Authority in the State where the accident or incident occurred within 72 hrs. An initial report shall be dispatched within 72 hrs of the event unless exceptional circumstances prevent this, and it shall include details known at that time. If necessary, a subsequent report shall be made as soon as possible giving whatever additional information has been established.

The Dangerous Goods Occurrence Report shall be made via the E-Safety report available on the EFB and on the Chief Pilot's Web Site.

The first and any subsequent report shall be as precise as possible. It may be send by any means, including e-mail, telephone, fax, etc. Copies of the relevant documents and photographs taken should be attached to the report.

9.5.3 Undeclared or Mis-declared Dangerous Goods

(*) Revision: 23.1 - 15 MAR 25

Refer to IATA DGR "9.6.2 Undeclared or Mis-Declared Dangerous Goods".

9.6 CARRIAGE OF WEAPONS, MUNITIONS OF WAR AND SPORTING WEAPONS – CONDITIONS OF CARRIAGE

(*) Revision: 23.1 - 15 MAR 25

For transportation of weapons of war and munitions of war permission shall be granted by the States concerned, including those being overflown.

Weapons of war or munitions of war:

- Must be stowed in the aircraft in a place which is inaccessible to passengers during flight;
- Firearms shall not be loaded.

Exceptions may be granted by all States concerned that such weapons of war or munitions of war may be carried in circumstances that differ in part or in total from the procedures mentioned in this Chapter.

Passengers and crew members are not permitted to carry firearms in the cabin or on the flight deck except those passengers or crew members assigned as an Air Marshal to the respective flight, or other security personnel so authorized by the EL AL Security Manager at the station of origin (for flights departing from Israel – the Israel Airports Authority's Duty Security Manager). The PIC shall be informed of the number of authorized armed persons on board the aircraft and their locations.

Police officers on escort duty shall hand over their unloaded weapons to a crew member to be stored for the duration of flight on the flight deck. The ammunition shall be carried by the police officers in the cabin. After arrival the weapons shall be returned at the aircraft before the passengers disembark.

EL AL must be notified in advance about any intended transportation of any sporting weapons or ammunition, and the carriage shall be approved by the company Chief Material Engineer & Dangerous Goods Administrator.

Sporting rifles, shotguns and pistols belonging to accompanying passengers for their own use, and any other kind of small arms may not be carried aboard the aircraft except as checked baggage stowed in one of the belly compartments, unloaded, dismantled, and suitably packed in a locked, hard-sided container.

Weapons such as antique firearms, swords, knives, toy or replica guns, bows and arrows and similar items may be accepted as Checked Baggage, but will not be permitted in the cabin of the aircraft.

When accepting the carriage of sporting weapons, the company shall ensure that they are:

- Stowed in the aircraft in a place which is inaccessible to passengers during flight;
- Unloaded, in the case of firearms or other weapons that can contain ammunition.

Securely packed ammunition may be carried in quantities not exceeding 5 kg gross weight per person for that own person’s use. Allowances for more than one passenger must not be combined into one or more packages.

The ammunition must be securely packed in fibre (such as cardboard), wood or metal boxes or other packaging specifically designed to carry small amounts of ammunition. The packing and safety of the ammunition shall be checked and verified by the Security Manager on duty.

Explosive or incendiary projectiles are prohibited for carriage.

Allowance for more than one passenger shall not be combined into one or more packages.

Prior closing the aircraft door for the purpose of departure, the PIC shall be notified by the ground handling staff of details of weapons or ammunition intended to be carried on the flight. The information given to the PIC shall include:

- Seat numbers and total number of weapons carried.

Carriage described in this Chapter shall be pursuant to IATA Resolution 745a, and in accordance with respective licensing requirements of countries of transit and destination. The Security Manager shall check and verify the validity of all licenses.

10 SECURITY

10.1 DEFINITIONS

Revision: 22.1 - 1 JUN 24

Act of Unlawful Interference	These are acts or attempted acts such as to jeopardize the safety of civil aviation and air transport, i.e.: • Unlawful seizure of aircraft in flight or on the ground; • Hostage taking on board an aircraft or on airports; • Forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility; • Introduction on board an aircraft or at an airport of a weapon or hazardous device or material intended for criminal purposes; • Communication of false information such as to jeopardize the safety of an aircraft in flight or on the ground, of passengers, crew, ground personnel or the general public, at an airport or on the premises of a civil aviation facility.
Aircraft Security Check	An inspection of the interior of an aeroplane to which passengers may have had access and an inspection of the hold for the purposes of discovering suspicious objects, weapons, explosives and other dangerous devices.
Background Check	A check of a person's identity and previous experience, including any criminal history, where appropriate, as part of the assessment of an individual's suitability for unescorted access to a security restricted area.
Bomb Threat	A communicated threat, anonymous or otherwise, which suggests, or infers, whether true or false that the safety of an aeroplane in-flight or on ground, or any airport or civil aviation facility or any person may be in danger from an explosive or other item or device.
Permits	Cards or other documentation issued to individual persons employed on airports or who otherwise have need for authorised access to airports or to any part(s) thereof, for the purposes of facilitating access and identifying the individual and includes vehicle documentation issued for similar purposes. Permits are sometimes referred to as airport identity cards or passes.
Sabotage	An act or omission, intended to cause malicious or wanton destruction of property, endangering or resulting in unlawful interference with international civil aviation and its facilities.
Security	A combination of measures and human and material resources intended to safeguard international civil aviation against acts of unlawful interference.

Security Control	A means by which the introduction of weapons, explosives or other dangerous devices which may be utilised to commit an act of unlawful interference can be prevented.
Security Equipment	Devices of a specialised nature for use, individually or as part of a system, in the prevention or detection of acts of unlawful interference with civil aviation and its facilities.
Suspicious Object	Any item that has no identifiable owner, and/or is not reasonably expected to be found in the aircraft. This is subdivided into two categories: **Suspicious Object With Potential** - An ownerless object in which a bomb can be hidden according to Security Division procedures. **Suspicious Object Without Potential** - An ownerless object in which a bomb cannot be hidden according to Security Division procedures.

10.2 GENERAL

Revision: 19 - 14 MAR 21

The primary objective of aviation security is to assure the protection and safeguarding of passengers and their baggage, crew and ground personnel against acts of unlawful interference perpetrated on the ground or in flight.

Constant vigilance is necessary on the part of all Flight and Cabin Crew.

The security policy and procedures in this section are an overview of EL AL's security policy. The detailed policy for handling all security and unruly passenger behavior appears in the CSOM. Due to the sensitivity of the information, it is not detailed in the OM. In case of conflict between the OM A and the CSOM, the latter has priority.

10.2.1 Authority and Responsibilities: Authority of the PIC

Revision: 19 - 14 MAR 21

The PIC is responsible for the safety of the aircraft, and has ultimate authority over its passengers, crew and cargo.

He may, when he has reasonable grounds to believe that a person has committed or is about to commit any offence on board the aircraft and that may jeopardize the:

- Safety of the aircraft or of persons or property therein;
- Good order and discipline on board.

Take all reasonable measures to:

- Protect the safety of the aircraft;
- Protect persons or property on board;
- Maintain good order and discipline on board;
- Disembark or deliver disruptive, unruly or violent passengers to local Authorities.

The PIC is empowered to take any steps he deems necessary to ensure the continued safe operation of the aircraft.

This may result in refusal of service, or even physical restraint or an en-route diversion in order to off-load disruptive, unruly or violent passengers, see Chapter *10.4 Disruptive/Unruly Passengers*.

10.2.2 Crime on Board

Revision: 23 - 29 AUG 24

If a crime is committed on board during flight the PIC is responsible for safeguarding the necessary evidence. This may include a search of clothes and belongings or the arrest of suspects. In urgent cases he may arrange for a preliminary inquiry until officials can take over. The PIC shall notify the authorities at the intended airport of arrival in advance. After landing, he shall report the incident to the ground staff for relay to the local police authorities. When landing at a station abroad, the local Israeli embassy or consulate should be contacted. Upon return to home base, the PIC shall report via the EFOS/EFF detailing events and action taken.

10.2.3 Sabotage

Revision: 19 - 14 MAR 21

Security measures in force on the ground are intended to reduce the possibility of potential sabotage. Conscientious pre-flight checks by technical personnel, Flight and Cabin Crew as well as watchful observation of the surroundings of the parked aircraft can prevent sabotage or can help detect attempted sabotage in time.

10.2.4 Communication with Ground Security — Passenger Flights

Revision: 19 - 14 MAR 21

Security will monitor 121.50 MHz. If necessary, the flight crew or security shall establish contact on 121.50 Mhz. Security will then advise a frequency change for further communications. Occasionally, security may ask the flight crew to perform a radio check on a given frequency.

10.2.5 Acts of Unlawful Interference

Revision: 19 - 14 MAR 21

In the event of the company being informed of critical political situations by the Authority of the State, special security measures shall be undertaken. The Security Manager and/or Station Manager will inform the crew accordingly.

The Company has established training programs for relevant personnel. They cover the prevention of acts of unlawful interference or seizure of aircraft and method of communication between crew members.

10.2.6 Reporting

Revision: 22.1 - 1 JUN 24

In the event of an Occurrence or an Act of Unlawful Interference on board an aircraft the PIC or the Director of Flight Operations will submit, without delay, a report of such an act to the designated local Authority of the State concerned and the CAAI as described in Chapter *11.4 Safety Occurrences*.

10.2.7 Unplanned Landing — Passenger Aircraft

Revision: 19 - 14 MAR 21

After landing, the PIC shall send a message to OCC who shall then report to the EL AL Security Division.

The security crew, in case and there is one at the airport of landing, will receive the incoming flight (if possible), or will arrive as fast as possible.

Until the security crew arrives, the PIC will be responsible for the aircraft security.

The ISM, after coordinating with Security, will appoint a person from the cabin crew to remain at the bottom of the stairs of the aircraft to observe that there is nothing unusual done to the aircraft.

If a passenger requests to leave the aircraft, the PIC will contact OCC for guidance from EL AL Security (offloading bags, counting passengers, etc).

If a decision has been made for the passengers and the crew to disembark, the PIC will conclude with EL AL Security headquarters / station's Security manager on the method in which there will be a constant watch over the aircraft.

Authorization must be received from EL AL Security prior to departure.

10.2.8 Unplanned Landing — Cargo Aircraft

Revision: 19 - 14 MAR 21

After landing, the PIC shall send a message to OCC who shall then report to the EL AL Security Division.

The flight crew shall remain on board until they receive guidance from OCC regarding security while the aircraft remains on the ground.

The Security Division will make an immediate effort to receive assistance from a local security force / police.The Security Division, together with the flight crew, shall determine if the crew is required to remain on board until the arrival of local security officers.

If the aircraft was only secured by a local security force while unattended, the crew shall perform a thorough security search in order to detect a sabotage attempt or any unidentified objects.

Authorization must be received from EL AL Security prior to departure.

10.3 PREVENTATIVE MEASURES

10.3.1 General

Revision: 19 - 14 MAR 21

The responsibility for security of an aircraft in service rests with the operating crew from the time the crew boards the aircraft until their disembarkation after a flight or hand over to another crew.

10.3.1.1 In-flight Security Inspections

Revision: 19 - 14 MAR 21

For quality control purposes, plain-clothed security inspectors may conduct inspections of security operations during a given flight. Such an inspector shall identify himself to the ISM upon boarding and present his Company ID card. The ISM shall inform that PIC that the inspection is taking place.

The inspector will have been assigned a seat that allows him to observe the security operations being inspected. If required for the performance of his duties, the ISM shall seat the inspector in Business class on a space available basis, only after all upgrades have been performed. If seated in Economy class, the inspector may enter the Business class cabin after coordinating with the ISM.

10.3.2 Company Permits

Revision: 19 - 14 MAR 21

Each crew member shall be in possession of a valid Company ID card. This ID shall be worn visibly in restricted areas.

In order to prevent misuse, the loss of an ID card shall be reported to the issuing office/security department immediately.

10.3.3 Supervision of Aircraft Cleaning

Revision: 19 - 14 MAR 21

The ISM shall post cabin crew members in every area of the cabin to supervise the aircraft cleaning. The cabin crew shall:

- Maintain a constant presence and pay careful attention to the cleaners' activities;
- Ensure that lavatory doors remain open while being cleaned;
- Ensure that no cleaner enters the lavatory without supervision;
- Ensure that no cleaner enters the cockpit unescorted.

NOTE	Security personnel may, at their discretion, relieve cabin crew of the responsibility to supervise the aircraft cleaning.

10.3.4 Access to the Aircraft

Revision: 19 - 14 MAR 21

The crew shall ensure that any person entering the aircraft is in possession of and visibly displaying a valid permit or Company ID card, or holding a boarding card for the respective flight. Whenever an aircraft door is open, it shall be manned by a crew member or by a security employee.

Aircraft doors shall not be opened after the aircraft has left the parking position. In case a request to open any aircraft door is received via radio, the aircraft shall return to the gate or an allocated parking position and the doors shall only be opened in the presence of handling agent/staff.

In case aircraft doors are forcibly opened, ATC shall immediately be informed and the aircraft shall return to the parking position or an allocated parking position for investigation.

When the aircraft is left unattended, the doors are to be closed and steps are to be removed.

10.3.5 Security Check

Revision: 23 - 29 AUG 24

Prior to each flight, a security check is performed to find any article which does not belong in the aircraft or is not a part of its integral equipment.

At outbase stations, the Station shall provide the crew with an Aircraft Security Search form (a copy of which is available in the EFOS/EFF library), and the crew shall perform the search in accordance with instructions on the form. This shall include an examination of areas when they are accessible without the use of tools, keys, stairs or other aids and without breaking seals. The PIC, ISM and/or Ramp Supervisor (as applicable) shall sign the form and transfer it to the Station Manager for filing.

Any suspicious object found during the search should not be touched, but should be immediately reported to the Station Security Manager.

10.3.6 Passenger Count

Revision: 19 - 14 MAR 21

The aircraft will be cleared to close doors only after a full reconciliation has been done between the number of passengers that passed through the boarding gate and the number of passengers that checked in for the flight. In case of a mismatch, the crew will assist in counting the passengers.

At Ben Gurion Airport – The Israel Airports Authority Security Division is responsible for the passenger count and aircraft release authorization.

At other Stations - the passenger count will be done by the station, the number of passengers will be given by the station manager, and the release of the aircraft shall be given by the Security manager.

10.3.7 Flight Deck Door Procedures

10.3.7.1 Closing and Locking of Flight Deck Door

(*) Revision: 23.1 - 15 MAR 25

For security reasons the ultimate goal is to minimize the time the Flight Deck Door is kept open. Throughout all stages of the flight, the cockpit and divider doors shall never be open at the same time, unless required for flight safety reasons.

The Flight Deck Door shall be capable of being locked from within the flight deck in order to prevent unauthorized access.

On 737 and 787 aircraft, the aft flight deck door shall remain open at all times. It shall be closed only to allow opening of the forward door, when so required. On 777 aircraft, the door shall remain closed at all times except during take-off and landing.

The flight deck door may be opened by using a key code, which will unlock the door unless denied by deliberate action from the flight deck. When the electronic locking system fails during flight, follow the Operational procedure in the MEL.

The door shall be closed when passenger boarding commences, and locked when the doors are ready to be closed. After this time, the flight deck door shall be kept locked other than for access.

The door may be unlocked and opened after the first external passenger door has been opened.

10.3.7.2 Entering and Exiting the Flight Deck after the Door has been Locked

Revision: 19 - 14 MAR 21

Entry request shall be made via the interphone. Prior to opening the door, the cabin crew shall verify that there are no passengers in the area between the doors (including in the lavatories) and that the divider door is closed, and shall contact the flight deck via the interphone system with a request to open the flight deck door.

Any crew member leaving or entering the flight deck shall visually check the entry area outside the flight deck before the flight deck door is opened.

The flight crew shall open the door only after:

- Verifying that the divider door is closed; and
- Having positively identified the person requesting entry using the Cockpit Door Surveillance System (CDSS) as applicable or via the interphone.

The flight deck door should remain open for as short a time as possible. For additional procedures including persons permitted admission to the flight deck, see Chapter ***8.3.14 Flight Deck Related Items***.

10.3.8 Visitors to the Flight Deck During Flight

Revision: 19 - 14 MAR 21

Security shall be informed before passengers are invited to the flight deck.

Passengers defined as "problematic" in the preliminary inspection for the flight, (passengers that are defined as "checked" by security) shall not be allowed on the flight deck. See Chapter ***8.3.14 Flight Deck Related Items*** for other limitations.

10.3.8.1 Filming Inside the Cockpit

Revision: 19 - 14 MAR 21

Video photography is forbidden inside the cockpit. Unusual cases, such as TV news coverage, television shows, etc – shall have prior authorization from the company spokesperson.

10.4 DISRUPTIVE/UNRULY PASSENGERS

10.4.1 Definitions

Revision: 23 - 29 AUG 24

A Disruptive Passenger is defined as a Passenger who:

- Jeopardizes good order and discipline on board; or
- Hinders Crew Members from performing their duties; or
- Refuses to follow the instructions of a Crew Member; or
- Constitutes a threat to safety.

The above definition may include, but is not limited to, a passenger who does any of the following:

- Threatens any person, or speaks/acts in a way which is considered threatening;
- Refuses to take his/her seat;
- Speaks to another person in a sexually suggestive manner;
- Sexual harassment;
- Sexual assault;
- Vulgar or inappropriate behavior towards another person or property;
- Uses foul language;
- Uses verbal and/or physical aggression or argues with another person using verbal and/or physical aggression;
- Causes damage to himself, or another person or property;
- Violates any applicable law or regulation (this includes smoking, refusal to fasten safety belt, etc.).

A Civil Offense is defined as non-compliance with any of the following requirements:

- Smoking;
- Use of seatbelts;
- Use of PEDs.

10.4.2 Categorization of Incidents

Revision: 19 - 14 MAR 21

In order to clearly distinguish between occurrences and also to reconstruct a certain situation at a later stage, incidents are categorized into three different types:

Level I	Passenger complies with Cabin Crew's request and no further action is required.
Level II	Passenger continues disturbance despite Cabin Crew's request to comply with orders/procedures.
Level III	Passenger disrupts Cabin Crew duties due to continuing interference; or A passenger or Crew member is injured or subjected to a threat of injury; or A passenger constitutes a threat to, or jeopardizes, the safety and security of the flight or any person or property on board. A restraint device has been used; or A diversion or unscheduled landing is made.

10.4.3 Background

Revision: 19 - 14 MAR 21

Experience has shown that incidents with passengers behaving inappropriately or not abiding to regulations belong to one of these categories:

- Misbehavior due to alcohol - or drug consumption; or
- Non-compliance with rules concerning smoking, seat belts, or portable electronic device usage; or
- Other misdemeanors (e.g. molesting or disturbing crew or other passengers, theft).

Disruptive, unruly, violent or intoxicated behavior at check-in, at the gate as well as on board the aircraft conflicts with safe and secure airline operation. It lowers the level of customer satisfaction experienced by other passengers. Additionally, it places often unacceptable burdens on Ground Staff and Crew Members. It is therefore important that such passengers are already identified on the ground so that they are excluded from transport.

10.4.4 Policy

Revision: 19 - 14 MAR 21

It is in the Company's interest to carry each and every passenger to their intended destination. However, the Company has a Zero Tolerance Policy towards violence in general, and Disruptive Passengers in particular.

As disruptive/unruly behavior is first of all a safety issue, prevention of such behavior (even by acting on early signs) should be a priority on the ground, during boarding, and during flight.

In order to deal with disruptive, unruly, violent or intoxicated behavior as effectively as practicable, it is Company policy:

- To empower Crew Members and Ground Staff to take reasonable steps to prevent any form of disruptive behavior;
- To support Crew Members and Ground Staff taking therefore necessary actions;

- To provide appropriate training to Cabin Crew and Ground Staff in dealing with disruptive, unruly, violent or intoxicated passengers;
- To request and encourage the police/local authorities to prosecute disruptive passengers in appropriate cases;
- To assist Crew Members and Ground Staff who are required after an incident to give witness statements to the police or to appear in court proceedings when passengers are prosecuted.

This chapter, based on Company Procedure 09-405, gives practical instructions for applying the above Policy.

10.4.4.1 Sexual Harassment

Revision: 19 - 14 MAR 21

It is the EL AL's policy to show zero tolerance towards sexual assault or sexual harassment. All such inflight incidents must be reported to the PIC, who will forward the incident to OCC. The crew shall use their best judgment when dealing with such complaints by passengers or crew members. Special care shall be given to sexual offenses involving minors.

Refer to Company Procedure 09-405 for further instructions.

10.4.5 Before Boarding

Revision: 19 - 14 MAR 21

The decision to prevent a passenger following a violent incident from boarding a flight rests with the station manager. Refer to Company Procedure 09-405.

10.4.6 During and After Embarkation

Revision: 22 - 20 FEB 24

During embarkation and prior to take-off, it is the responsibility of the ISM and the PIC to decide whether a passenger should be disembarked. The final authority rests with the PIC. The following guidelines are to be used:

- Level II Incident

  The passenger shall be given a warning and if the incident continues - it is to be treated as Level III incident;

- Level III Incident

  The passenger should be disembarked.

A warning shall not be given and the passenger will be declared as a Disruptive/Unruly immediately in cases of:

1. A smoking passenger;
2. A sexual harassment
3. A physical violence case.

NOTE	In case a passenger is showing signs of intoxicated behaviour during boarding, the ISM shall reach to the passenger in order to check if this passenger is to be considered as an unruly or violant passenger.

10.4.7 During Taxi

Revision: 21 - 5 MAY 23

Ensure the flight deck door is closed do not leave the cockpit.

- Level II Incident

  The passenger shall be given a warning and if the incident continues - it is to be treated as Level III incident;

- Level III Incident

  The PIC shall advise the Station, return to the gate, and disembark the passenger.

A warning shall not be given and the passenger will be declared as a Disruptive/Unruly immediately in cases of:

1. A smoking passenger;
2. A sexual harassment
3. A physical violence case.

10.4.8 During Flight

Revision: 23 - 29 AUG 24

In cases of disruptive/unruly/violent behavior and non-compliance with Crew instructions, the PIC has legal powers that include the possibility of imposing reasonable measures upon such persons. These may include restraining of such passengers when the PIC assesses that a situation will in any way affect the safety of the aircraft, its passengers, or the crew.

The PIC shall be notified by the ISM about any incidents that can endanger the safety of the flight or security of any persons on board. The PIC has the ultimate authority on the issue and shall be informed of all further developments, in order to be able to take further action and also communicate these actions to the appropriate authorities.

In case of a Level II Incident:

Consider switching off internet service.

The PIC shall be informed and a written warning shall be issued to the passenger. A warning form can be found in Chapter ***10.8.2 Warning Form***. If the incident continues - it is to be treated as Level III incident.

In case of a Level III Incident:

Ensure flight deck door is locked - do not leave flight deck.

Switch on seat belt sign.

Consider making a PA announcement stating, "An incident of passenger violence has occurred in the cabin. Please be seated and follow the cabin crew's instructions."

If installed, switch off internet service.

If in the opinion of the PIC the Disruptive Passenger jeopardizes the safety of the flight, the crew, or other passengers, the PIC should use his authority to land at a suitable airport to remove the Disruptive Passenger from the airplane before continuing the flight to its destination.

The PIC shall communicate a Level III incident of a disruptive or unruly passenger and his decisions to OCC as soon as possible. OCC shall be responsible to coordinate the Company's response so that suitable arrangements are made with local authorities when the aircraft lands. OCC shall notify the Accountable Manager, the Quality and Safety Manager, the VP Flight Operations, the VP Customers & Service, the Company Legal Advisor, the Company Spokesman, and the Duty managers of Flight Operations, Ground Operations, and cabin crew operations.

Upon landing, the passenger(s) shall be handed over to the appropriate authorities/law enforcement, subject to the PIC's discretion.

When filing a complaint is required, it shall be filled by the crew member who was present at the incident and that can give a full and detailed report of the event/incident and his/her presence is mandatory. In Israel, every incident shall be followed by a complaint and report to the local police (See also CSOM 2.7 and company procedure 09-405, if required).

However, police should not be summoned in the following countries if the disruptive passenger holds an Israeli passport, except if his violent behavior caused bodily harm or serious property damage:

- Egypt;
- India;
- Kenya;
- Former USSR states - Russia, Belarus, Moldova, Kyrgyzstan, Kazakhstan, Uzbekistan, Tajikistan, Armenia and Azerbaijan;
- Turkey;
- Thailand – a smoking passenger may be handed to the local authorities/law enforcement.

The “Violent Passenger Report”, to be filed by the PIC, ISM, or Station Manager, can be found in Chapter ***10.8.1 Violent Passenger Report***.

A warning shall not be given and the passenger will be declared as a Disruptive/Unruly immediately in cases of:

1. A smoking passenger;
2. A sexual harassment
3. A physical violence case.

10.4.8.1 Enforcement of Civil Offenses

Revision: 23 - 29 AUG 24

All ISMs are qualified and appointed by the CAAI to act as Flight Safety Delegates. As such, they have the authority to direct a passenger to immediately cease and desist from performing Administrative Offenses and to identify himself.

The administrative offenses that shall be enforced by the ISM are smoking on board, use of portable electronic devices during critical phases of flight (see Chapter ***8.3.17.12 Use of Portable Electronic Devices and Electrical Outlets***), not wearing a mask which must cover the nose and mouth to destinations which requires wearing a mask as per local regulations and not obeying the fasten seat belt instruction.

The ISM may issue an Administrative Offense Report (CAAI Form GENF 3.0.205-1, a copy of which is available in the EFOS/EFF library). The report shall be sent to the Cabin Safety Manager who shall forward it to the CAAI, who will then take enforcement action against the offending passenger.

Administrative Offense Report can be given to a passenger holding an Israeli passports only.

10.5 THREATS AGAINST AIRCRAFT

10.5.1 General

Revision: 19 - 14 MAR 21

A threat (bomb threat or other threat) may be one of the following:

- General, non-specific threat;
- Threat against an aircraft of the company on the ground;
- Threat against an aircraft of the company in flight.

Because it is practically impossible to determine if a dangerous situation really exists, every threat shall be taken seriously.

If information about a threat is received, OCC shall be notified immediately. OCC will then proceed according to their internal procedures.

A person receiving a threat via telephone shall immediately:

- Attempt to keep the caller talking as long as possible. The longer the conversation the greater the possibility to learn more about the caller and his intention;
- Try to find out details about the threat (e.g. flight number, airport, time);
- Record or write down the exact words the caller uses during the conversation or immediately afterwards;
- Make notes of any accent or peculiarities of speech, together with other obvious factors such as probable sex and age of the caller;
- Inform OCC immediately after the call.

If the threat does not apply to a specific flight or aircraft, the security measures at all company stations shall be intensified according to established security procedures.

10.5.2 Threat on Ground

Revision: 19 - 14 MAR 21

A threat on the ground may be either an anonymous threat, or discovery of a suspicious object. In case of an anonymous threat, notify the Station Security Manager immediately and follow Security's instructions. For suspicious objects, refer to Chapter ***10.5.4 Suspicious Objects*** below.

10.5.3 Bomb Threat during Flight

Revision: 21 - 5 MAY 23

For the purpose of this chapter, a reliable source is defined as one of the below:

- OCC;
- An EL AL Station Manager or his representative;
- EL AL Security.

1. If notice of the threat **is not** from a reliable source:
    a. Report the threat to OCC;
    b. Attempt to obtain additional information from a reliable source;

   c. Refer to the QRH – Ops Info Bomb Threat/Suspicious Object Checklist.

2. If notice of the threat is from a reliable source, the source shall define one of the following conditions:
   a. There is reason to believe that a bomb is on board the aircraft. In this case the PIC shall refer to the QRH – Ops Info Bomb Threat/Suspicious Object Checklist;
   b. It is uncertain whether a bomb is on board the aircraft. In this case, the notification should be accompanied with details and specific instructions. In the absence of instructions, all actions are at the PIC's discretion;
   c. The threat has been defined by security to be a false threat. In this case, in the absence of any specific instructions, no actions are required from the PIC.

If the PIC requests performance of an in-flight bomb search, the cabin crew shall act according to the Suspicious Object procedure below.

After landing, which shall be performed without cabin preparation for an emergency, and after reaching the parking position, passengers shall be requested to leave the aircraft via stairs and to take all their hand baggage with them. The impression of an emergency should be avoided.

If the PIC considers disembarkation via stairs inappropriate (e.g. stairs are not brought within an acceptable period of time), a controlled evacuation using the slides shall be initiated.

10.5.4 Suspicious Objects

Revision: 19 - 14 MAR 21

1. In case a Suspicious Object is discovered during flight, the PIC and Onboard Security shall be notified;
2. Onboard Security will instruct the ISM to locate the object's owner;
3. The ISM shall try to identify the Suspicious Object's owner(s) near where the object was found;
4. **If the owner is located, the ISM shall:**
   a. Verify that the Object belongs to the identified owner;
   b. Report the details to On-board Security;
   c. Advise the PIC that the incident is over and resume normal operations.
5. **If the owner is not located, the ISM shall:**
   a. Try to identify the owner by making a PA announcement. Ensure that all passengers are awake and have heard the announcement;
   b. Give On-board Security a description of the Suspicious Object and its location. This shall be done as discreetly as possible.
6. On-board Security shall then classify the Suspicious Object as either a Suspicious Object With Potential or Without Potential (see Chapter ***10.1 Definitions***);
7. **If the airplane is on the ground:**
   a. The ISM shall report the Suspicious Object to EL AL Station Security and to the PIC;
   b. The PIC shall report the Suspicious Object to OCC, who shall inform EL AL Security Headquarters;

c. EL AL Station Security, in coordination with airport police, will take all necessary actions according to Security and local procedures.

8. **If the airplane is in the air:**
   a. The ISM shall Inform the PIC, who shall act according to the QRH - Ops Info;
   b. The PIC shall ensure that EL AL Security Headquarters is informed about the situation;
   c. The ISM shall position a cabin crew member near the Suspicious Object in order to keep passengers away from it;
   d. The ISM shall consult with the PIC, and take any or all of the following actions in coordination with him:
      i. **Suspicious Object Without Potential**
         1. Place the object in a container which shall be clearly marked and placed in the aft section of the airplane;
         2. After landing, the situation shall be handed over to EL AL Station Security (or Ben Gurion Airport Security in Tel Aviv) for handling.
      ii. **Suspicious Object With Potential**
         1. On-board Security will advise the PIC and coordinate a course of action;
            a. Before moving the Suspicious Object, clear passengers out of the rear part of the airplane as much as possible (four rows);
            b. Prepare a pile of seat cushions, wet blankets, and suitcases on which to place the Suspicious Object. The pile should be next to the center of the right rear door at window level (at least one meter above the floor);
            c. Place the Suspicious Object on the pre-prepared pile;
            d. Surround the Suspicious Object with wet, rollup-up blankets approximately one meter thick, together with seat cushions and suitcases all the way up to the ceiling in order to prevent the pile from shifting;
            e. Distance passengers at least 10 meters from the Suspicious Object, without endangering flight safety.
         2. On-board Security shall supervise the following actions to be taken by the cabin crew:
         3. After landing, act according to local procedures and EL AL Security recommendations.

10.6 HIJACKING

Revision: 19 - 14 MAR 21

See QRH - Ops Info.

Hijacking is an act of aggression in which the aggressor forces the Flight Crew to relinquish part or all of their authority by assuming command over the aircraft.

As long as the aircraft being hijacked is still on the ground, the Flight Crew will not take-off.

In case of a hijacking when airborne everything will be done to prevent the hijacker from getting access to the flight deck. The Flight Crew shall maintain control of the flight deck under all circumstances. Should any person be held hostage in the cabin in an attempt to gain access to the flight deck, the Flight Deck Door will be kept closed and locked mechanically.

The Flight Crew will land the aircraft as soon as possible at a suitable airport.

After landing the aircraft will be parked so that a succeeding take-off is prevented.

Any employee receiving information about the hijacking of an aircraft operated by EL AL should immediately inform OCC, who will then initiate the company emergency procedure.

OCC will then try to contact the crew via any means possible direct or via stations en-route.

The Cabin Crew shall inform the Flight Crew as soon as possible via interphone about an aggressor in the cabin. This should make the Flight Crew aware of the situation, the Flight Deck Door will be kept closed and locked mechanically and a landing at the nearest suitable airport will be initiated.

The Cabin Crew should be aware of the fact that additional hijackers may be hidden among the passengers. Cabin Crew shall try to keep calm, try to de-escalate and they shall make clear to the hijacker that access to the flight deck will not be possible.

10.6.1 Hijacker on the Flight Deck

Revision: 19 - 14 MAR 21

See QRH - Ops Info.

It is of great importance that hijackers never gain access to the Flight Deck.

The Flight Crew is to remain on the flight deck at all times.

If at all possible, establish discreet Air Ground Communication.

Switch transponder to code 7500 - international code to signal a hijack. If not under radar control, transmit in an air/ground message the call sign followed by “Transponder code seven five zero zero”. Controllers will acknowledge receipt of code 7500 by asking if this is intentional. The Flight Crew need only to reply “affirm” and proper authorities will be notified.

Switch transponder code from 7500 to 7700 to signal “situation appears desperate, need all possible assistance”: This will alert all concerned that intervention may be required upon landing. If not under radar control, verbally transmit call sign followed “transponder seven seven zero zero”.

When changing from 7500 to 7700 wait until code 7500 is acknowledged by the controller. Controller will also acknowledge receipt of code 7700.

10.7 CREW MEMBER SECURITY

Revision: 19 - 14 MAR 21

During stays abroad, crew members shall follow the following security protocols:

10.7.1 General

Revision: 19 - 14 MAR 21

1. Keep the Station Security Manager's phone number on you at all times;
2. Any unusual occurrence (i.e. suspicious item, security threat, etc.) shall be reported to the Station Security Manager and/or Security Personnel;
3. Try not to follow a fixed, predictable routine. Alternate routes used for walking or driving, and refrain from attending specific places regularly;
4. Never enter a taxi or other vehicle at the driver’s initiative;
5. Refrain from travelling alone, especially at night;
6. Avoid areas known for high crime rates;
7. Do not discuss work issues with unknown persons, and be discreet about your work as a crew member for the Israeli airline.

10.7.2 Hotels

Revision: 19 - 14 MAR 21

1. Ideally, hotel rooms should not be located on the ground floor;
2. Upon entering the room, check for anything unusual;
3. Keep the doors and windows to the room and balcony locked at all times, except for entry and exit;
4. Do not accept any unknown packages or deliveries;
5. Do not open the door to a hotel room for unknown persons;
6. Refrain from ordering room service wherever possible;
7. Inspect personal baggage before packing it and before departure to ensure that the baggage has not been tampered with;
8. Do not transport baggage or items on behalf of passengers or any other person who is not a family member;
9. Baggage may only be carried by the crew member himself - assistance by hotel staff or others is not permitted, unless escorted by the crew member at all times;
10. In case of distress or any unusual activity, contact the Station Security Manager and/or another crew member.

10.7.3 Crew Transport

Revision: 19 - 14 MAR 21

Crew transport vehicles are normally accompanied and protected by the Station Security Manager or his staff in accordance with local procedures, unless otherwise instructed by Security. The crew shall comply with all instructions given by Security personnel.

The vehicle shall be inspected by Security, although a crew member shall inspect the vehicle in the absence of security personnel. The inspection shall include verification of the driver's credentials, and a physical inspection of the vehicle from all sides - inside and out - including:

- Baggage compartments;
- Front and rear undercarriage;
- Space behind the wheels;
- Between and underneath seats;
- Aisles;
- Overhead storage bins;
- Lavatory.

The driver shall be asked to identify any unknown objects.

A torch shall be used when performing the inspection at night.

The ISM shall appoint one of the cabin crew members to supervise the loading of baggage onto the crew transport vehicle. The appointed crew member shall carefully oversee the loading process and maintain constant eye contact, ensuring that nothing except for crew baggage or belongings is loaded onto the vehicle.

Transportation of passenger baggage is strictly prohibited, except for baggage belonging to crew members' family.

After the security inspection and baggage loading is complete, the entire crew shall exit the hotel together as a group and enter the vehicle immediately, minimizing waiting time outside the vehicle.

The PIC and ISM are responsible for identifying crew members by way of either personal acquaintance; Crew Member Certificate; or passport. The PIC may authorize transportation of family members or other passengers accompanying a crew member on the flight, but they must undergo the regular security screening process upon arrival at the airport.

10.8 APPENDIX

10.8.1 Violent Passenger Report

Revision: 19 - 14 MAR 21

דו"ח נוסע אלים

VIOLENT PASSENGER REPORT

FLIGHT NO ______ מספר טיסה   DATE ______ תאריך
FROM ______ מ   TO ______ אל
GMT ______ שעה   L.T. ______ זמן מקומי
A/C 4X ______ מטוס

MGR IN-FLIGHT SERVICES NAME & EMP. NO. ______ שם המש"ב ומספר עובד
CAPTAIN'S NAME & EMP. NO. ______ שם הקברניט ומספר עובד
STATION MANAGER'S NAME & EMP. NO. ______ שם מנהל התחנה ומספר עובד

DETAILS OF VIOLENT PASSENGER פרטי הנוסע/ת האלים/ה

NAME OF PASSENGER ______ שם הנוסע/ת
PASSPORT NO. ______ מספר דרכון   I.D. NO. ______ מספר ת.ז.
NATIONALITY ______ אזרחות   SEAT NO. ______ מספר מושב
ADDRESS ______ כתובת
PNR / TICKET NO. ______ מספר PNR / כרטיס   PHONE NO. ______ מספר טלפון
(COPY FROM TICKET)
(להעתיק מכרטיס הטיסה)

DETAILS OF INJURED PASSENGER פרטי הנפגע/ת

NAME OF PASSENGER ______ שם הנוסע/ת
PASSPORT NO. ______ מספר דרכון   I.D. NO. ______ מספר ת.ז.
NATIONALITY ______ אזרחות   SEAT NO. ______ מספר מושב
ADDRESS ______ כתובת
PNR / TICKET NO. ______ מספר PNR / כרטיס   PHONE NO. ______ מספר טלפון
(COPY FROM TICKET)
(להעתיק מכרטיס הטיסה)

DETAILS OF WITNESSES (INCLUDING STAFF) (פרטי העדים (כולל הצוות

NAME שם	מס' דרכון PASSPORT NO.	אזרחות NATIONALITY	מס' מושב SEAT NO.	ADDRESS & PHONE NO. כתובת ומס' טלפון

DETAILS AND DESCRIPTION OF INCIDENT תיאור האירוע

______

ACOMPLAINT WAS SUBMITTED: YES / NO   הוגשה תלונה: כן / לא
IF NOT PLEASE EXPLAIN: במידה ולא הוגשה תלונה, הסבר:

______

חתימת מנהל תחנה   חתימת המש"ב   חתימת הקברניט   תאריך

COPIES: העתקים:
צהוב: מנהל תחנה YELLOW: STATION MANAGER
ורוד: רא"ג מבצעי קרקע PINK: DIR. GROUND OPERATIONS
כחול: מחלקת דיילים BLUE: STEWARDS DEPARTMENT
מקור: משטרה ORGINAL: THE POLICE

10.8.2 Warning Form

Revision: 19 - 14 MAR 21

VIOLATION

UNACCEPTABLE BEHAVIOR ON BOARD THIS AIRCRAFT

FINAL WARNING

The Cabin Crew has already told you that your behavior on board this aircraft is unacceptable and may have been in violation of the laws of Israel.

With immediate effect:

1. You are required not behave in a manner likely to:
    1.1. Endanger the safety of the aircraft.
    1.2. Cause concern to the crew or other passengers.
2. You are required to comply with the crew's instructions.
3. You are required not to drink any alcohol. You are required to hand all alcohol in your possession to a member of Cabin Crew (it will be returned to you when you leave this aircraft).

If you fail to comply, the Captain may decide to land the aircraft at the nearest available airport and disembark you; you will be liable for the diversion costs and your ticket will be invalidated for further carriage.

On arrival, details of your conduct may also be reported to the local police for possible prosecution. Upon conviction in Israel, you may be fined or imprisoned.

This notice is given on behalf of the Captain of this aircraft.

This notice shall not be in derogation of the company's right to exercise any right, power or privilege granted by law and/or under any agreement.

EL AL ISRAEL AIRLINES LTD. אל על נתיבי אויר לישראל בע"מ www.elal.co.il
Head office: P.O.B. 41 · Ben Gurion Airport 70100 · Israel · fax: 03-9721442 :פקס · tel: 03-9716111 :טל · 70100 מיקוד · 41 .ת.ד · המשרד הראשי: נמל תעופה בן גוריון

11 HANDLING, NOTIFYING AND REPORTING OCCURRENCES

11.1 GENERAL

Revision: 23 - 29 AUG 24

The overall purpose of occurrence notification, handling and reporting is:

- To provide, help/medical aid to all persons involved and, of secondary importance, to keep damages to property to a minimum; and
- To prevent, where possible, the re-occurrence of a similar accident or incident.

The first purpose requires extremely fast and smooth cooperation between involved authorities (e.g. ATS, Search and Rescue Services) and EL AL (e.g. by providing to rescue coordination centers lists containing detailed information on the emergency and survival equipment carried on board, or by providing other essential information relating to the individual flight, e.g. relevant technical/ maintenance details, information on Dangerous Goods on board, OFP details, fuel endurance, number of passengers and crew).

The second purpose requires all evidence to be secured. Depending on the nature and severity of the occurrence, this may require originals and copies of documents (e.g. load sheet documents, aircraft Technical Log, Operational Flight Plan, take-off data, passenger lists, cargo papers, manuals) to be seized and safeguarded, flight recorder and cockpit voice recorder records to be preserved, a report by the PIC to be submitted, a hearing and/or investigation to be held by the Company, and an accident investigation by the state of occurrence.

In connection with this second purpose, defined reporting procedures have been defined, see Chapter *11.3 Accident - Notification and Responsibilities* and Chapter *11.4 Safety Occurrences*. This second purpose also requires the authorities involved, after sighting and weighing all evidence, to publish a report where necessary, and to specify recommendations or prescribe action(s) in order to prevent a reoccurrence of a similar incident/accident, see Chapter *11.3 Accident - Notification and Responsibilities*.

Procedures and guidance for crew members involved in an accident or serious incident abroad are detailed in the Corporate Emergency Response Manual (CERM) portion of the Safety Management Manual (SMM), and in the "Safety" section of the EFOS/EFF library.

11.1.1 Flight Resumption after an Accident / Incident

(*) Revision: 23.1 - 15 MAR 25

After a Safety Occurrence (Incident, Serious Incident, Accident), the crew and aircraft involved shall not be released back to service until:

1. In case the safety occurrence is categorized as an Accident – the Chief Pilot and Director of Standards has given his approval and received authorization from the Aircraft Safety Investigation Authority Israel;
2. In case the safety occurrence is categorized as a Serious Incident – the Chief Pilot and Director of Standards has given his approval;
3. In case the safety occurrence is NOT categorized as an Accident or a Serious Incident – the crew and aircraft involved may be released immediately back to service without the approval of the Chief Pilot and Director of Standards.

NOTE	It is a good practice to report all incidents including a minor incident.

11.2 DEFINITIONS

Revision: 22.1 - 1 JUN 24

Incident	An occurrence, other than an accident, associated with the operation or maintenance of an aircraft which takes place during the operation or maintenance of an aircraft, and affects or could affect the safety of the operation.

Serious Incident

An incident involving circumstances indicating that an accident nearly occurred.

The incidents listed below are examples of incidents that may be categorized as serious incidents.

However the list is not exhaustive and depending on the context, items on the list may not be classified as serious incident. See the e-Report Safety Report Form for additional examples.

- Near collisions requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate;
- Collisions not classified as accidents;
- Controlled flight into terrain only marginally avoided and if an escape maneuver was performed;
- Rejected take-offs on a closed or engaged runway or on an unassigned runway;
- Take-offs from a closed or engaged runway or from an unassigned runway;
- Landings or attempted landings on a closed or engaged runway, unassigned runway or unintended landing locations such as roadways;
- Wheels-up landing not classified as an accident;
- Dragging during landing of a wing tip, an engine pod or any other part of the aircraft, when not classified as an accident;
- Gross failures to achieve predicted performance during take-off or initial climb;
- Fires and/or smoke in the cockpit, in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents;
- Events requiring the emergency use of oxygen by the flight crew;
- Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident;

Serious Incident (cont.)

- Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft;
- Flight crew incapacitation in flight;
- Fuel quantity level or distribution situations requiring the declaration of an emergency by the pilot, such as insufficient fuel, fuel exhaustion, fuel starvation, or inability to use all usable fuel on board;
- Runway incursions;
- Take-off or landing incidents. Incidents such as under-shooting, overrunning or running off the side of runways;
- System failures (including loss of power or thrust), weather phenomena, operations outside the approved flight envelope or other occurrences which caused or could have caused difficulties controlling the aircraft;
- Failures of more than one system in a redundancy system mandatory for flight guidance and navigation.

NOTE	Incidents as defined above (as applicable) that occur during maintenance operations on the ground shall not be considered serious incidents.

Accident

An occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight, until such time 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.

NOTE	Exceptions to the above are injuries sustained from natural causes, self inflicted or inflicted by other persons, or outside areas normally accessible to passengers and crew.

or

2. The aircraft sustains damage or structural failure which:
   - Adversely affects the structural strength, performance or flight characteristics of the aircraft; and
   - Would normally require major repair or replacement of the affected component.

   Except for engine failure or damage, when the danger is limited to the engine, its cowling's or accessories; or for damage limited to wing tips, antennas, tires, brakes, fairings or small dents in the aircraft skin;

or

3. The aircraft is missing or is completely inaccessible.

Serious Injury

A serious injury requires hospitalization for more than 48 hrs within 7 days after the date of injury or any other reason like fracture of any bone, burns, damage to internal organs, infection or radiation (see ICAO Annex 13).

Safety Occurrence

An Incident, Serious Incident, or Accident.

11.3 ACCIDENT - NOTIFICATION AND RESPONSIBILITIES

(*) Revision: 23.1 - 15 MAR 25

In order to meet the aims of providing immediate assistance to victims and threatened persons and to minimize damages, it is of the highest importance that, whoever is the first to know of an accident or the possibility of an accident having occurred (ATS or other Authority, PIC, FOO handling personnel or others) shall notify the appropriate search and rescue services/e.g. rescue coordination centre and fire fighting services/medical services by the quickest means available. ATS and other authorities involved shall keep EL AL current on developments. The Corporate Emergency Response Manual (CERM) addresses the handling of crisis situations. It defines the policy, the assignments, the responsibilities and the operation of the various command centres.

NOTE	The local authorities and the medical services shall immediately be notified by the local ground operations manager of the Company or its handling agent. The Operations Control Centre/ Emergency Team shall ascertain that this notification has been taken care of.

NOTE	Upon being notified, all upline stations shall safeguard all documentation and other evidence relating to the flight, Aircraft/crew/passengers/load, concerned. The same applies to all other Company units holding such documentation or evidence (e.g. crew scheduling, OCC, maintenance, engineering).

Investigation of Accidents / Serious Incidents

It is necessary that Nominated Postholders and senior Company personnel know about the interaction of the State Authorities involved in the investigation, and that the Company's participation will, if requested, be ensured. Refer to ICAO Annex 13, Doc 9756, and the Aircraft Safety Investigation Authority Israel Directives for further information.

11.4 SAFETY OCCURRENCES

11.4.1 General

Revision: 19 - 14 MAR 21

The notification, reporting and handling of safety occurrences ultimately serves to prevent, where possible, the re-occurrence of a similar incident or the occurrence of an accident.

The nature of the occurrence determines the required speed of notification, and which addressees have to be notified outside and within the Company.

EXAMPLE	The immediate report to ATS, by the PIC, of a bird hazard will serve to warn other aircraft.

Where a report is not legally required, it may serve the interest of “sharing the experience” and to improve procedures or to avoid errors. The e-Report form normally requires flight number, date and the names of the cockpit crew to be filled in. However, such a report may be written and filed anonymously if it could cause personal disadvantage or penal action. An anonymous flight report is better than none.

11.4.2 Notification and Reporting

(*) Revision: 23.1 - 15 MAR 25

The question of whether an incident constitutes an Incident, Serious Incident, or Accident (collectively: “Safety Occurence”) can be answered by consulting the definitions of Chapter ***11.2 Definitions*** above and the e-Report Safety Report Form (an air traffic incident, for example, may be either). The Safety Reporting Form provides the contact information and initial reporting procedures for filing a report.

Whenever a report to the Authority is prescribed (according to Chapter ***11.4.3 Reportable Occurrences*** through 11.4.9), it shall be dispatched according to the time limits and responsibilities as depicted in the following table. Flight and Cabin Safety Reports filed through the e-Report system are sent automatically to the CAAI, the Aircraft Safety Investigation Authority Israel, and relevant parties within EL AL. The submitter shall receive confirmation of submission provided he has completed the Submitter Email field in the e-Safety Report.

Another option is to complete the paper form and send the form according to the information displayed on the top of the front page of the form.

Item	Responsibility to Report	Report to	Reporting Method	Timeframe
Involvement in an Incident, Serious Incident, Accident • For Serious Incidents, see also “Involvement a Serious Incid-ent”; • If applicable, see also “Involve-ment in an Accident Outside Is-rael”	All Personnel	CAAI, Aircraft Safety Invest-igation Au-thority Israel	Crew Members: Flight/Cabin Safety e-Report Other Personnel: 1. Complete the report form on the Aircraft Safety Investigation Authority Israel website: http://aiai.mot.gov.il/odot-al/report, and send it to both the Aircraft Safety Investigation Authority Israel and CAAI according to the instructions on the form; **AND**	Within 24 hours of the incident or landing, whichever is later.

Item	Responsibility to Report	Report to	Reporting Method	Timeframe
			2. Send a copy of the form to the EL AL Safety Manager (see Chapter *1.2 Nominated Postholders*), or file an e-Report on the Company Intranet.	
Involvement in a Serious Incident	All Personnel	Aircraft Safety Investigation Authority Israel	1. Personally notify the Aircraft Safety Investigation Authority Israel, immediately, by telephone: Mobile (24/7): +972-50-621-2757/2435 Office: +972-3-9751380 If unavailable, send an SMS to the Aircraft Safety Investigation Authority Israel mobile number, or call the Ministry of Transport Hotline: +972-3-954-5444. If circumstances do not allow such notification to be made, it shall be done as soon as circumstances allow. Until then, the notification requirement applies to the Company and shall be fulfilled by the employee's Division Head; 2. In addition, file a written report; refer to “Involvement in an Incident, Serious Incident, or Accident”.	Without delay
A crew member who witnesses an Incident, Serious Incident, or Accident	All Cabin and Flight Crew Members	Aircraft Safety Investigation Authority Israel	Flight/Cabin Safety e-Report or any other appropriate means	As soon as possible
Involvement in an Accident Outside Israel • See also “Involvement in an Incident, Serious Incident, or Accident”	PIC	Foreign Authority	If the accident occurred in the territory of an ICAO member state - refer to that country's AIP. Otherwise, refer to the AIP of the country responsible for ATC where the accident occurred.	As soon as possible
Declaration of an emergency • If applicable, see also “Deviation from regulations due to an emergency”; • See also “Involvement in an Incident, Serious Incident, or Accident”.	PIC or FOO (whoever declared the emergency)	CAAI via the Director of Flight Operations	Flight Safety e-Report or any other appropriate means	PIC: Within 10 days from arriving at home base. FOO: Within 10 days from the declaration of emergency.
Deviation from regulations due to an emergency • See also “Involvement in an Incident, Serious Incident, or Accident”	PIC (or Co-pilot relieving the PIC)	CAAI and Foreign Authority if requested	1. Verbal notification to CAAI (+972-3-9774613/4545/4580); and 2. File a Flight Safety e-Report.	Verbally as soon as possible and in writing 10 days from arriving at home base. If requested by a local foreign authority, 10

Item	Responsibility to Report	Report to	Reporting Method	Timeframe
				days from the date of the request
Captain other than PIC sitting at the controls during stages of flight other than cruise (deviation from IANR 473(2))	PIC	CAAI	Flight Safety e-Report	48 hrs from the deviation or from arriving at home base
Exceedance of flight/duty/rest time limitations	PIC and The Company	CAAI	PIC shall report via ICARUS (Operations Control Center - Flight Time Exceedance or Duty Hours Exceedance). OCC shall incorporate the report into the weekly extension report to CAAI.	PIC shall report within 48 hrs from the exceedance or from arriving at home base. OCC shall incorporate the report into the weekly extension report to CAAI within 10 days from the occurrence.
Extension of Flight Duty Period or Flight Time	OCC	CAAI	1. OCC shall report any flight duty period that either exceeded the cumulative flight duty periods specified in Chapter ***7.2.6 Cumulative Limitations***, or exceeded the maximum flight duty period limits permitted by Tables B or C in Chapter ***7.2.4 Un-augmented Operations*** and Chapter ***7.2.5 Augmented Operations*** by more than 30 minutes. The report shall contain a description of the extended flight duty period and the circumstances surrounding the need for the extension and - if the circumstances giving rise to the extension were within the company's control - the corrective action(s) that the company intends to take to minimize the need for future extensions. 2. OCC shall report any flight time that exceeded the maximum flight time limits permitted by Chapters ***7.2.4 Un-augmented Operations*** and ***7.2.5 Augmented Operations***. The report shall contain a description of the extended flight time limitation and the circumstances surrounding the need for the extension.	Within 10 days
Use of Move Time instead of Off Blocks for flight time limitation purposes	PIC	Chief Pilot Division	EFF (Flight Time Corrections report)	Within 24 hours of landing

Item	Responsibility to Report	Report to	Reporting Method	Timeframe
The reason for priority given by ATC, if ATC has given priority due to an emergency related to an incident that is not included in the list of required reports	PIC	ATC (only if requested so by them)	As requested	48 hrs from the time of request
Landing not at the nearest suitable airport after an engine failure or shutdown, or landing not at the nearest suitable airport after an EDTO critical system failure	PIC and The Company	CAAI	The PIC shall send a written report, to the Director of Flight Operations stating the reasons for determining that the selection of an airport, other than the nearest airport, was as safe a course of action as landing at the nearest suitable airport. The Director of Flight Operations shall send a copy of this report with the Director of Operation's comments to the CAAI.	PIC: Within 24 hours of landing. Director of Flight Operations: Within 5 days after receiving the report from the PIC.
Air Traffic Incidents: • Near collision with any other flying device; or • Failure of air traffic service facilities; or • Faulty air traffic procedures or lack of compliance with applicable procedures by ATS or by the flight crew.	PIC	ATC	1. Notify verbally without delay, and ATC of the intention to submit an Air Safety Report; 2. After the flight, submit a Flight Safety e-Report.	Without delay
Maneuvering in response to an TCAS-Resolution Advisory	PIC	ATC, CAAI	1. Notify ATC verbally; 2. After the flight, submit a Flight Safety e-Report.	Without delay
Bird Hazards and Bird Strikes	PIC	ATC, CAAI	1. The local ATS unit shall immediately be informed whenever a bird strike occurs or whenever a potential bird hazard is observed. The report should include details such as location and altitude of the hazard, and any known damage to the aircraft; 2. A written bird strike report (included in the Flight Safety e-Report) shall be submitted by the PIC whenever an aircraft for which he is responsible suffers a bird strike. In case the damage or malfunction resulting from bird strike is discovered with the PIC not available, the responsibility for submission of such a report rests with the Operator.	Without delay
In-flight Emergencies with Dangerous Goods on Board	See Chapter ***11.5 Occurrence Combined with the Carriage of Dangerous Goods*** and for reporting Chapter ***9.5.2 Dangerous Goods Occurrence Report***.			

Item	Responsibility to Report	Report to	Reporting Method	Timeframe
An act of unlawful interference on board an aircraft	PIC, or in his absence the Director of Flight Operations	CAAI and Local Authority	Written report	As soon as practicable
A potentially hazardous condition, such as an irregularity in a ground- or navigational facility, a meteorological phenomenon (such as a volcanic ash cloud) is encountered during flight	PIC	ATC	Verbal report	As soon as practicable
Occurrence or suspicion or death due to severe infectious diseases on board. For example: botulism, cholera, diphtheria, measles, pestilence and tuberculosis. Furthermore, suspected microbiological-caused food poisoning and any other acute life-threatening disease that could be a public threat, shall also be reported.	PIC	Relevant health authorities	As instructed	As soon as practicable

11.4.3 Reportable Occurrences

Revision: 20.2 - 14 DEC 22

The list of examples of reportable occurrences offered below is a guidance for the PICs on what they need to report to the Company. The list is neither definitive nor exhaustive and judgment by the PIC of the degree of hazard or potential hazard involved is essential.

Operation of the Aircraft

1. Avoidance:
    a. Risk of collision with an aircraft, terrain or other object or an unsafe situation when avoidance action would have been appropriate;
    b. An avoidance maneuver required to avoid a collision with an aircraft, terrain or other object;
    c. An avoidance maneuver to avoid other unsafe situations.
2. GPWS/TAWS 'alert' when any difficulty or hazard arises or might have arisen as a result of crew response to the 'alert';
3. TCAS RAs;
4. Jet or prop blast incidents resulting in significant damage or serious injury;
5. Loss of control (including partial or temporary loss of control) from any cause;
6. Occurrences close to or above V_1 resulting from or producing a hazardous or potentially hazardous situation (e.g. rejected take-off, tail strike, engine power loss etc.);
7. Go-around producing a hazardous or potentially hazardous situation;
8. Unintentional significant deviation from airspeed, intended track or altitude (more than 300 ft) from any cause;
9. Descent below decision height/altitude or minimum descent height/altitude without the required visual reference;

10. Loss of position awareness relative to actual position or to other aircraft;
11. Breakdown in communication between flight crew (CRM) or between flight crew and other parties (cabin crew, ATC, engineering);
12. Heavy landing - a landing deemed to require a 'heavy landing check';
13. Exceedance of fuel imbalance limits;
14. Incorrect setting of an SSR code or of an altimeter subscale;
15. Incorrect programming of, or erroneous entries into, equipment used for navigation or performance calculations, or use of incorrect data;
16. Incorrect receipt or interpretation of radio-telephony messages;
17. Fuel system malfunctions or defects, which had an effect on fuel supply and/or distribution;
18. Aircraft unintentionally departing a paved surface;
19. Collision between an aircraft and any other aircraft, vehicle or other ground object;
20. Inadvertent and/or incorrect operation of any controls;
21. Inability to achieve the intended aircraft configuration for any flight phase (e.g. landing gear and doors, flaps, stabilizers, slats etc);
22. A hazard or potential hazard which arises as a consequence of any deliberate system checks;
23. Abnormal vibration;
24. Operation of any primary warning system associated with maneuvering of the aircraft e.g. configuration warning, stall warning (stick shake), over speed warning etc. unless:
    a. The crew conclusively established that the indication was false. Provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning; or
    b. Operated for training or test purposes.
25. GPWS/TAWS 'warning' when:
    a. The aircraft comes into closer proximity to the ground than had been planned or anticipated; or
    b. The warning is experienced in IMC or at night and is established as having been triggered by a high rate of descent (Mode 1); or
    c. The warning results from failure to select landing gear or land flap by the appropriate point on the approach (Mode 4); or
    d. Any difficulty or hazard arises or might have arisen as a result of crew response to the 'warning' e.g. possible reduced separation from other traffic. This could include warning of any Mode or Type i.e. genuine, nuisance or false.
26. GPWS/TAWS 'alert' when any difficulty or hazard arises or might have arisen as a result of crew response to the 'alert';
27. TCAS RAs;
28. Jet or prop blast incidents resulting in significant damage or serious injury;
29. Unstable approach followed by landing.

Emergencies

1. Fire, explosion, smoke or toxic or noxious fumes, even though fires were extinguished;
2. The use of any non-standard procedure by the flight or cabin crew to deal with an emergency when:
   a. The procedure exists but is not used; or
   b. A procedure does not exist; or
   c. The procedure exists but is incomplete or inappropriate; or
   d. The procedure is incorrect; or
   e. The incorrect procedure is used.
3. Inadequacy of any procedures designed to be used in an emergency, including when being used for maintenance, training or test purposes;
4. An event leading to an emergency evacuation;
5. Depressurization;
6. The use of any emergency equipment or prescribed emergency procedures in order to deal with a situation;
7. An event leading to the declaration of an emergency (“Mayday” or “Pan”);
8. Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance, training or test purposes;
9. Events requiring any emergency use of oxygen by any crew member.

Crew Incapacitation

1. Incapacitation of any member of the flight crew, including that which occurs prior to departure if it is considered that it could have resulted in incapacitation after take-off;
2. Incapacitation of any member of the cabin crew which renders them unable to perform essential emergency duties.

Injury

Occurrences, which have or could have led to significant injury to passengers or crew but which are not considered reportable as an accident.

Meteorology

1. A lightning strike which resulted in damage to the aircraft or loss or malfunction of any essential service;
2. A hail strike which resulted in damage to the aircraft or loss or malfunction of any essential service;
3. Severe turbulence encounter - an encounter resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft;
4. A windshear encounter;
5. Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any essential service.

Security

1. Unlawful interference with the aircraft including a bomb threat or hijack;
2. Difficulty in controlling intoxicated, violent or unruly passengers;
3. Discovery of a stowaway.

Other Occurrences

1. Repetitive instances of a specific type of occurrence which in isolation would not be considered 'reportable' but which due to the frequency at which they arise, form a potential hazard;
2. A bird strike which resulted in damage to the aircraft or loss or malfunction of any essential service;
3. Wake turbulence encounters;
4. Suspected or confirmed electronic magnetic interference (EMI) event;
5. Any other occurrence of any type considered to have endangered or which might have endangered the aircraft or its occupants on board the aircraft or on the ground.

Reportable Occurrences to Specific Systems

1. Air Conditioning/Ventilation:
   a. Complete loss of avionics cooling;
   b. Depressurization.
2. Autoflight System:
   a. Failure of the autoflight system to achieve the intended operation while engaged;
   b. Significant reported crew difficulty to control the aircraft linked to autoflight system functioning;
   c. Failure of any autoflight system disconnect device;
   d. Uncommanded autoflight mode change.
3. Communications:
   a. Failure or defect of passenger address system resulting in loss or inaudible passenger address;
   b. Total loss of communication in flight.
4. Electrical System:
   a. Loss of one electrical system distribution system (AC or DC);
   b. Total loss or loss of more than one electrical generation system;
   c. Failure of the back up (emergency) electrical generating system.
5. Cockpit/Cabin/Cargo:
   a. Pilot seat control loss during flight;
   b. Failure of any emergency system or equipment, including emergency evacuation signalling system, all exit doors, emergency lighting, etc.;
   c. Loss of retention capability of the cargo loading system.

6. Fire Protection System:
    a. Fire warnings, except those immediately confirmed as false;
    b. Undetected failure or defect of fire/smoke detection/protection system, which could lead to loss or reduced fire detection/protection;
    c. Absence of warning in case of actual fire or smoke.
7. Flight Controls:
    a. Asymmetry of flaps, slats, spoilers etc.;
    b. Limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems;
    c. Flight control surface run away;
    d. Flight control surface vibration felt by the crew;
    e. Mechanical flight control disconnection or failure;
    f. Significant interference with normal control of the aircraft or degradation of flying qualities.
8. Fuel System:
    a. Fuel quantity indicating system malfunction resulting in total loss or erroneous indicated fuel quantity on board;
    b. Leakage of fuel which resulted in major loss, fire hazard, significant contamination;
    c. Malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel;
    d. Fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution;
    e. Inability to transfer or use total quantity of usable fuel.
9. Hydraulics:
    a. Loss of one hydraulic system (EDTO only);
    b. Failure of the isolation system to operate;
    c. Loss of more than one hydraulic circuits (EDTO only);
    d. Failure of the back up hydraulic system;
    e. Inadvertent Ram Air Turbine extension.
10. Ice Detection/Protection System:
    a. Undetected loss or reduced performance of the anti-ice/de-ice system;
    b. Inability to obtain symmetrical wing de-icing;
    c. Abnormal ice accumulation leading to significant effects on performance or handling qualities;
    d. Crew vision significantly affected.
11. Indicating/Warning/Recording Systems:

a. Malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system;

b. Loss of a red warning function on a system;

c. For glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/warning function.

12. Landing Gear System/Brakes/Tires:

a. Brake fire;

b. Significant loss of braking action;

c. Unsymmetrical braking leading to significant path deviation;

d. Failure of the L/G free fall extension system (including during scheduled tests);

e. Unwanted gear or gear doors extension/retraction;

f. Multiple tires burst.

13. Navigation Systems (Including Precision Approaches System) and Air Data Systems:

a. Total loss or multiple navigation equipment failures;

b. Total failure or multiple air data system equipment failures;

c. Significant misleading indication;

d. Significant navigation errors attributed to incorrect data or a database coding error;

e. Unexpected deviations in lateral or vertical path not caused by pilot input;

f. Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

14. Oxygen:

a. For pressurized aircraft: loss of oxygen supply in the cockpit;

b. Loss of oxygen supply to a significant number of passengers (more than 10%), including when found during maintenance or training or test purposes.

15. Bleed Air System:

a. Hot bleed air leak resulting in fire warning or structural damage;

b. Loss of all bleed air systems;

c. Failure of bleed air leak detection system.

11.5 OCCURRENCE COMBINED WITH THE CARRIAGE OF DANGEROUS GOODS

Revision: 19 - 14 MAR 21

Whenever an aircraft is involved in a dangerous goods incident or accident, the Company shall, within 72 hrs, report this to the Authority and the appropriate Authority of the State where the accident or incident occurred.

See Chapter ***9.5.1 Procedures for Responding to Emergency Situations or Incidents Involving Dangerous Goods*** for further details regarding the procedures and the reporting in case of Dangerous Goods occurrences.

To assist the ground services in preparing for the landing of an aircraft in an emergency situation, it is essential that adequate and accurate information about any dangerous goods on board be given to the appropriate ATS-unit.

The information to be provided should include the proper shipping name, UN/ID number, class, subsidiary risk(s) for which labels are required, the compatibility group for Class 1 and the quantity and location on board the aircraft.

Ground Operations is designated responsible:

- For providing the PIC with written information relating to Dangerous Goods aboard the aircraft;
- Informing rescue services and/or the appropriate Authority, in case of an incident or accident, of Dangerous Goods aboard.

11.5.1 Removal of Contamination

Revision: 19 - 14 MAR 21

Any contamination resulting from the leakage from, or damage to, articles or packages containing dangerous goods is removed without delay and steps are taken to nullify any hazard.

An aircraft which has been contaminated by radioactive material is immediately taken out of service and not returned until the radiation level at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions (ICAO Doc 9284-AN/905).

11.6 FORMS

Revision: 23 - 29 AUG 24

EL AL safety report forms (e-Report) are in electronic format available on the EFB (ICARUS Mobile eReports App) and on the Chief Pilot's web site. The forms contain all the required information and fields to be entered in the event of filing a report.

In the event of a report of volcanic ash, use the form on next page and send by fax or email.

SPECIAL AIR-REPORT OF VOLCANIC ACTIVITY

Operator ____________ Aircraft Identification (as per Item 7 of flight plan)____________ Commander____________

Dep. from _________ Date_____________ Time_________UTC

Arr. at ____________ Date_____________ Time_________UTC

	Addressee									
Section 1		AIREP SPECIAL								
	1 Aircraft identification									
	2 Position									
	3 Time									
	4 Flight level or altitude									
	5 VOLCANIC ACTIVITY OBSERVED AT	(position or bearing and distance from aircraft)								
	6 Air temperature									
	7 Spot wind									
	8 Supplementary information (Brief description of activity including vertical and lateral extent of ash cloud, horizontal movement, rate of growth, etc. as available)									
Section 2	**The following information is not for transmission by RTF**									
		Tick ❐ the appropriate box								
	9 Density of ash cloud	(a)	wispy	❐	(b)	moderate dense	❐	(c)	very dense	❐
	10 Colour of ash cloud	(a)	white	❐	(b)	light grey	❐	(c)	dark grey	❐
		(d)	black	❐						
	11 Eruption	(a)	continuous	❐	(b)	intermittent	❐	(c)	not visible	❐
	12 Position of activity	(a)	summit	❐	(b)	side	❐	(c)	single	❐
		(d)	multiple	❐	(e)	not observed	❐			
	13 Other observed features of eruption	(a)	lighting	❐	(b)	glow	❐	(c)	large rocks	❐
		(d)	ash fall out	❐	(e)	mushrooming cloud	❐	(f)	nil	❐
	14 Effect on aircraft	(a)	communica-tions	❐	(b)	nav. systems	❐	(c)	engines	❐
		(d)	pilot static	❐	(e)	windscreen	❐	(f)	windows	❐
		(g)	nil	❐						
	15 Other effects	(a)	turbulence	❐	(b)	St. Elmos Fire	❐	(c)	fumes	❐
		(d)	ash deposits	❐						
	16 Other information	Add any information considered useful								

12 RULES OF THE AIR

12.1 PRESENTATION

Revision: 19 - 14 MAR 21

The OM Part C presents excerpts of:

- ICAO Annex 2, Rules of the Air;
- ICAO Annex 11, Airspace Classification;
- ICAO Doc 4444, Rules of the Air and Air Traffic Services;
- ICAO Doc 8168, Aircraft Operations Flight Procedures;
- ICAO Annex 2, Appendix 1, Signals for use in the event of interception (appears in the Jeppesen General Airway Manual, Chapter 7.4 “Emergency”); and
- SERA - Standardised European Rules of the Air.

They are listed in the “EMERGENCY” Chapter and in the “AIR TRAFFIC CONTROL” Chapter, which contains additionally State Deviations from the ICAO rules.

13 LEASING

13.1 INTRODUCTION

Revision: 19 - 14 MAR 21

For the purpose of this manual a lease is understood to be a contractual arrangement whereby the company shall gain commercial control of an entire Aircraft without transfer of ownership.

Leasing may take place as:

- Wet lease; or
- Dry lease.

13.1.1 Definition

Revision: 22.1 - 1 JUN 24

Dry Lease	A dry lease is understood to be the lease of an aircraft where the aircraft is operated under the AOC of the lessee.
Wet Lease	A wet lease is understood to be a lease of an aircraft where the aircraft is operated under the AOC of the lessor.

13.1.2 Leasing of Aircraft

Revision: 19 - 14 MAR 21

EL AL operates both owned and dry leased aircraft. EL AL may lease its owned aircraft to other Israeli and Foreign Air Operators. In addition, EL AL may sub-lease its leased aircraft subject to conditions in each lease. The dry lease of aircraft by EL AL requires various logistics, engineering and maintenance activities. The detailed procedures for these activities appear in the MCM Chapter 4-8. The EL AL Maintenance Manager is responsible for implementing the procedure, the auditing of this process is the responsibility of the EL AL Quality Manager.

All aircraft dry leased to EL AL are operated under Israeli registration [4X-] and the Israel Airworthiness Regulations, where the State of Registry is Israel unless otherwise indicated in contracts between the Lessor and the Lessee.

13.2 WET LEASE IN

Revision: 19 - 14 MAR 21

When wet leasing other carriers' aircraft to operate flights on behalf of EL AL, the carrier operating the flight maintains operational control.

See Company Procedure 66-301 for further details.

13.3 WET LEASE OUT

Revision: 21 - 5 MAY 23

When operating EL AL aircraft on behalf of other carriers, all of the normal procedures and conditions in the EL AL Operations Manual shall apply, with the following differences:

- The call sign, including on the flight release, is that of the lessee (i.e. ISR = Israir; AIZ = Arkia);
- The flight number on the Dispatch Briefing Info (Appendix to the OFP) reflects the 2 digit IATA code of the lessee (i.e. 6H = Israir; IZ = Arkia);
- The load sheet shall be prepared by CLC Tel Aviv for all flights.

14 FUNCTIONAL CHECK FLIGHTS

14.1 FUNCTIONAL CHECK FLIGHT TYPES

14.1.1 Test FCF

Revision: 19 - 14 MAR 21

Test FCF are flights conducted for the purpose of checking or verifying proper functioning of various systems on the aircraft during flight.

14.1.2 Acceptance / Demonstration FCF

Revision: 19 - 14 MAR 21

Acceptance/Demonstration FCF are flights conducted for the purpose of checking and demonstrating proper functioning of various aircraft systems during flight.

Acceptance/Demonstration flights are usually performed before or after aircraft lease, before a leased aircraft is returned to its owner and before a newly purchased aircraft starts to fly operationally.

Acceptance/Demonstration flights on aircraft which are not owned or leased by EL AL (not registered as EL AL aircraft) are operated under the owner/operator regulations with the owner/ operator designated aircrew's.

14.1.3 Experimental Test FCF

Revision: 19 - 14 MAR 21

Experimental Test FCF are flights conducted for the purpose of checking and evaluating the functionality of new systems or installations.

14.2 FCF OPERATION

Revision: 22 - 20 FEB 24

The FCF planning process is described in the MCM and CPDM.

14.2.1 Persons on Board

Revision: 22 - 20 FEB 24

The FCF Manager (see CPDM) shall identify the need for crew members (flight crew and cabin crew) or task specialists, or both, before each intended FCF, taking into consideration the expected crew member or task specialist workload and the risk assessment. Other persons shall not be permitted on board an FCF.

14.2.2 Flight Test Areas

Revision: 19 - 14 MAR 21

For Experimental Test FCFs, no person may flight test an aircraft except over open water, or sparsely populated areas having light air traffic, or in airspace specially designated by CAAI for this purpose.

14.2.3 Operating Rules

Revision: 19 - 14 MAR 21

FCFs are conducted under IANR Chapter 8, and shall be performed in accordance with Chapter 8.7 to the extent possible. Any other deviations or non-standard operation are only allowed if they have been indicated on the approved FCF Form.

14.2.4 Sortie Manager

Revision: 19 - 14 MAR 21

One of the Flight Crew Members shall be designated to serve as Sortie Manager. The Sortie Manager should be involved in the FCF planning process (ideally, the Flight Manager will also serve as the Sortie Manager).

The Sortie Manager should be the PM or a non-flying crew member. In any case, the designation of Sortie Manager cannot be transferred between crew members. In addition to his regular duties as a crew member, the Sortie Manager is responsible to:

- Manage the sequence of checks in the air;
- Manage the carrying out the checks in accordance with the FCF Form;
- Ensure that all checks are performed as required, and that all necessary data is recorded;
- Determine whether any checks need to be repeated;
- Prioritize checks in case not all of them can be completed;
- Manage any required changes to the plan during the flight either due to external factors (i.e. weather, traffic, ATC) or internal factors (i.e. aircraft systems, malfunctions).